

Knowledge Translation: an overview in relation to the Fourth Canadian Consensus Conference
on the Diagnosis and Treatment of Dementia

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Introduction

The growing population of persons with dementia in Canada, and the provision of quality care for this population is an issue that no health care authority will escape. Physicians often view dementia as a difficult and time consuming condition to diagnose and manage.¹⁻³ Current evidence must be effectively transformed into usable guidelines for physicians; however, we know that use of evidence-based practice guidelines is a challenge in all realms of medical care, and failure to utilise these leads to less than optimal care for patients.⁴⁻⁷ This is no different in dementia care where physicians often perceive a lack of guidelines even when these exist.⁸

While continuing professional development (CPD) and continuing medical education (CME) have traditionally attempted to address this need for effective implementation of guidelines, increasingly knowledge translation (KT), with its focus on health outcomes, interdisciplinary approach, and broad outlook which encompasses and expands on many of the concepts of CPD and CME, is being called upon to improve the use of evidence in practice.⁵

Despite this growing emphasis, KT often appears on the surface to be a daunting, if not confusing, topic. Over 90 terms have been coined to describe it^{9, 10} and there are a variety of theories and implementation frameworks for an individual researcher or group to choose from when considering the use of KT.

Here we offer a brief introduction to some KT frameworks, outline practical steps for planning and executing a KT strategy around the implementation of guidelines for practice, and offer recommendations for KT planning in relation to the Fourth Canadian Consensus Conference on the Diagnosis and Treatment of Dementia (CCCDTD4).

Defining KT

As may be expected for any concept with dozens of terms available to describe it, there are a variety of working definitions for KT. The Canadian Institutes for Health Research (CIHR) define KT as "...a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically-sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system."¹¹

The National Center for the Dissemination of Disability Research (USA) describes it for their purposes as "the collaborative and systematic review, assessment, identification, aggregation, and practical application of high-quality disability and rehabilitation research by key stakeholders (i.e., consumers, researchers, practitioners, and policymakers) for the purpose of improving the lives of individuals with disabilities."¹²

Despite the many definitions, the common thread is "...a move beyond the simple dissemination of knowledge into the actual use of knowledge."¹⁰

KT should not be used synonymously with dissemination, just as it should not be confused with commercialization, technology transfer, or even continuing medical education (CME). In all cases, it takes a broader view with additional focus on the quality of the evidence being used, the involvement of end-users, the methods for transferring the knowledge to these end-users, and the evaluation of the impact of the implementation.^{10, 13}

Frameworks for Knowledge Translation

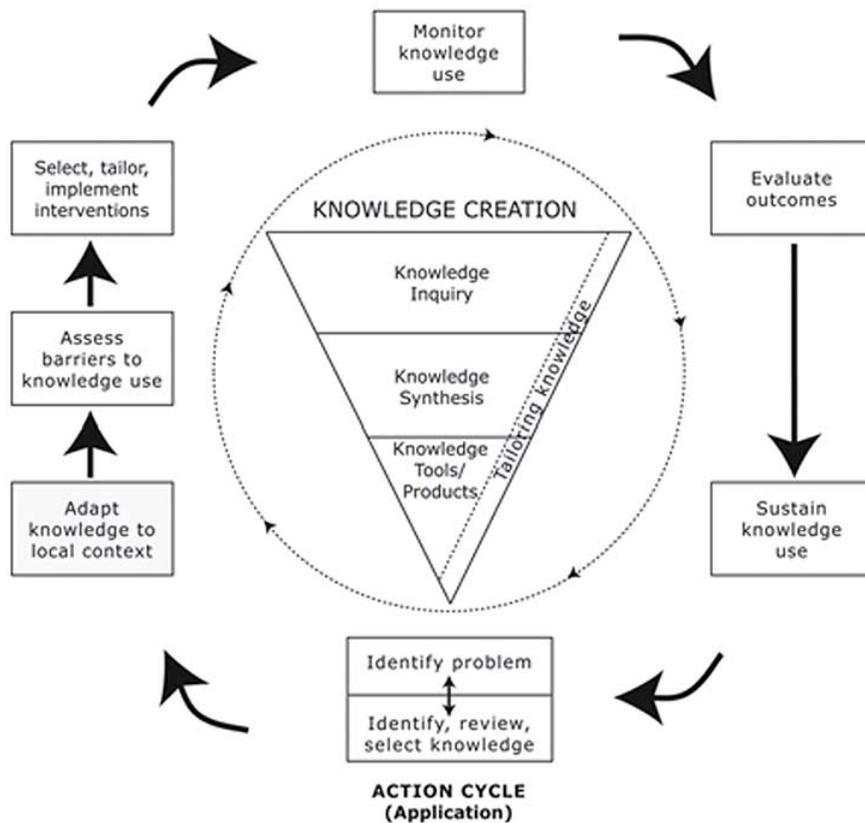
The need for organized processes and checks of barriers and facilitators in the translation of knowledge demands a framework on which one can build, and with which testable and useful

