

Title

Gathering Perspectives: A process for generating evidence for informed public sector decision-making

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Abstract

Evidence informed decision-making is a key component of all aspects of the public domain; however, a practical method for generating evidence to inform decisions is not always readily available. We present a four-stage approach to generating evidence, which involves: establishing a work plan and gathering background information; collecting data; synthesizing and summarizing data; and evaluation of the process and its implementation. The approach, which follows traditional social science research methods, has been used by the Nova Scotia Health Research Foundation to inform a variety of initiatives and decisions in Nova Scotia. It has proven to be practical and reliable in public sector decision-making.

Background

Evidence informed decision-making is a key component of all areas of the public domain and has been recognized as an important aspect of policy decision making by the Organisation for Economic Cooperation and Development countries (OECD Public Management Policy Brief, PUMA Public Policy Brief # 10, 2001). Despite this fact, the actual process needed to inform public decisions is not readily available to policy and decision makers. Evidence comes in a multitude of forms and may be generated from a variety of sources (Lavis et al., 2009; Lewin et al., 2009; Jacobs et. al., 2012) and while much of the evidence required is available, a process for systematically gathering and compiling the evidence in an accessible, feasible and cost effective manner is less well described. Through our work with public service departments and agencies we have learned that in some cases government bodies may be in danger of having to forego making policy decisions. This is often directly related to having limited resources to gather the information in a manner that is timely and efficient while also providing sufficient validity and reliability. Thus, decisions might have to be made before key perspectives and information can be considered. The goal of this article is to provide a four-stage process for generating evidence that can be used to inform government decision-making on a wide variety of topics and issues.

The approach that we present is both practical and of high utility for increasing the accessibility of relevant knowledge and thereby improving public sector decision-making processes. This method has been used successfully to inform multiple complex issues including two areas in the Nova Scotia public sector (these are used as examples throughout). The first example is a case where the goal was to define provincial health research priorities; the second was to inform the development of a provincial mental health and addictions strategy. Mirroring traditional social science research methods, this approach is grounded in techniques that are reliable and valid, while being practical for use in a political context.

The Nova Scotia Health Research Foundation (the NSHRF; the Foundation) is an arm's-length provincial health research funding agency that exists to improve the health of Nova Scotians through health research. From its inception the NSHRF has used rigorous consultation processes to set priorities and to inform strategic directions and programming decisions. The consultation process was initially developed in response to the need to identify health research priorities in order that the Foundation maximizes its impact on the health research enterprise¹. In order to identify these priorities it was necessary to gain the perspective of a breadth of stakeholders – including citizens of Nova Scotia in general. Over the years the consultation process has evolved to be an inclusive and rigorous process involving four stages: 1) establishing a work plan and gathering background information, 2) collecting the data, 3) synthesizing and summarizing the data, and 4) evaluation of the process and its implementation.

Since its initial development and use, the NSHRF has implemented this process to gather evidence to inform a variety of initiatives and decisions, including for the purposes of gathering

evidence to inform the development of a provincial mental health and addictions strategy. The need for a provincial approach to meeting the mental health and addictions needs of Nova Scotians had been well determined. The challenge was that while there was clearly work being done in this area, important evidence on the needs of citizens, the services currently available, and the barriers, challenges and successes of the existing system were not documented in a manner that was readily accessible to decision makers. The Nova Scotia Department of Health and Wellness (the Department) recognized the importance of understanding the existing system in order to develop a strategy that would best meet the needs of the province. As such, the Department asked the Foundation for assistance in compiling and generating the evidence needed to ensure an informed approach to the strategy's development.

In both of the examples above government stakeholders confirmed the evidence-gathering approach to be highly successful. The process allowed for diverse perspectives to be heard and considered in policy decision-making and summarized evidence in a way that reduced potential biases in the data and was of utility for government decision makers. Furthermore, this process gave stakeholders a voice while allowing for transparency and accountability. Finally, the minimal cost and relatively short timeline for implementing this approach made the process highly appealing in the public context of timeliness and fiscal constraint.

The focus of this article is to describe the details of the consultation process so that others might implement it for evidence gathering purposes. We have included (in information boxes), where relevant, details from the two specific examples described above.

Stage 1: Establishing the Work Plan and Gathering Background Information

The focus of the first stage of the evidence-gathering process is to establish who the key players will be, develop a work plan, define the questions to be answered, and compile background information (Table 1).

