

Getting evidence into policy and practice: Perspective of a health research funder¹

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“We have in hand most of the information we need to facilitate a new golden age of medicine. And what we don’t have in hand we can get fairly readily by wise investment in targeted research and intervention.” This “dangerous idea”¹ was put forward by Paul Ewald, an evolutionary biologist. His idea has merit and is consistent with the way we, at the Canadian Institutes of Health Research (CIHR), think about knowledge translation, which is our term for closing the gap between what we know and what we do.

From our perspective, Knowledge Translation (KT) is about making users aware of knowledge or innovations and facilitating their use of it to improve health and health care systems. It is about closing the gap between what we know and what we do (reducing the know-do gap) and about moving knowledge into action.

There are other terms in use to describe this concept, many of which are not operationally defined^{2,3} but, at the CIHR, we have developed the following working definition: “Knowledge translation is 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. This process takes place within a complex system of interactions between researchers and knowledge users which may vary in intensity, complexity and level of engagement depending on the nature of the research and the findings as well as the needs of the particular knowledge user.” An examination of the meaning of specific words in this definition allows a more in-depth understanding of what we mean by KT.

Synthesis in this context means the contextualization and integration of research findings of individual research studies within the larger body of knowledge on the topic. A synthesis must be reproducible and transparent in its methods, using quantitative and/or qualitative methods. It could take the form of a systematic review; follow the methods developed by the Cochrane Collaboration; result from a consensus conference or expert panel and may synthesize qualitative or quantitative results. Realist syntheses, narrative syntheses, meta-analyses, meta-syntheses and practice guidelines are all forms of synthesis.

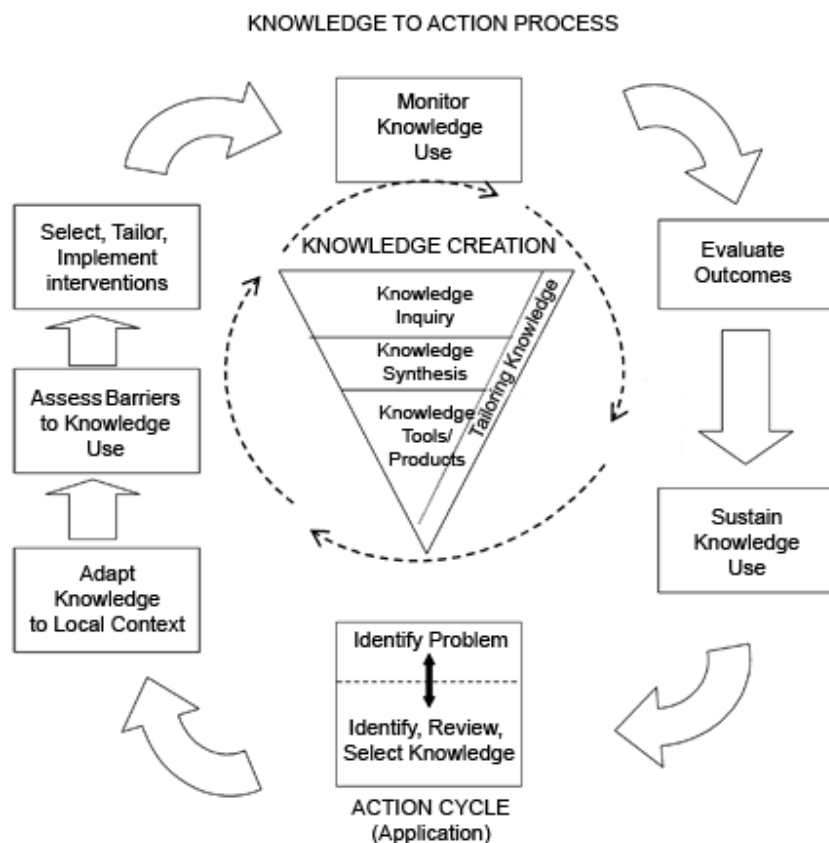
Dissemination involves identifying the appropriate audience, and tailoring the message and medium to the audience. Dissemination activities can include such things as summary/briefings to stakeholders, educational sessions with patients, practitioners and/or policy makers, engaging knowledge users in developing and executing dissemination/implementation plan, tools creation, and media engagement.

The **exchange** of knowledge refers to the interaction between the knowledge user and the researcher resulting in mutual learning through the process of planning, producing, disseminating, and applying existing or new knowledge.

Ethically sound knowledge translation activities are those that are consistent with ethical principles and norms, social values as well as legal and other regulatory frameworks- while keeping in mind that principles, values and laws can compete among and between each other at any given point in time.

