

# Development of a framework for knowledge translation: understanding user context

Nora Jacobson, Dale Butterill, Paula Goering

Health Systems Research & Consulting Unit, Centre for Addiction and Mental Health, Toronto, Canada

**Objective:** To develop a framework that researchers and other knowledge disseminators who are embarking on knowledge translation can use to increase their familiarity with the intended user groups.

**Methods:** The framework was derived from a review and analysis of the knowledge translation literature and from the authors' own experience with a variety of user groups.

**Results:** The framework consists of five domains: the user group, the issue, the research, the knowledge translation relationship, and dissemination strategies. Within each domain, the framework includes a series of questions. The questions provide the researcher with a way of organizing what he or she already knows about the user group and the knowledge translation project, of identifying what still is unknown, and of flagging what is important to learn.

**Conclusions:** Most researchers wishing to engage in knowledge translation are moving out of their own familiar contexts. By using this framework, researchers will learn about the new contexts in which they find themselves. The insights they gain will increase their familiarity with the user group, thus aiding in the implicit goal of the interactive model of knowledge translation: making the researcher a part of the user group context.

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## Introduction

Knowledge translation (also called knowledge utilization, knowledge exchange, research transfer, and research utilization) has been a subject of inquiry since the 1950s.<sup>1</sup> Initially, the process was conceptualized either as a unidirectional and logical flow of information from researchers to policy-makers resulting in specific policy decisions<sup>2</sup> – the science push or knowledge-driven model – or as a commissioning of information from researchers by policy-makers with the intent of addressing a well-defined policy problem – the demand pull or problem-solving model.<sup>3,4</sup> In the 1970s, scepticism and frustration over the effectiveness of knowledge translation led researchers to focus not on the use of knowledge but on its non-use. The dominant conceptual model of knowledge translation became the two communities theory, which pointed to cultural differences between the research and policy-making communities to account for the lack of effective research utilization.<sup>5,6</sup> Critics of the two communities theory, however, claimed that it lacked explanatory power and was too pessimistic in its assumptions.<sup>2,7</sup> More recently, researchers have once again shifted to looking at use.<sup>8,9</sup> These models tend to be broader and more

sophisticated than earlier theories. For example, they focus more on process than product<sup>10</sup> and conceptualize knowledge translation not as a one-way transfer of information from researchers to policy-makers but as a reciprocal process of interaction and exchange among the producers and users of knowledge,<sup>9</sup> where users might include policy-makers, service providers, non-governmental organizations, private industry or the general public.

Interactive models of knowledge translation emphasize the personal nature of the process. That is, they posit that translation is facilitated when knowledge producers and knowledge users are known to one another and thus are familiar with one another's needs, preferences, objectives and circumstances.<sup>9-11</sup> Although the importance of familiarity has been well argued in the literature, and also makes intuitive sense, for researchers committed to knowledge translation, such familiarity is often lacking. Researchers express frustration with the difficulty of understanding the internal workings of the user groups they were hoping to address.

The knowledge translation literature is replete with information about particular user groups, such as Sabatier's account of research utilization by administrative agencies of the US government,<sup>12</sup> Louis and Perlman's report on the use of social science research by appointed commissions,<sup>13</sup> Weiss's exploration of the use of analytic information by US congressional committees<sup>14</sup> and the examination of research utilization by local health and social service organizations in

Nora Jacobson PhD, Research Scientist, Dale Butterill MPA, Manager, Knowledge Transfer, Paula Goering PhD, Director, Health Systems Research & Consulting Unit, Centre for Addiction and Mental Health, 33 Russell St, 3rd Floor Tower, Toronto, ON M5S 2S1, Canada.

Correspondence to: NJ.

Kingston, Ontario, by Anderson et al.<sup>15</sup> However, because information about user groups is context-dependent and because it is unlikely that a researcher aspiring to translate knowledge will find an up-to-date account of his or her intended user group, the value of such explorations lies not in the specific user group information they may provide but in what may be abstracted from them about the generic characteristics of user groups that are important to knowledge translation. In this paper we provide a framework that researchers can use to develop a familiarity with relevant user groups.