Table 1

Stage 1: Gathering Background Information

- Contributing participants and key players
- Developing a work plan for evidence generation and evaluation
- Defining and refining the question
- Gathering and compiling background information

Key Players

It is important to identify the contributing participants and their responsibilities at the outset of the consultation process, including the Decision Makers, the Evidence Gathering Team, the Scientific Review Panel and Key Stakeholder Groups, and the Informants (Oxman et. al., 2009). It is also important to clearly identify individual spokespersons who will speak on behalf of the participating groups. These individuals will be the points of contact for all correspondence across the participating organizations and will also serve to disseminate information within their respective groups. This will increase the transparency of the process and reduce the potential for miscommunication across the spectrum of stakeholders and participants during the consultation process.

Decision Makers: Usually the Decision Makers refer to the government department, body, or agency requesting information in order to make informed decisions regarding public policy. The decision makers may identify an advisory committee that will work on its behalf to establish the overall work plan and consultation process with the Evidence Gathering Team.

Evidence Gathering Team: The organization gathering the evidence will need to identify a team of individuals who will be responsible for the final product delivered to the Decision Makers. The Evidence Gathering Team will establish the process of consultation, set meetings, collect and synthesize information and establish, with the Decision Makers, the overall work plan for the consultation.

Scientific Review Panel: As the evidence is gathered and synthesized the Evidence Gathering Team will seek comment from a Scientific Review Panel. This review panel will consist of individuals with expertise in the subject matter and will provide an independent assessment of the process employed and materials collected, as outlined below (see Stage 3: Synthesizing and Summarizing the Data).

Key Stakeholder Groups and Informants: Throughout the process there are a number of potential stakeholders, including members of the government, organizations representing specific groups or perspectives, and the general public. Among these participating groups there will be individuals who act as key informants to the consultation process. These individuals may be recommended by the Decision Makers early in the process or be spokespersons identified by specific interest groups. In many cases the Key Informant group will grow and diversify based on input during the consultation process (Stage 2: Collecting the Data).

Establishing the work plan

The purpose of a well-defined work plan is to avoid expensive and time consuming mid-course corrections that bring the process and the evidence generated into question; therefore, the work plan should be agreed upon, by the Decision Makers and the Evidence Gathering Team, at the outset.

It is essential to define the approach for gathering evidence and an overarching work plan should be developed at the outset that, at a minimum, defines timelines, budget, resources, and methodological approach. It is during this planning stage that the intent of the evidence-gathering process is clarified, and the opportunities, barriers, and potential challenges to the process are identified—thus preventing many problems that might arise and ensuring sufficient resources to generate the evidence needed.

A work plan will also warrant that expectations and outcomes of the project are clear and that the resulting evidence generated is of utility to the Decision Makers requesting the evidence. Establishing the initial work plan that defines the process and its limitations provides a means for accountability and transparency from the outset as well as a basis for evaluating the success of the consultation process.

Focusing questions

Defining the questions to be answered and compiling the background information is similar to early stages of traditional academic research when a research question is defined and narrowed. Researchers often identify their questions based on gaps in the literature or because they wish to further explore existing research findings. In the public sector, defining the question or the issue is no less important (Lavis et al., 2009; Jacobs et al., 2012); however, questions may be defined based on political pressures, constituent interests and needs, resource constraints, and efforts to supply services in a manner that is efficient and effective. Thus, in many cases the questions that need answering are already quite apparent from the political context but may need focusing and refining to ensure the data collected are useful.

Defining and focusing the questions will assist in determining several key aspects of the evidence-gathering process, including identification of Key Informants and data collection methods. While the questions to be answered originate from the interests and needs of the Decision Makers and stakeholders they will be further refined and informed by the information provided in the background documents discussed in the next section. Therefore, the questions may continue to evolve throughout the consultation process.

Establishing the question(s) for health research priorities

In the case of setting health research priorities for the Nova Scotia Health Research Foundation, the basic question was “what are the priorities for health research?” While this basic question was clear, there was a need to refine the question by considering the perspectives of various stakeholders, including the provincial government, health researchers, academic institutions, and the general public. The questions then became “what are the perceptions and priorities of these various groups regarding health research in the province?” and “how can these diverse perspectives inform a single set of priorities?”

Background documents

Once the questions have been identified, the next step is to gather background information on the issue. Just as a scientific investigator will seek to understand the topic area through a literature review, it is necessary in the public context to review existing policy, opinion, and literature on an issue (Tranfield, Denyer, and Smart, 2003). It is at this stage that the details of the issue become operationally defined. A scan of existing information may reveal multiple definitions, frameworks and lenses from which the issue of interest can be explored. Subsequently, a decision can be made to utilize only specific lenses or a breadth of perspectives to answer the focus questions. This choice really depends on whether the issue for which evidence is being gathered is one that has already been clearly defined or if defining the issue is part of the work to be done.