interventions can proceed in a measured, thoughtful way. Here we will describe three common frameworks for KT.

Knowledge to Action (KTA):

The KTA framework, proposed by Graham et al (2006) as a framework for the transfer of research findings into practice, is presented as two concepts: knowledge creation and the action cycle. In practice, the two concepts are fluid and do not always occur exclusive of each other.

Figure 1. CIHR Knowledge to Action Cycle



Knowledge Creation is represented in the diagram by a central funnel. As it moves down the funnel, knowledge becomes more refined through the steps of inquiry (e.g. primary research), synthesis (e.g. systematic review) and creation of tools or products (e.g. guidelines).

The Action Cycle moves from this process of knowledge refinement into the implementation of the knowledge. There are several steps in the Action Cycle, derived from theories of planned-

action¹³ all of which may inform each other, often times resulting in a non-sequential cycle. The steps are as follows:

1. Identifying the problem as well as the knowledge to address this (as well as addressing the usefulness and validity of the knowledge).
2. Adapting the knowledge to the local context by assessing the value and usefulness of the knowledge to the setting for which it is intended.
3. Assessing barriers and facilitators related to the knowledge to be adopted, the potential adopters, and the context in which the knowledge will be used.
4. Developing and executing the knowledge to action plan and any strategies to promote awareness and use of the knowledge.
5. Monitoring the use of the knowledge to determine the effectiveness of the plan, as well as implementing any required changes indicated by this. If at this stage knowledge use is not at the desired or predicted level, a reassessment may occur of the known barriers to adoption (e.g have new barriers occurred since implementation?) , the adopters outlook, etc.
6. Evaluating the impact of the knowledge use to determine if it has effected the desired outcomes, as well as the success or worth of the KT plan.
7. Sustaining the use of the knowledge over time. Barriers to ongoing use of the knowledge may not be the same as those for implementation of it, so this is considered a separate phase.

An important component to each piece of this (or any) framework is the consideration of (and involvement with) the target audience to understand how/if they can use of the knowledge, and the context within which they exist.¹⁴

Promoting Action on Research Implementation in Health Service (PARiHS) framework

The PARiHS framework, developed by Kitson and colleagues,¹⁵⁻¹⁸ focuses on the importance of the context or environment in which a change is implemented, the level and type of evidence being translated, the method of facilitation for this, and the relationship between these three. While it is considered to be a useful and highly practical framework, it remains largely untested.¹⁹ The framework considers the attributes of evidence, context and facilitation as well as the overall “high to low” attributes for each of the three. They argue that implementation works best when there is robust scientific evidence, an environment that is welcoming to this evidence, and skilled facilitation to assist with the implementation. Recent work has described a further evaluation of this model which highlights the need for a two stage process, concentrating first on the evidence and contexts, and utilizing data from this process to better inform the method of facilitation.¹⁹

Consolidated Framework for Implementation Research (CFIR)

Developed by a group in the United States Veterans Health Administration, the CFIR represents the consolidation of common constructs derived from a review of existing theories of knowledge transfer.²⁰ It can be used to assist identification of barriers and facilitators to interventions, to track implementation processes, and to explore the factors that influence implementation and how implementation influences interventions.