## Method

The framework is derived from a review of the literature and from the authors' experience. Our presentation of the framework posits the simplest possible situation – a single researcher planning knowledge translation to a single user group – while recognizing that a researcher may be dealing with several groups at one time. In addition, users may themselves be researchers, one group may commission research for use by another and the researcher may not be the translator of the resulting knowledge. Although this paper elides such situations for the sake of brevity and clarity, we believe that the framework can be equally useful for application under these, more complex, conditions.

The literature review began with a snowball sample of articles suggested by citations in papers already known to the authors (seminal works by knowledge translation pioneers and experts such as Carol Weiss, Robert Rich and Michael Huberman) and with citations gleaned from the bibliographies compiled by the Knowledge Utilization Studies Program at the University of Alberta. In addition, we used the terms 'research transfer', 'knowledge utilization' and 'knowledge translation' to search Medline, PsychINFO, Sociological Abstracts and Social Services Abstracts for the years 1975–2001. Titles, and then abstracts, found through all of these methods were scrutinized to ensure that the full articles were likely to contain information about user groups and the knowledge translation process. We obtained those that promised to do so. Casting such a broad net in the search process resulted in a literature sample that encompassed work from many disciplines, including health services research, education, political science and organizational sociology. We then conducted a qualitative analysis of all articles. (This analysis was facilitated by the use of NVivo software for data management.) We read all articles and coded them using conceptual categories that emerged from the data themselves. These codes had to do with the role of user group characteristics in and on the knowledge translation process. For example, early codes included concepts such as 'timing', 'purpose', 'internal environment' and 'information'. When all articles had been read and coded, we reviewed the codes and reduced them into a smaller number of categories – the domains that are reflected in this paper. Finally, we formulated questions

designed to tap into these domains. Thus, the framework synthesizes both the theoretical and empirical literature on what is known about user groups to provide a practical tool for use in knowledge translation projects.

## Results

The framework contains five domains: the user group, the issue, the research, the researcher–user relationship and dissemination strategies. Each of these domains includes a series of questions. The goal is not that the researcher give full and complete answers to every question (an undertaking that would be formidable) but that the questions provide a way of organizing what he or she already knows about the user group and knowledge translation, of identifying what still is unknown and of flagging what is important to learn. The framework is organized so as to take the researcher through an examination from the general to the specific. That is, it moves from questions about the context in which the user group is situated, to questions about the purposes and practices of the user group, from questions about the issue and the research in relation to the user group, to questions about the relationship between the researcher and the user group and, finally, to questions about specific strategies that the researcher might apply in disseminating knowledge to the user group. In the sections that follow, we present the framework's domains and questions, followed by information about implications of the questions and the research evidence from which they are derived.

### The user group

- In what formal or informal structures is the user group embedded?
- What is the political climate surrounding the user group?
- To whom is the user group accountable?
- Are changes expected in any of these?

The first set of questions considers the context in which the user group operates. User groups are not free-floating entities; most often, they are attached to larger structures and systems. These attachments affect the user group's needs and objectives, and thus are relevant to the knowledge translation process. Lomas<sup>10</sup> distinguishes two types of structures, formal and informal, that constitute the 'institutional structure for decision-making'. Formal structures are entities such as legislatures, executive agencies and bureaucracies. Informal structures include organizations of policy-brokers such as citizen groups and stakeholder coalitions. Characteristics of these structures are likely to affect the decision-making process. For example, a number of investigators have found that knowledge utilization is facilitated when there is congruence between the implications of the research and the particular ideology that dominates the user group context.<sup>16</sup> Other studies have suggested that political cultures grounded in moralism and liberalism

are more likely to use research than are those devoted to maintenance of the status quo.<sup>17</sup> Accountability expectations also may play a role in the use of research. User groups that are held accountable for demonstrating some sort of research base seem more likely to engage in knowledge translation.<sup>15</sup> Finally, the stability or instability of the user group context is likely to have an impact on knowledge translation. Unstable situations will intrude upon the researcher–user relationship and thus reduce the likelihood of effective knowledge translation.

