

Maternal, Infant, Child, and Youth Research Network [MICYRN]

Knowledge Translation Needs Assessment and
Environmental Scan

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Introduction:

This report was conducted in order to determine what knowledge translation (KT) resources are currently available to Canadian pediatric clinician-researchers, and additionally, what knowledge needs exist within this group. The answers gained from this report will help to inform MICYRN's (Maternal, Infant, Child, & Youth Research Network) development of a web-based resource that will address these needs.

Telephone interviews were conducted with 11 individuals who were purposively chosen due to either their unique and extensive knowledge of the KT 'landscape' within the Canadian context, or their insight into the KT needs of the healthcare professionals within their organizations. Nine of the 11 individuals were physicians, 9 of the informants practiced in the area of pediatrics, and 4 conducted research almost exclusively in the area of KT (and were considered KT 'experts'). Interviews were audio recorded and transcribed. The resulting narratives have been summarized, synthesized, and organized into this report. An interview schedule was provided prior to the start of the study (appendix 'A'), and what follows is an integrated and abridged version of the responses obtained for each question.

Question 1: What KT **training** resources are currently available?.....being developed?....could be offered up for others to use?

There was general agreement that there was 'not a lot' offered in terms of KT training within Canada. While most of the informants were aware of workshops, training sessions, or short courses that provided KT instruction of some sort, they acknowledged that there was no specific KT post-graduate training presently available in Canada. Current training opportunities currently available occur at several different levels: 'in house' sessions (mainly targeting clinician-researchers within the institution), sessions organized by regional or provincial bodies (e.g. Nova Scotia Health Research Foundation [NSHRF], Research Transfer Network of Alberta [RTNA]), or sessions organized by organizations representing researchers in a particular clinical area (e.g. Pediatric Emergency Research Canada [PERC]). The 'patchwork' organization of courses that is currently available allows for wasteful duplication of services and resources, and the formation of gaps in curriculum. KT courses were usually 'housed' within faculties such as Epidemiology, Health Services and Policy Research, or occasionally, Nursing. Several

informants expressed a desire to have KT ‘Centre of Excellence’ established within the future to address the need for comprehensive and multidisciplinary post-graduate KT training in Canada. There was also interest expressed in the development of a program of KT training specifically within pediatrics.

The informants suggested that a web-based resource that would house key articles, bibliographies, web links, grant information, and opportunities for collaboration and networking would be an ideal compliment to any KT training program. Some informants mentioned that maintaining the site and ensuring that it was updated on a regular basis was important. Having lots of well-written information on different aspects of KT, without having too many links to other documents was also important. Having a site that was just a ‘collection of links’ to other sites was seen as counterproductive. A few informants pointed out that several very good KT sites already exist and if another site was to be created, it would have to offer something ‘different’ than what the other sites offer. One informant made the observation that he, as a rule, does not use the web to seek out information, but in stead seek out information from trusted colleagues or via networking or ‘word of mouth’. Several informants mentioned KT Canada’s site, ‘KT Clearinghouse’ (<http://kclearinghouse.ca/home>), as a site that could potentially fulfill the role of being a central repository of KT information. This site serves all clinical areas, and has basic information about KT, as well as the features listed above. The site is maintained by individuals from the University of Toronto.

Another important aspect of KT training that was mentioned was the need to tailor the information presented to the different user groups, specifically, KT researchers, clinician-researchers, decision makers, and healthcare consumers. The performance of a needs assessment and customizing the curriculum to fit the target audience were considered essential elements that must not be overlooked.