As evidence is gathered it should be filed into background documents. These documents are considered *living documents* (meaning they are updated and refined as evidence is compiled) and are made available on a public website so interested stakeholders can review, contribute to, and provide feedback on the existing evidence and knowledge on the topic. This allows readers to comment on the accuracy, completeness, and representativeness of the information. The key players (e.g., Decision Makers and Evidence Gathering Team) then consider the comments and the background documents can be updated and revised as necessary.

The purpose of the background documents is threefold. First, they provide clarity on how the issue is presently conceptualized in the public domain by stakeholder groups. This allows for awareness, understanding, and acknowledgement of existing discrepancies in opinion and perspective. Second, they identify gaps in knowledge that should be considered during the evidence-generating process. In other words, the background documents can assist in further focusing the question of interest and defining the breadth and depth needed to gather evidence that is useful for the decision-making task at hand. Finally, the background documents serve as a discussion document to inform dialogues that will take place during the second stage of the evidence generation process: collecting the data.

Stage 2: Collecting the Data

The next stage of the process is consulting with Key Informants and stakeholders. The consultation process involves collecting, reviewing, and revising information (Table 2) and a vital aspect of this stage is its iterative nature.

Table 2

Stage 2: Collecting the data

- Identifying Key Informants and scope
- Identifying data collection methods
- Consulting and data collection
- Ongoing analyses and iterative process

Identifying Key Informants and scope

Decision Makers must determine the scope of consultation and define who is and who is not appropriate for informing the decisions at hand. In some cases very specific groups of informants will be identified; in other instances Decision Makers may give only vague direction regarding scope (e.g., “we’re interested in hearing from anyone who wants to contribute” or “consult until you’ve heard from everyone”). In such cases the Decision Makers may not wish to limit input and may be unable to articulate the appropriate Key Informants until evidence is being gathered. As such, a snowball sampling² approach is generally favourable. Consistent with the iterative approach, the Key Informant list will develop and diversify based on input from those identified during this initial consultation stage. A fixed timeline may be established based on decision-making needs, which will influence recruitment of Key Informants by imposing an end date for data collection.

When there is no specific direction regarding Key Informants and a flexible timeline is possible, consultation should continue until it is apparent that no new or novel information is being contributed, which is commonly referred to as data saturation. It should be noted that in some cases it is necessary to continue to collect data beyond the point of saturation to ensure all key stakeholders have opportunity to voice their perspective.

Identifying multiple audiences to inform the mental health and addictions strategy

When this process was employed to gather and generate evidence to inform the provincial mental health and addictions strategy in Nova Scotia, key informants included individuals of diverse backgrounds in terms of ethnicity, education, socio-economic status, language, and literacy. The consultation process intended to reach as many Nova Scotians as possible and to generate significant input from multiple audiences. Participants in the consultations included: health professionals, individuals with mental health and addictions issues and their families and advocates, the public, community groups, First Nations communities, district health authorities, academics, primary health care workers, and representatives of cultural groups such as African Nova Scotians, francophone and Acadian populations, military families, and new Canadians.

Determining data collection methods

Once Key Informants have been identified the specific methods for gathering information from each group is established. There are multiple methods that can be employed including surveys, questionnaires, interviews, focus groups, and written submissions (Jacobs et al., 2012). Generally, a mixed methods approach will be required to meet the needs of a variable group of Key Informants.

Consulting and Data Collection

Through the consultation stage data are collected on an on-going basis. As data are gathered from Key Informants they are compiled, analyzed, and summarized by the Evidence Gathering Team. Both quantitative and qualitative data can be gathered and analyzed simultaneously to provide as complete a picture as possible through the use of multiple lines of evidence relevant to the decision at hand. Valid and reliable quantitative data have been scarce in the situations to which this approach has been applied by the NSHRF. As such, a modified grounded theory approach to the qualitative analysis has been the methodology most often employed by the Foundation; however, other analytical approaches could be used.

Through analysis of the qualitative results themes begin to emerge. The findings from this analysis are used to inform remaining consultations. This continues in a cyclical manner and the data gathered are further analyzed and coded. Through this process sub-categories are identified within each of the broad themes that emerge from the initial stages of analysis.