- How big is the user group?
- How centralized is the user group?
- How institutionalized is the user group?
- What are the politics within the user group?

Several studies have indicated that the morphology of the user group has an impact on knowledge translation. More centralized user groups – groups in which decision-making authority is limited to a small group – seem to be less likely to use research evidence.<sup>18–21</sup> The size of the user group has implications for the ways in which information is accessed and dispersed internally and for the patterns of interaction a researcher will have with the group.<sup>22</sup> In addition, it is helpful for the researcher to understand the power dynamics within the user group:<sup>1,9</sup> who will win and who will lose if the group engages in knowledge translation?

- What kinds of decisions does the user group make?
- What is the user group's attitude toward decision-making?
- What criteria do the user group use to make decisions?
- What actions are available to the user group?
- What are the stages or phases of the user group's decision-making work?
- What is the user group's pace of work?

A user group's decision-making practices may affect how it approaches knowledge translation.<sup>5</sup> For example, groups that view decision-making as a political, or value-based, activity are less likely to use research than are groups that see it as a technical procedure.<sup>8</sup> Groups whose decisions result in specific guidelines or substantive policy (such as administrative agencies that write and promulgate rules and standards) are more likely to use research than are legislators.<sup>12</sup> Understanding the user group's decision-making practices, including the stages and timing of decision-making<sup>11,13,14</sup> and the kinds of actions the group may or may not set in motion,<sup>19,20</sup> is crucial for the researcher hoping to engage in knowledge translation.

- What sources of information does the user group access and use?
- How does the user group process information – i.e. how does it access, disseminate and apply information internally?
- For what purposes does the user group use information?
- Has the user group demonstrated an ability to learn?
- What incentives exist for the user group to use research?

- Is the user group cynical about research and researchers?
- How sophisticated is the user group's knowledge of research methods and terminology?

Most user groups will have access to multiple sources and types of information<sup>5,12,16</sup> and can easily become overwhelmed.<sup>14,19</sup> The utility of the information for the user group will be determined by factors such as the perceived quality of the information, its relevance to their objectives, and its congruence with their expectations and actions.<sup>9,23–25</sup> Weiss<sup>4</sup> has identified seven models of research utilization, which have been further elaborated by other investigators.<sup>19,21</sup> Understanding the purposes for which a user group uses information will aid the researcher in providing information in a form that makes it accessible and useful.<sup>11</sup> The presence or absence of internal incentives for using research may determine the extent and ease of a user group's engagement with research-based information.<sup>8</sup> Some user groups seem to be open to new sources of information and have a demonstrated ability to learn.<sup>1,26</sup> Others may be suspicious about the utility of research or the agendas of researchers<sup>27</sup> and thus require special handling during knowledge translation. Finally, user groups vary in their sophistication towards research. Some groups may include highly skilled researchers, whereas others may be naïve about rudimentary research assumptions and procedures and thus be less likely to use research.<sup>9,17,18</sup>

- Does the user group have a history of being involved in knowledge translation?
- What knowledge translation structures and processes already exist?
- What resources does the user group devote to knowledge translation?
- What are the user group's expectations of the researcher? Of the knowledge translation process?
- How many user group members will be involved in the knowledge translation process? Who are they?

Many user groups are likely to have been involved in knowledge translation in the past.<sup>18</sup> Learning something about the history of these efforts may aid the researcher by capitalizing on those pathways, rather than expending time and effort to develop new ones. The user group's commitment to knowledge translation may be judged by the resources it has devoted to the process.<sup>9,12</sup> User groups may have expectations of the knowledge translation process that affect how they approach the process.<sup>9,15</sup> Groups that are sceptical about the utility of research will be more difficult to work with than groups that are convinced of their need for this information. Because knowledge translation is an interpersonal process, as well as an organizational one,<sup>21</sup> the characteristics of the user group members involved in the activity – including their status, their educational backgrounds, the length of their tenure with the organization and their enthusiasm for the project – are likely to affect the process.<sup>8,9,18,19,27</sup>

## The issue

- To which policy sector(s) does this issue relate?
- For which other groups is the issue salient?
- How does the user group currently deal with this issue?
- Are things changing with the issue? How quickly are those changes taking place?
- How much uncertainty surrounds the issue?
- How much conflict surrounds the issue?
- What risks are associated with the issue?
- Is it necessary to possess a particular expertise in order to understand this issue?