The term **application** is used to refer to the iterative process by which knowledge is put into practice and has been illustrated in the action cycle of the knowledge to action process (see Figure 1) Implicit in the CIHR definition is the notion that evaluation and monitoring of KT initiatives, processes, and activities are key components of KT.

Figure 1: The Knowledge to Action Process



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In CIHR's view, knowledge translation can be divided into two broad categories; end of grant KT - initiatives undertaken once the grant/research has been completed and integrated KT - initiatives woven into the research process (integrated knowledge translation). End of grant KT refers to the standard KT activities of most researchers: KT to their peers such as conference presentations and publications in peer-reviewed journals. But CIHR also encourages end of grant dissemination activities that tailor the message and medium to a specific audience, such as summary briefings to stakeholders; educational sessions with patients, practitioners and /or policy makers; media engagement and the use of knowledge brokers.

Integrated KT at CIHR represents a different approach and involves collaboration between researchers and research users in all parts of the research process including the shaping of the research questions, deciding the methodology, involvement in the data collection and tools development, interpreting the findings and helping disseminate the research results.

Research users could be other investigators from difference disciplines, teams or countries but more often are policy makers, decision makers, research funders, industry, clinicians or the public. This category of KT is similar to participatory research⁴, or Gibbons' Mode 2 research⁵ in that it includes "a

wider, more heterogeneous set of practitioners, collaborating on a problem defined in a specific and localized context”(Gibbons et al 1994, page 3). It is not our view that every researcher should be involved in integrated KT. For many researchers, disseminating research results to the *appropriate* audience (this includes other researchers) is usually sufficient. In cases where more intense knowledge translation is warranted to roll out the results of research proven to be effective, this can take place at the end of the grant or in a more integrated fashion – depending on the circumstances.

The intensity of knowledge translation would depend on factors such as the potential importance/impact of using the findings; the strength of the evidence supporting the findings (synthesis); the target audience(s); what is known about effective strategies to reach the audience(s); what is practical and feasible to do under the circumstances and considerations of who else should be involved in KT efforts.

What does all these have to do with Paul Ewald's quote? *“We have in hand most of the information we need to facilitate a new golden age of medicine.”* In line with his views, we need syntheses to determine what we already know (or should know). Tens of thousands of medical research articles are published every year. Through synthesis and systematic reviews, we can sift the wheat from the chaff to determine areas requiring clear action based on strong evidence. For example, 30-40% patients in the US do not receive treatments of proven effectiveness and, more disturbingly, 20–25% patients get care that is not needed or potentially harmful^{6,7}. Cancer outcomes could be improved by 30% with optimum application of what is currently known and there could be a 10% reduction in cancer mortality if available therapies were used more widely^{8,9}.

“... And what we don't have in hand we can get fairly readily by wise investment in targeted research and intervention.”

When research gaps are identified through synthesis, the right people need to be involved from the beginning in order to conduct applied, collaborative, interdisciplinary research – in other words – iKT. Today's health problems are complex and interdisciplinary and require mixed methods to solve them. Furthermore, research users need to be involved in setting the research agenda and defining the research questions to ensure relevance and greater likelihood uptake of the findings when they become available. With their input, the right research can be fostered and encouraged through appropriate targeted funding.

But even if the right research is being funded and conducted, once the results are in, they are not “one size fits all.” This is equally true with clinical practice guidelines, systematic reviews and quality improvement initiatives. Users need to adapt and take ownership of knowledge for local use. In health care, use of research is not only influenced by the evidence itself, but by existing resources, patient preferences, and clinical expertise^{10,11}. The knowledge to action cycle³ demonstrates how adaptation can be incorporated into the implementation process.

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Knowledge translation is a means of moving evidence to policy and practice. But our examination of what precisely is meant by this term has revealed some of the intricacies and complexities involved in making this leap. First, we need to be sure we have the right evidence and that we have considered the opportunity costs of implementing it.

Next, having identified gaps for targeted research, we need to ensure that the right people are involved in conducting that research and that those involved in implementation research, in particular, should collect robust performance measurement data. This could contribute to much-needed research on intervention design, implementation and evaluation of knowledge use, as well as to improve health and health services and products.

Finally, evidence needs to be tailored and adapted for use in the local policy and practice environment. As research funders, we at CIHR are committed to fund syntheses as well as end of grant and integrated knowledge translation research as part of fulfilling our KT mandate. We encourage our researchers to disseminate their research results to the appropriate audiences and to consider the impact of their work within the context of existing knowledge.

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