

Knowledge Translation, Patient-Oriented Research and Implementation Science – by Research Theme and Resources

Why is knowledge translation and patient-oriented research important to your research?

Knowledge translation (KT) and patient-oriented research can help move research findings into practice. No researcher wants to see their work sit on a shelf and not be used by those who could benefit from it. Unfortunately, that is exactly what can happen. An estimated 85% of research relevant to clinicians and patients is not used due to correctable problems at each stage of the research cycle¹. This failure to put health research findings into general action has been estimated to contribute to US\$200B of wasted research funding in 2010².

Your “Pathway to Impact”

It is important to describe the potential impact of your research in your funding application. It is equally important to ask yourself — and show the peer reviewers — ‘How am I going to help get my research used?’ You can help by embedding knowledge translation (KT) activities throughout your funding application, including by conducting patient-oriented research (POR) and patient engagement, where appropriate. KT is the broad range of activities that make up the “pathway to impact” for health research, aimed at bridging the gap between evidence creation and its use in practice, policy and future research. The practice of KT includes four components: the synthesis of research evidence, exchange of knowledge between researchers and research users, targeted dissemination, and implementation of research evidence.

Examples of approaches that engage research users throughout the research process include patient-oriented research (POR) and integrated knowledge translation (IKT). Both IKT and POR bring together researchers with research users such as health professionals, health system decision-makers, patient partners, and/or researchers from other disciplines. While IKT aims to answer priority research questions of importance to any or all research users relevant to the specific research project, POR is research that is done in partnership with patients and community/public members, and answers research questions that matter most to them, aiming to improve health care and health outcomes.

The term ‘patient partners’ is inclusive of patients, families, caregivers and/or community members with lived/living experience (PWLE) relevant to the research topic.

Engaging research users as partners throughout the research question development, research process and KT activities increases the relevance, usefulness and usability of the research conducted. You should engage early and often with your research users. Note that [patient engagement](#) is different than qualitative research activities, such as focus groups where patients provide data as participants rather than partner in research decision making.

¹ Chalmers, I. & Glasziou, P. [Avoidable waste in the production and reporting of research evidence](#). The Lancet, (2009) 374(9683), 86-89

² Macleod et al. *Biomedical research: Increasing value, reducing waste*. The Lancet. (2014) 383;9912:101–4

About KT and POR

KT can look different at different stages of research and across [different research pillars](#) (i.e., biomedical, clinical, health services, and social, cultural, environmental and population health). Below are examples of resources organized as: (1) general KT and POR resources, (2) resources by research pillar, and (3) resources for researchers wanting to learn about implementation science.

These are only a sampling of the resources you can explore as you consider what activities are suitable within the context of your research project/program. You may want to look at KT and POR activities within other research pillars to give you additional ideas or speak with your colleagues to see what activities they have found successful in their research work.

- [KT Connects webinar series](#) - includes webinars on KT practice and science; learnings are applicable to all areas of research. KT Connects is a partnered learning series offered by Health Research BC and Arthritis Research Canada.
- More POR resources: [BC SUPPORT Unit Resource Library](#)

General KT and POR resources

Competencies

[Patient-oriented research competencies in health \(PORCH\) for researchers, patients, healthcare practitioners and decision-makers](#) – scoping review by BC SUPPORT Unit

[Core knowledge translation competencies: a scoping review](#) - identifies core KT competencies for knowledge users, knowledge brokers and researchers. Michael Smith Health Research BC was part of the study as a partner organization to bring the funders' perspective to the research.

[Identifying competencies for integrated knowledge translation: a Delphi study](#) – the article identifies competencies for integrated KT (IKT) for knowledge users and researchers working collaboratively.

Dissemination

[Knowledge translation strategies for dissemination with a focus on healthcare recipients: an overview of systematic reviews](#) - overview of systematic reviews that describes KT strategies for dissemination with a focus on healthcare recipients.

[Plain language guide](#) - from BC SUPPORT Unit, that can help eliminate research jargon and make results more accessible and engaging to others.

Integrated KT (IKT) / Patient Engagement

[IKT Guiding Principles](#) - a resource co-created by researchers, knowledge users, and individuals with lived experience to support IKT partnerships to conduct high quality, ethical research that is relevant, useful, usable and avoids tokenism. Health Research BC was a partner organization to bring the funders' perspective to the research. The Guiding Principles have been developed to be used early and throughout the entire research process. Partners should regularly refer to these principles while reflecting on their approach, contributions, and commitment to the partnership and adjust as needed.

[Collaboration of patient research partners and scientists improves the outcome of health research](#) – the

article outlines different potential methods of patient involvement and how they contribute to relevant and quality health research.

[Distinctions and blurred boundaries between qualitative approaches and public and patient involvement \(PPI\) in research](#) – the article notes the need for flexibility, negotiation and continuous reflection on methodological approaches, roles, power dynamics and co-created knowledge when engaging patients and the public in research.