Characteristics of the issue in question may have an effect on the user group and thus on the knowledge translation process. Caplan<sup>6</sup> has drawn a distinction between micro- and meta-level issues. Each type of issue may lead user groups to use research, but the purposes of research utilization differ in each case. Different policy sectors constitute different 'utilization contexts' and will have different approaches to using research.<sup>20</sup> Some policy sectors seem more likely to use research than others are.<sup>8</sup> Issues that are undergoing change may attract more attention from the user group, which then might be more motivated to engage in knowledge translation.<sup>8,15,22</sup> Some issues have salience for a wide range of entities, each of which may have to be taken into account by the user group.<sup>17</sup> The amount of conflict or consensus surrounding an issue,<sup>4,14,17</sup> the degree of uncertainty associated with an issue<sup>4,14</sup> and the risks connected to an issue (for the user group or for others)<sup>12</sup> may all have an impact on knowledge translation. Issues that are highly technical in nature are generally seen as more amenable to research evidence.<sup>12,17,18</sup> Researchers should consider all of these aspects when developing strategic approaches to knowledge translation and when thinking about their expectations for the results of the endeavour.

## The research

- What research is available?
- Is the research unambiguous?
- Is the research consistent?
- What is the quality of the research?
- How methodologically sophisticated is the research?
- What is the source of the research?
- Is the research very focused and fragmented or quite broad and synthetic in focus?
- Does the research suggest an immediate application? Is it action-oriented?

Different user groups will have different orientations towards research.<sup>28</sup> That is, they may look for different things in research, judge it using different parameters and seek to use it in different ways. Knowledge translation may be facilitated to the extent that the researcher can understand the user group's orientation and frame the research in ways that will appeal. Such a

framing process should begin with a thorough assessment of the research that is available and a similar assessment of the research preferences and needs of the user group. Most user groups will prefer research that is broad and synthetic,<sup>29</sup> that provides answers (rather than more questions)<sup>11</sup> and that is action-oriented.<sup>25</sup> User groups may still use ambiguous research, inconsistent findings and even gaps in research, but the purpose of such use may tend towards the political, rather than the instrumental.<sup>4,30</sup>

- How relevant is the research to the user group?
- Does the research have implications that are incompatible with existing user group expectations or priorities?
- Would these implications disrupt the user group's status quo?
- Do these implications suggest changes that the user group believes are politically feasible?

User groups are more likely to use research that they perceive as relevant to their current concerns.<sup>12,19,25</sup> However, utilization does not depend solely on relevance – congruence is another important factor. That is, user groups are more likely to use research that conforms to their expectations (or confirms their view of the issue),<sup>12,25</sup> that is compatible with their values and ideologies<sup>16</sup> and that serves their interests.<sup>9</sup> (However, with issues of deep political conflict, dissonant information may also be used.<sup>12</sup>) Research whose implications suggest changes the user group believes are politically unfeasible is unlikely to be engaged.<sup>27</sup>

## The researcher–user relationship

- How much trust and rapport exist between the researcher and the user group?
- Do the researcher and the user group have a history of working together?
- Is the user group stable or is it likely to undergo changes that will affect knowledge translation?
- Will the researcher be interacting with a designated representative of the user group? Will that representative remain the same throughout the life of the project?
- How frequently will the researcher have contact with the user group?
- Have the researcher and the user group agreed about the desired outcomes of knowledge translation?
- Have the researcher and the user group agreed about the responsibilities each will have during knowledge translation?