The CFIR outlines five domains and the common constructs for each of these.²¹

Intervention characteristics look at the intervention's source, the strength and quality of its evidence, its relative advantage, trialability and complexity, its quality of design and packaging, and the cost.

The outer setting includes the patients need and resources, “cosmopolitanism” (the degree to which a group or organization is networked with other organizations) , peer pressure and any incentives or external policies that could affect implementation.

The inner setting considers structural contexts of an organization, the nature and quality of social networks and formal/informal communications within an organization, the culture of a given setting in terms of its norms, values and basic assumptions, and readiness for implementation.

The characteristics of individuals: These constructs include the knowledge and beliefs held by individuals toward the intervention, self efficacy (individual belief in the capacity to achieve the goals of the implementation), the individual state of change (the phase an individual is in during a given point of progress toward sustained use of the intervention), the individual identification with the organization, and other personal attributes such as motivation, values, competence, etc.

The process considers the constructs of planning, engaging appropriate individuals (e.g. opinion leaders), executing the implementation, and reflecting and evaluating.

While CFIR is relatively new, it is considered a useful tool for not only understanding implementation itself, but also for ensuring more effective implementations.²⁰

KT Planning

Planning a KT strategy, regardless of the definition and framework used, benefits from guiding questions that allow organization of this process. Lavis et al²² offer five questions for KT planning that ask:

1. What is the message or knowledge to be transferred?
2. To whom should it be transferred?
3. By whom should it be transferred?
4. How should it be transferred?
5. What is the desired effect or impact?

These five questions inform each other, thus this is rarely a linear process. As consideration is given to one area, it may require adjustments in others.

1. What is the message or knowledge to be transferred?

The amount of evidence available to physicians has increased dramatically in recent years²³ and many evidence-based guidelines have been developed that aim to improve patient care. This explosion of available information means that scrutiny of the quality of evidence being translated at the outset of this process is crucial. Translating knowledge from a body of work rather than a single study is considered preferable,²² and while results from rigorous research are considered the foundation of good KT, there is a wide variety and scope of evidence that can and should be considered in many projects. Included in this can be everything from contextual information pertinent to an intervention (e.g. resource availability, constraints in a given context) to that traditionally considered of higher quality such as clinical trials or systematic reviews.^{24, 25} The inclusion of evidence from a variety of sources logically leads to a process of evaluating the strengths and limitations of each type. Additionally, your message should be crafted bearing in mind the potential audience, such as primary care physicians, and consideration should be given to how and in what format that audience prefers to receive information, and what the evidence says about the effectiveness of the methods selected.

2. To whom should it be transferred? Determining the target audience(s) for translation informs a range of other areas in KT planning. Inclusion of members of the target audience in the KT processes allows for better understanding of potential barriers, facilitators and needs of the particular group. Active involvement of practitioners in the translation of guidelines, particularly face-to-face, is recognised as the most efficient way to create a strategy that is likely to have its intended impact.²⁶⁻²⁸ While it is important to include a wide variety of stakeholders in this process, there must still be consideration given to the appropriateness of a given audience based on your message, desired outcomes etc. If you are translating evidence into practice guidelines, is your target group able to act on these? If, for example, a policy change is required, then this additional audience must be considered along with their differing preferences and requirements. Readiness for change is another important factor. Individuals often work within organizations, and the culture and values of this organization may impact the individuals' readiness to accept new information or guidelines. While the cultivation of such relationships is not necessarily a skill many researchers have considered, it is identified as a key element in effective dissemination.²⁹

3. By whom should it be transferred?

Consideration should be given to how the target audience will view the credibility of the messenger. This may be judged on multiple factors including the evidence being translated, but especially the individual or organization providing this. The use of opinion leaders is assumed to lend credibility with a particular audience, and drawing on respected physician organizations/colleagues has been shown to be effective for adoption of clinical guidelines.²² The inclusion of members from your target audience in your KT planning will assist you in understanding which messengers may be most suitable for your intended audience.