Most informants provided the names of specific websites, individuals, or organizations/institutions that they thought provided accurate, useful and reliable KT information. This information is summarized below:

Websites:

- KT Canada/KT Clearinghouse: <http://kclearinghouse.ca/home>

- University of Ottawa/Ottawa Health Research Institute [OHRI]: <http://www.ohri.ca/home.asp>
- University of Toronto: <http://www.stmichaelshospital.com/research/kt.php>
 - Keenan Research Centre and the Li Ka Shing Knowledge Institute
 - Joint Program in Knowledge Translation (Sharon Straus)
 - Literature (journal articles, bibliographies), Tools and a Glossary
- McMaster University: <http://www.mcmaster.ca/cfh/knowledgetranslation.html>
 - Centre for Health Economics and Policy Analysis [CHEPA]
 - Clinical Advances through Research and Information Translation [CLARITY]
 - National Collaborating Centre for Methods and Tools [NCCMT]
 - Nursing Health Services Research Unit [NHSRU]
 - Program in Policy-Decision Making [PPD]
 - John Lavis-Canada Research Chair in Knowledge Transfer and Exchange
 - Health Information Research Unit [HIRU]
 - Evidence-based Practice Centre [EPC]
- Canadian Health Services Research Foundation [CHSRF]:
http://www.chsrf.ca/knowledge_transfer/index_e.php
- Canadian Institutes of Health Research [CIHR]: <http://www.cihr-irsc.gc.ca/e/27293.html>
- University of Alberta/Knowledge Utilization Studies Program [KUSP]:
<http://www.kusp.ualberta.ca>
- Nova Scotia Health Research Foundation [NSHRF]:
<http://www.nshrf.ca/AbsPage.aspx?id=1059&siteid=1&lang=1>

- Chair on Knowledge Transfer and Innovation [KU-UC]/Laval University:
<http://kuuc.chair.ulaval.ca/english>
- Alberta Heritage Foundation for Medical Research [AHFMR]/Research Transfer Network of Alberta [RTNA]: <http://www.ahfmr.ab.ca/rtna>
- Centre for Evidence-based Medicine [CEBM], Oxford University UK: <http://www.cebm.net>
- ICEBeRG-Improved Clinical Effectiveness through Behavioral Research Group:
<http://www.iceberg-grebeci.ohri.ca/index.html>
- Centre for Health and Environmental Research [CHER], UBC-
<http://web.cher.ubc.ca/ktdatabase/index.php>
- National Centre for the Dissemination of Disability Research [NCDDR]-American site
http://www.ncddr.org/knowledge_trans_over.html

People:

- David Johnson, University of Calgary/Alberta Children's Hospital (also, Kelly Mrklas)
- Sharon Straus (University of Toronto/University of Calgary-Medicine)
- Carole Estabrooks/Anne Sales/Greta Cummings (University of Alberta-Nursing)
- Jeremy Grimshaw (University of Ottawa/OHRI-Medicine)
- Ian Graham (University of Ottawa/CIHR/OHRI; Vice President KT at CIHR)
- Terry Klassen (University of Alberta-Medicine, Pediatrics)
- Shoo Lee (University of Alberta-Medicine)
- Melanie Barwick (University of Toronto/Hospital for Sick Children-Health systems/psychology)
- John Lavis (McMaster University-Clinical epidemiology/biostatistics and health policy; Canada Research Chair in KT)

- Shannon Scott (University of Alberta/Stollery Children’s Hospital-Nursing)
- Mandy Newton (University of Alberta/Stollery—Pediatrics)
- Janet Curran (Dalhousie University/IWK-Medicine, Pediatrics)
- Martin Osmond/Amy Plint (University of Ottawa/CHEO-Medicine, Pediatrics)
- Francine Ducharme (McGill University/Ste Justine –Medicine)
- Jacqueline Tetroe (University of Ottawa/ICEBeRG/OHRI/CIHR)

Workshops/Courses/Programs:

Workshops/Seminars:

- PERC- annual meeting, presentations by Jeremy Grimshaw, Shannon Scott; focus on Emergency medicine, pediatrics
- EPIQ-Evidence-based Practice for Improving Quality (Maternal/Infant care)—seminars
- OHRI-Summer Institute (University of Ottawa)
- ICEBeRG (Improved Clinical Practice through Behavioral Research Group) at University of Ottawa—annual summer school in KT with Grimshaw & Graham
- University of Laval (Quebec City) –focus on KT and policy change, healthcare services

Courses/diplomas/degrees:

Canadian:

- University of Alberta: INTD690-Research Utilization (graduate level) with Carole Estabrooks (nursing, gerontology)
- University of Ottawa: Graduate diploma in Health Services and Policy Research (HSR6120 Knowledge Transfer For Health Services and Policy Research) with Ian Graham

- OTC--Ontario Training Centre in Health Services and Policy Research (Partnership with Lakehead, Laurentian, McMaster, Ottawa and York Universities) offers a diploma in Health Services and Policy Research at each of the listed universities
- University of Toronto—Health Services Research, MSc or PhD (includes—“Knowledge Translation and Information Behavior in Health Care” and “Knowledge Transfer and Exchange: The Art and Science of Making Research Relevant and Increasing Utilization”)
- Dalhousie, Memorial, UNB and UPEI in partnership with the ARTC Atlantic Regional Training Centre offers a Master’s Degree in Applied Health Services Research
- University of Calgary—CHAPS-Centre for Health and Policy Studies (post-graduate)
- UBC-Centre for Health Services and Policy Research
- Western Regional Training Centre for Health Services Research (joint program by University of Alberta, University of Manitoba and UBC (Master’s and PhD programs)
- The Executive Training for Research Application (EXTRA) Program –CHSRF
- Capacity for Applied and Developmental Research and Evaluation in Health Services and Nursing (CADRE)—CHSRF
- OHRI-“Cognitive and behavioral theories for knowledge translation”—credit course (University of Ottawa)
- Université Laval-Interdisciplinary, doctoral program in health services research

Documents:

- Many of the websites provide KT bibliographies and key articles, however, it depends on who you ask, and what area within KT is of interest (evidence-based practice, implementation strategies, measurement etc.)
- KT Manual—(CIHR—J. Tetroe) to be published in the spring of ’09—available on the website
- Milbank Quarterly—articles on KT

Question 2: Are you aware of any **mentoring** for junior and established investigators that is currently available?....being developed?.....any to offer?

Senior scientists engaged in KT within the pediatric context are in short supply. Capacity building in this area is a priority. CIHR has in the past sponsored a ‘Summer Institute’ (June 2008 was hosted by Jeremy Grimshaw) where students are mentored in KT methods, however, space is limited and only 30 of the 150 who applied this past year were able to take part. Informants also mentioned using communities of practice (COP) to mentor those who are new to KT. Communities of practice are defined as loosely organized groups of individuals who share a common clinical or methodological interest. For example, for clinician-researchers, this would mean that individuals who have developed successful strategies for knowledge transfer would share their strategies on an informal basis with others who are seeking guidance on how to best disseminate research findings. Other organizations that were mentioned as providing mentorship to junior researchers were: PERC, OHRI, AHPRC, KUSP, and KT Canada. Overall, those individuals who were considered ‘KT experts’ or knowledgeable about KT were the ones singled out as being excellent mentors. Unfortunately, because these individuals were highly sought after for their expertise, there was concern that their availability for mentorship may be diminished. Capacity building emerged as an emphatic and broadly-stated priority.

Informants stated that it would be important to determine the needs of the person being mentored, their professional role, and what their goals are. A decision maker’s need for evidence to develop policy would be very different than the needs of a clinician-scientist wishing to disseminate research findings to colleagues. Mentoring relationships would have to address these differences. The use of a website to ‘connect’ individuals to appropriate mentors was seen as a very positive course of action.

Question 3: Can you give an example of a KT tool?

- No clear consensus on what KT tools are...(even from the experts)
- Tool is specific to the audience it is intended for (clinicians, researchers, policy makers, patients...)
- Examples given:

- **measurement** tools-e.g. measuring some aspect of the environment (e.g. barriers and facilitators), the adopters (perceptions, attitudes, level of knowledge etc.), the innovation (adaptability, applicability, costs etc.) or outcomes (level of adoption as indicated by specific clinical indicators, audit tools); a way to **standardize** KT inquiry
- tools for **acquiring** and **assimilating** research findings (systematic reviews, integrative reviews, search strategies...)
- tools for **assessing the quality** of evidence (e.g. AGREE tool or other critical appraisal tools)
- tools in terms of **strategies** to increase research uptake (e.g. memos, reminders, opinion leaders etc.)
- ‘physical’ tools used in **dissemination** (e.g. pamphlets/posters/journal articles/books/websites etc.)