This highlights another key feature of the consultation process – its iterative nature. As with the identification of Key Informants, initial questions for consultation are developed based on the background documents and information needs of key stakeholders. These questions form the basis of the consultation. As consultations progress and evidence begins to be generated, the emerging data are used to inform future consultation efforts. As such, the questions, while

remaining focused on the initially identified needs of the evidence gathering process, may grow and evolve over the course of the consultation process. The iterative nature of the evidence gathering process is further elaborated upon below.

Consultation and how the iterative process informed the Mental Health and Addictions Strategy

The diversity of the key informants proved very valuable and as such a variety of options for submitting input were developed. Focus groups, online surveys, paper and pencil surveys and interviews were used, as needed, to gather evidence. Consultations were designed as semi-structured focus groups, which were updated continuously to allow for an iterative approach to information gathering. The focus groups were led by a project manager who used a presentation to get participants on the same page and to guide the discussion at each focus group session. At least one note-taker was present at each consultation session. As information was collected through consultation the results were analyzed and findings were incorporated in future consultation sessions. This allowed for deeper probing into emerging themes of interest to the Decision Makers, their Advisory Committee, and other stakeholders.

On-going Analysis and the Iterative Process

During consultation it is important that the methods, process, and emergent findings remain open and transparent. Qualitative data gathered during consultation are organized using qualitative analysis software. Using a software program to assist in analysis is particularly important for large consultations such as those described in this paper. While the software does not conduct analysis *per se* it is extremely helpful in organizing large amounts of data in order to analyze the evidence from a diversity of perspectives. This is important because different stakeholders may have differing needs for analysis and qualitative analysis software increases the feasibility of meeting the analysis needs of all stakeholder groups. For example, one stakeholder may want to analyze data pertaining to a particular subset of consultation participants to compare findings of that group to overall findings. The use of qualitative analysis software provides a means of easily searching and producing specific findings related to a particular theme for further analysis, investigation, and clarification by the Decision Making body if deemed necessary. Finally, using qualitative analysis software means that the data are stored in a manner that ensures its integrity and accessibility. This allows Decision Makers to focus on key areas of interest for immediate analysis, while ensuring the data can be revisited for further analysis at a later point.

As findings of the analyses become available and themes emerge, they are summarized and presented to the Decision Makers or their advisory committee. Like the background information developed in Stage 1 the analyses form a part of the “living documentation” of the evidence-gathering process, which should remain available to the public throughout the consultation.

Stage 3: Synthesizing and Summarizing the Data

The next stage involves reviewing and synthesizing all the evidence generated from the background documents and consultation process. The resultant report is then presented for feedback from the Decision Makers, Advisory Committee, and Scientific Review Panel (Table 3). The final report will consist of the full documentation, analyses, synthesis and, if required, recommendations.

Table 3

Stage 3: Synthesizing and Summarizing the Data

- Analyzing and synthesizing all the consultation data
- Consulting with Scientific Research Panel
- Presenting the consultation report to a summit of senior leaders
- Revising and refining the report to compile final version

The Evidence Gathering Team, working together with the Decision Makers or their advisory committee, compiles all the evidence and presents conclusions in report form. The Scientific Review Panel, consisting of subject matter experts, assesses the report to determine if the conclusions reflect the evidence provided and the body of scientific evidence. The Scientific Review Panel is also asked to provide general feedback about the evidence, analyses, and summary. Consulting with subject matter experts adds an additional layer of rigour and confidence in the validity of the findings. The response from the Scientific Review Panel is used to refine and revise the report.

The final task in this stage is to hold a summit meeting with senior leaders in the field. The purpose of the summit is to review the findings and provide system-level advice to further inform the final report. Attendees at the summit should be representative of the field for which the consultation was sought, including relevant system-level players (e.g., political, non-government organizations, unions, management, patient advocates). Their perspective is needed at this stage to further ensure accuracy of the evidence gathered and to generally obtain their perspective. In some cases it may not be possible to conduct a summit, but it remains important to solicit input from the senior leaders. There are several ways to engage this group of stakeholders, including individual consultation or small focus groups.

Consultation of senior leaders

To inform the development of research priorities a summit with senior leaders in the research enterprise in Nova Scotia was held to review findings of the consultation and inform the development of priorities. An alternative approach was used to gain input from senior leaders when generating evidence for the Mental Health and Addictions Strategy because a summit was not feasible. Instead, the decision makers' advisory committee identified leaders in Mental Health and Addictions whose advice was sought and considered in the evidence. Two focus groups (involving primary health care and patients and families) were also conducted.