[Canadian Institutes of Health Research's \(CIHR\) Strategy for Patient-Oriented Research \(SPOR\)](#) – information includes information about the SPOR cross-Canada initiative and resources.

Planning Templates

[KT Tools & Resources](#) – a range of tools and resources including a KT planning template designed to guide researchers through embedding knowledge translation into a research project.

[Operationalizing a patient engagement plan for health research: sharing a co-designed planning template from a national clinical trial](#) – the article offers a patient engagement planning tool template and discusses how to engage patients in clinical trials.

[Guide to Knowledge Translation Planning at CIHR: Integrated and End-of-Grant Approaches](#) – the manual provides instruction and case examples.

Practice

[Patient and public engagement in integrated knowledge translation research: are we there yet?](#) – the article examines the links and differences between integrated KT and patient/public engagement processes.

Theories, Models and Frameworks

[Lost in Knowledge Translation: Time for a Map?](#) - a review of the terms and definitions used to describe the concept of moving knowledge into action. This KT framework offers a conceptual framework for the process of moving evidence to action.

[A scoping review of full-spectrum knowledge translation theories, models, and frameworks](#) – the scoping review provides options that may be used when developing KT projects and interventions. Primary audiences for the users were multi-level (e.g., professionals, patients/public, organizational, and financial/regulatory). The majority of theories, models and frameworks were used within public health or research contexts or multiple contexts.

[An empirically based conceptual framework for fostering meaningful patient engagement in research](#) describing the Patient Engagement in Research (PEIR) Framework.

Research Themes

Theme 1 – Biomedical Research

Knowledge translation (KT) is a process comprised of activities aimed at increasing the use of health research evidence. It differs from translational research which is research aimed to bridge basic and clinical research by integrating advancements in biomedical science with clinical trials.

While not all biomedical research is ready to be applied, a good knowledge translation plan increases the chance that discoveries are taken up in further research or to eventually improve health care.

In addition to considering which KT activities are most appropriate for the type and stage of your research, you may want to consider conducting POR and engaging with patient partners as this helps ensure that your research question(s) address a topic that matters to patients. The key questions you should ask yourself are: Who are the individuals/groups who will potentially use my research to advance it to the next level? When is the best time(s) during my research to engage them and how? Is my research question advancing evidence creation in an area that matters to patient partners?

Examples of KT and POR activities in biomedical research:

- Identifying and communicating with research users, which can include patient partners
- Reaching out to academics in other fields/disciplines
- Engaging in collaboration with clinical researchers
- Engaging in collaboration with patient partners
- Preparing and distributing plain language summaries
- Sharing discoveries with industry.

[Lost in translation: the valley of death across preclinical and clinical divide – identification of problems and overcoming obstacles](#) – the research paper discusses issues and obstacles moving from preclinical to clinical research.

[Patient engagement in preclinical laboratory research: a scoping review](#) – the scoping review discusses the benefits, barriers and enablers when engaging people and community/public members with lived experience in preclinical research.

[Partnering patients, caregivers, and basic scientists: an engagement model that fosters patient- and family-centered research culture](#) - discusses how researchers conducting basic science can conduct community-engaged research.

Theme 2 – Clinical Research

A good KT plan for clinical research can involve both the translation of clinical knowledge into improved health practice/policy as well as communication with biomedical researchers regarding the outcomes of clinical trials to advance their discoveries. Clinical researchers are well placed to provide evidence to patients, clinicians, regulatory bodies and policy makers about the benefits or harms of medications and interventions through dissemination products targeted to each audience's unique context (e.g., guidelines, decision aid tools, briefing notes, presentations). In addition to targeted dissemination activities, conducting patient-oriented clinical research ensures you are studying a topic that matters to patients, is informed and/or done in collaboration with them and can help create evidence that will best support their health.

Examples of KT and POR in clinical research:

- Creating up-to-date systematic reviews or other syntheses of global evidence as the unit of research to be disseminated for the purpose of practice and/or policy change
- Communications/collaborations with researchers in other disciplines and pillars

- Collaboration with research users including patient partners (i.e., patients, families, caregivers, and/or community members with lived/living experience relevant to the research topic) in the development of research questions
- Consultation with biomedical researchers about the results of clinical trials
- Plain language summaries directed at mainstream media.

[Knowledge translation of research findings](#) – the article summarizes five key questions to frame KT planning.

[Assessing the extent to which current clinical research is consistent with patient priorities](#) – the scoping review highlights that clinical research is lacking in that it does not always answer clinical questions that matter most to patients.

[Patient involvement in clinical research: why, when, and how](#) – the article proposes specific measures to improve patient involvement and the need for a change to the ethical principles that underlie research.

[Creating a clinical trials community: 3 questions every trialist should ask themselves](#) – the article advocates for increasing patient engagement and co-development in clinical research and its design.