Relationship, or linkage, has become a key concept in the interactive model of knowledge translation, with the recognition that early engagement – preferably at the time when the research is being developed – facilitates knowledge translation.<sup>1</sup> This set of questions asks the researcher to examine his or her relationship, or the potentiality of a relationship, with the target user group. Important components of a knowledge translation

relationship include the receptivity of the user group and the degree of trust or rapport that exists between the researcher and user group.<sup>12,19,27</sup> A history of working together may facilitate trust. In new projects, frequent, reliable, face-to-face contacts<sup>1</sup> or the establishment of linking roles<sup>19</sup> may be strategies for building trusting relationships. Knowledge translation may run into difficulty if there is no agreement about the expected outcomes of the project or if the respective roles of the researcher and the user group have not been well defined.<sup>15,31</sup>

### Dissemination strategies

- Should the audience come to the researcher or should the researcher go to the audience?
- What is the most appropriate mode of interaction: written or oral, formal or informal?
- If using a written mode, what format is most appropriate to the user group? What are the group's preferences vis-à-vis length?
- If using an oral mode, what format is most appropriate to the user group? What are the group's preferences and constraints vis-à-vis time commitment?
- What level of detail will the user group want to see?
- Can the research be made vivid to the user group through case examples or other strategies?
- What is the optimum conceptual size for presentation of research to this user group?
- How much information can the user group assimilate per interaction?
- Should the researcher pre-test or invite feedback on the selected format from representatives of the user group before finalizing presentation plans?
- Would implementation be facilitated if the researcher provided reminders and/or information updates to the user group?
- To what extent, and in what ways, should the researcher continue to be available to the user group after the conclusion of translating the knowledge?

Practical strategies for disseminating knowledge have, until very recently, received less attention in the literature. Those that have appeared have tended to be embedded in more theoretical discussions of knowledge translation. This set of questions offers the researcher some suggestions for the details that should be considered when planning knowledge translation with a specific user group; it draws very heavily from our own experience. Knowledge translation involves three key processes: awareness, communication and interaction.<sup>15</sup> Each of these processes is intertwined and the researcher should consider user group needs and preferences while planning research, conducting research, interpreting research and disseminating research. For example, the researcher should think about the manner, mode and venue of information presentation that would be most appropriate for the

target user group. He or she should also consider the user group's preferences for the amount of information and level of detail,<sup>11,12,28</sup> as well as how the information can be made exciting or vivid for the user group.<sup>28</sup>

### Discussion

A researcher must not answer every question in every domain of this framework before embarking on knowledge translation. Rather, we hope to increase researchers' awareness of the type of information about user groups that might prove useful when translating knowledge.

Our work in knowledge translation and the current discussion in Canada (see, for example, [www.researchtopolicy.ca](http://www.researchtopolicy.ca); <http://kuuc.chair.ulaval.ca>; [www.nursing.ualberta.ca/knowledgetransfer/about.html](http://www.nursing.ualberta.ca/knowledgetransfer/about.html); [www.research-transfer.org](http://www.research-transfer.org)) suggest several strategies that researchers might use to begin to answer some of the questions posed by the framework. First, researchers may be able to draw on their own experiences. Often, researchers are also clinicians, teachers or administrators, or have held previous positions in a milieu related to the user context. If no such experience exists, researchers might consider building it by exposure to the user group. Second, some research organizations are finding success with a linking role, called a knowledge broker. Knowledge brokers mediate between researchers and user communities. Individuals serving as brokers must understand both the research process and the users' decision-making process. Third, researchers might consider applying their research skills to understanding user context. Focus groups, key informant interviews and case studies can all be useful means of increasing familiarity with user groups. Finally, even without a directed effort, researchers will find themselves learning a great deal about user group context through the interactions that take place during knowledge translation.

As we have noted, this paper has been written using a hypothetical scenario in which a single researcher has identified a single user group to engage in knowledge translation. This is a highly simplified version of what usually takes place. Often, for example, the researcher will discover that there are multiple potential user groups. If that is the case, the researcher must make a choice: whether to pick one user group to engage with (based perhaps on the group's likely ability to make change) or to work on multiple tracks, developing relationships with each of the potential user groups. This framework may aid in either scenario. Information developed through its application may aid the researcher in prioritizing and selecting a single user group. Alternatively, when working with multiple groups, the researcher might focus on the issue/research domains of the framework, particularizing the implications of these domains across user groups.

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