After the report has been validated by the Decision Makers or their advisory committee and further adjustments based on the outcomes of the summit (or the alternative approach), the consultation is complete. The Evidence Gathering Team provides a complete list of organizations and individuals who participated in the consultation, the members of the advisory committees, and the names of the scientific review panel and senior leaders who provided insight. Evidence from all stages is incorporated into the final report.

Stage 4: Evaluation and Implementation of Findings

The evidence-generating process itself, as well as the implementation of the process, should be evaluated, but evaluation may also include evaluation of the impact of the process (Table 4). The evaluation will be based on the evidence-gathering needs identified at the outset, as well as any that were identified during the evidence-gathering process. Determining whether the evaluation should focus on assessing implementation, process and/or outcomes will be based on the audience for the evaluation and their need for evaluation of the process. For instance, the Evidence Gathering Team may be interested in learning and improving the process and therefore will focus its evaluation on the implementation and process (the evaluation is to be used to for process improvement). Alternatively, the Decision Makers and Stakeholders may be interested in outcomes and impact and their evaluation needs may be related to advocacy (the evaluation is to be used to create buy-in for and demonstrate the appropriateness of a specific outcome or change) and accountability (the evaluation is to be used to demonstrate the process was open, appropriate, and transparent and that decisions are evidence informed).

Table 4

Stage 4: Evaluating and Implementing the Findings

- Identifying evaluation needs
- Identifying evaluation questions and methods
- Executing the evaluation
- Documenting lessons learned and making recommendations
- Applying or implementing the findings

If impacts are to be evaluated, careful planning is needed to ensure that appropriate data are available to inform such an evaluation. Stakeholders should be aware that it may not be possible to assess impacts for some time after the evidence gathering process takes place. When the Evidence Gathering Team has identified how the evaluation will be used and by whom, the appropriate evaluation questions can be identified, which in turn will allow for an appropriate evaluation framework for the evidence-gathering process. The evaluation should result in a report that includes lessons learned and when appropriate, recommendations that address the needs of the evaluation.

Implementation or application of findings generated from this sort of evidence-gathering process may be beyond the scope of the work of the Evidence Gathering Team. In such cases, the Decision Makers carry out the implementation process by applying the findings of the process to inform decision-making on related issues. Depending on the nature of the project or need for evidence, the implementation stage may span several years.

Summary

We have described a process that has been implemented in a variety of contexts and that incorporates lessons learned from our experiences. We have demonstrated how key factors for success in evidence gathering include careful planning, stage setting through the use of background materials, an iterative and transparent approach to data collection, synthesis and analysis, and evaluation. Overall, we have presented an approach that is flexible and lends itself to being adaptable to various contexts and situations in the public sector. The iterative approach allows for early findings to be relayed to the Decision Makers, thus meeting the need for fast results that is common in public sector contexts. Additionally, the iterative analyses allow for mid-course corrections as necessary to ensure the process captures key themes in a fulsome manner and allows for the opportunity to delve deeper into unexpected or particularly useful findings.

Stages in the consultation process

Stage	Key Tasks
Stage 1: Gathering Background Information	<ul style="list-style-type: none"> • Contributing participants and key players • Developing a work plan for evidence generation and evaluation • Defining and refining the question • Gathering and compiling background information
Stage 2: Collecting the Data	<ul style="list-style-type: none"> • Identifying key informants and scope • Selecting methodologies • Consulting and collecting data • Ongoing analyses and iterative process
Stage 3: Synthesizing and Summarizing the Data	<ul style="list-style-type: none"> • Analyzing and synthesizing all the consultation data • Consulting with scientific research panel • Presenting the consultation report to a summit

	<p>of senior leaders</p> <ul style="list-style-type: none"> • Revising and refining the report to compile final version
Stage 4: Evaluating and Implementing the Findings	<ul style="list-style-type: none"> • Identifying evaluation needs • Identifying evaluation questions and methods • Documenting lessons learned and recommendations • Applying findings to decision making

Notes

1. The NSHRF defines the Nova Scotia health research enterprise as a community that is an integral part of the health system and includes not only researchers and research institutions but also those who use research to develop policy, deliver care and maintain the health system. By extension then, the national research enterprise is defined as an integral part of the economic and social fabric of Canada and it includes not only those who generate knowledge, but those that use knowledge to develop policy, deliver goods and services and maintain our socio-economic structures.
2. Snowball sampling refers to a participant recruitment approach whereby a few initial participants assist in identifying additional participants for a study through professional and personal networks based on their knowledge of the content area or key connections in the field of interest

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