[Patient and patient group engagement in cancer clinical trials: a stakeholder charter](#) – the article describes the co-development of a charter to guide implementation of patient centricity and engagement in cancer clinical trials and operationalization of the Clinical Trials Transformation Initiative model (Canadianized version).

Theme 3 – Health Services Research

Evidence suggests that research is more likely to be applied when it is done in consultation or collaboration with those who will use it. Health services researchers are well placed to engage in integrated KT by engaging with research users including, for example, policy makers, practitioners, patients, families, caregivers and/or community members with lived/living experience relevant to the research topic, and other researchers, as research team members. Health services researchers are also well placed to conduct POR, collaborating with patient partners to better answer research questions that matter most to patients and that can influence their care.

Examples of KT and POR in Health Services Research:

- Engaging research users – patients, families, caregivers and/or community members with lived/living experience relevant to the research topic - in the planning, implementation and evaluation of research.
- Connecting with policy makers
- Creating media releases
- Co-creating with research users targeted and tailored dissemination products (videos, articles, reports, websites) designed to engage diverse audiences with the research results.

[Knowledge translation of research findings](#) – the article summarizes the five key questions to frame KT planning.

[Can scientists and policy makers work together?](#) - the paper explores this fundamental question.

[Positioning patients to partner: exploring ways to better integrate patient involvement in the learning health systems](#) – the commentary article encourages readers to reflect on how to engage patients and community/public members with lived experience relevant to the research topic in learning health systems.

[Characteristics of knowledge translation theories, models and frameworks for health technology reassessment: expert perspectives through a qualitative exploration](#) – the article describes characteristics of KT theories, models and frameworks that aim to be useful for decreasing use or de-adoption of a technology.

Theme 4 – Social, Cultural, Environmental, and Population Health Research

Knowledge translation encompasses all the activities that aim to increase the impact of research evidence on policy, practice and further research. Evidence suggests that research is more likely to be applied when it is done in consultation or collaboration with those who will use the findings. Research users may include, for example, policy makers, practitioners, patients, families, caregivers and/or community members with lived/living experience relevant to the research topic, or other researchers. Population health researchers are well placed to engage in integrated KT, engaging research users as research team members.

Examples of KT in Population Health Research:

- Engaging research users in the planning, implementation and evaluation of research
- Connecting with policy makers
- Creating media releases
- Co-creating with research users, dissemination products (e.g., videos, articles, reports, websites) designed to engage the public in the research results.

[Knowledge translation within a population health study: how do you do it?](#) – the article explores how to conduct KT within a population health study.

[Engaging indigenous patient partners in patient-oriented research: lessons from a one-year initiative](#) – the article outlines lessons learned from a one-year initiative to engage Indigenous patient partners in patient-oriented research.

[Indigenous KT and ways of knowing — what do they mean for public health?](#) - the blog post looks at the importance of integrating Indigenous ways of knowing and health equity into KT approaches.

[Strengthening population health interventions: developing the CollaboraKTion framework for community-based knowledge translation](#) – the article provides a guide to the development, implementation and evaluation of contextually relevant, evidence-informed initiatives aimed at improving population health.

[A population-based approach to integrated healthcare delivery: a scoping review of clinical care and public health collaboration](#) – the scoping review (1) maps a series of interventions from the empirical literature that facilitate collaborations between public health and primary care, and (2) provides a self-evaluation tool for the clinical practices of healthcare organizations to identify opportunities for cross-sectoral collaboration.

Implementation Science Resources

KT science explores the theories, mechanisms, concepts, and/or methods by which evidence is used in health care practice and policy. While the practice of KT covers activities to encourage and enable evidence use (for example synthesis, dissemination, exchange and implementation of evidence) KT science is the study of those activities, including implementation science. The following resources are examples specific to implementation science.

[Knowledge translation in health: how implementation science could contribute more](#) – the opinion piece discusses how implementation science could contribute to more KT in health through a redesign of the research enterprise.

[Implementation science made too simple: a teaching tool](#) – the article describes a teaching tool to help those new to the field of implementation science to understand key concepts.

[Writing implementation research grant proposals](#) – a debate article with ten key ingredients to include in an implementation science grant proposal.

[Implementation science research pathway](#) – an eight-step pathway to guide you in developing and conducting your implementation science project.

[KT Connects webinar series](#) - includes webinars on implementation science. KT Connects is a partnered learning series offered by Health Research BC and Arthritis Research Canada. Webinars are discipline agnostic so applicable to all research pillars. Examples related to implementation science include:

- [Implementation science 101: What works in theory and practice for clinical interventions](#)
- [Shining a light on the implementation to scale-up continuum: how does it apply to health promoting innovations?](#)
- [Closing the gap: using KT science to move physical activity research into practice](#)

[Implementation science in times of Covid-19](#) – the editorial explores how implementation science offers a multi-disciplinary perspective and systematic approach for the design, evaluation and analysis of programs and policies to enhance implementation.