4. How should it be transferred?

There are a wide variety of methods to choose from when considering dissemination, all of which will be influenced by your message, your intended impact and, very importantly, the audience(s) you wish to influence. Lomas proposes a three part taxonomy for considering the different levels of dissemination (and their usefulness): diffusion, dissemination and implementation.³⁰

Diffusion includes many passive types of information dissemination with which academics will be quite familiar, such as publication in academic journals or presentation of findings at a conference. In terms of uptake by your intended audience, this is considered fairly unplanned and uncontrolled.³¹

Dissemination represents activities that often come to mind when people talk about KT, and are tailored to the specific target audience. These may include less active forms of dissemination such as translating your results into brochures or policy briefs, or more active forms such as small group sessions to disseminate findings or the use of a knowledge broker or network.³¹

Implementation takes a further step, looking to specifically address and overcome barriers to uptake in order to encourage adoption. Use of frameworks such as the Clinical Practice Guidelines Framework for Improvement can serve as a useful guide for identification of barriers and facilitators to uptake, allowing for specific tailoring of the KT plan to tackle these.¹⁴

A more comprehensive list of options is available through Barwick's Knowledge Translation Planning Template-R™.³² This template ranks dissemination activities or tools from mostly effective (e.g. educational outreach, combined interventions) to unknown effects (e.g. arts-based KT, social media).

5. With what effect or impact? What effect or change do you seek from your audience? In what realm do you wish to see an impact? How you will evaluate this? Barwick's Knowledge Translation Planning Template-RTM³² again offers a comprehensive set of options for reflection and goal planning for your audience (e.g. behaviour change, practice change, imparting of new tools, etc) as well as the realm in which you wish to have an impact (e.g. patient outcomes, policy, research). The considerations here will be heavily influenced by which groups you have chosen as your target audience(s) (e.g. primary care physicians) as well as the knowledge to be translated (e.g. practice guidelines), and will influence your choices for method of transfer. As KT is a process that takes considerable time and resources, evaluation of this is critical and can inform in two ways: (i) understanding the success of KT in a given context or project, and (ii) expanding the field of knowledge on the impact of different KT interventions in comparable settings.¹⁴ Evaluation should be tailored to match the audience and the desired outcomes, thus indicators to be considered can include assessments of reach, usefulness, use, partnerships, practice change, program/services and policy.³² Methods for evaluation can be both qualitative and quantitative (or mixed) but should be explicit and valid, as well as realistic and appropriate for the given target audience, setting and desired outcomes.¹⁴

Considerations for CCCDTD4

Dementia is perceived by physicians as a difficult and time-consuming condition to treat and diagnose¹ and evidence-based clinical practice guidelines are often underused.⁸ Thus it is crucial that the most current evidence-based clinical practice guidelines are effectively translated to assist physicians in providing the best care possible for patients with dementia. KT offers a holistic, health-care based approach that is broader than simple dissemination^{4,5} and offers the

opportunity to increase uptake of practice guidelines, and evaluate them in a comprehensive and rigorous manner. For CCCDTD4 to optimize the uptake of guidelines produced from this process, we recommend that a full KT planning process is engaged that considers the following:

1. A comprehensive review of the current literature, specific to translation of output from processes such as CCCDTD4 into clinical practice guidelines for the specific target audiences identified (e.g. primary care physicians).
2. Involvement of the target audience(s) in the KT planning process. Primary care physicians (and any other target groups) should be included in the KT planning process to better inform intended outcomes, desired change, and appropriateness of the messenger, method of the translation and evaluation plan.
3. Inclusion of a comprehensive dissemination strategy that actively targets barriers to uptake and seeks to tailor solutions to these with the assistance of the target audience.
4. Inclusion of a comprehensive evaluation plan that seeks to measure both success within the CCCDTD4 project, as well as within the larger body of work around KT of clinical practice guidelines.

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