Question 4: Do you have an inventory of relevant **KT tools**? How would other individuals go about accessing these resources?

Most of the informants responded that they did not have an inventory of KT tools, but would welcome any efforts to develop an inventory that was widely available (e.g. web-based). Some sites that were mentioned as potential sources of KT tools:

- CHSRF (http://www.chsrf.ca/knowledge_transfer/tools_e.php)
- CIHR(<http://www.cihr-irsc.gc.ca/e/29484.html>)
- KT Clearing house (<http://ktclearinghouse.ca/knowledgetoolsproducts>)
- AHPRC (http://www.ahprc.dal.ca/databases/kt_tools.asp)
- National Collaborating Centre for Methods and Tools (NCCMT) (<http://www.nccmt.ca/index-eng.html>)
- St. Michael’s Hospital/University of Toronto (<http://www.stmichaelshospital.com/research/kttools.php>)

- IDRC-International Development Research Centre (http://www.idrc.ca/research-matters/ev-128908-201-1-DO_TOPIC.html)
- KUUC (<http://kuuc.chair.ulaval.ca/english/index.php>)
- KUSP (<http://www.kusp.ualberta.ca/KUresourceguide.cfm>)
- CIHI (http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=GR_1447_E)

Some informants stated that they would likely ask knowledgeable colleagues to suggest appropriate KT tools. Others pointed out that they would check granting agency websites for such information. The consensus was that there is no single source for KT tools, and that locating the ‘right’ tool would probably require accessing several sources (people, websites, documents etc.). Having a central repository for a wide range of KT tools was seen as being advantageous.

Informants also referred to some key KT documents. While this is by no means an exhaustive list, it is representative of the kind of articles informants perceived as useful. The two articles with asterisks (Greenhalgh and Grimshaw articles) were referred to repeatedly.

Articles (some key articles mentioned):

- Graham ID et al. Translating research: Innovations in knowledge transfer and continuity of care. *Canadian J Nursing Research* 2004; 36(2):89-103.
- **Greenhalgh T, et al. Diffusion of innovations in service organizations: Systematic review and recommendations. *Milbank Quarterly* 2004; 82(4):581-629.
- **Grimshaw JM, et al. Changing provider behavior – An overview of systematic reviews of interventions. *Medical Care* 2001; 39(8) Suppl 2; pp II2-II45.
- Lavis JN, et al. How can research organizations more effectively transfer research knowledge to decision makers? *Milbank Quarterly* 2003; 81(2): 221-248.
- Farmer AP, Legare F, Turcot L, Grimshaw JM, Harvey E, McGowan JL, Wolf F. Printed educational materials: effects on professional practice and health care outcomes. *Cochrane Database of Systematic Reviews*, 4, 2008.

- Doumit G, Gattellari M, Grimshaw J, O'Brien MA. Local opinion leaders: effects on professional practice and health care outcomes. *Cochrane Effective Practice and Organization of Care Group*. *Cochrane Database of Systematic Reviews*. 4, 2008.
- Legare F, Ratté S, Stacey D, Kryworuchko J, Gravel K, Turcot L, Graham ID. Interventions for improving the adoption of shared decision making by healthcare professionals. *Cochrane Effective Practice and Organisation of Care Group*. *Cochrane Database of Systematic Reviews*. 4, 2008.
- Tugwell P, Robinson V, Grimshaw J, Santesso N. Systematic reviews and knowledge translation. *Bulletin of the World Health Organization*, 2006, Vol. 84 Issue 8, p643-651.

Question 5: Do you have an inventory of KT researchers and or people with **KT expertise**?

For the most part, informants responded to this question in very much the same way as they did to earlier questions about training and mentoring. Most were able to give the name of at least one individual they described as a KT expert, or at least someone who they would go to for advice or guidance regarding KT. IN addition to those already mentioned under 'training' (Question 1), the following individuals were identified as KT experts:

Canadian:

- Sumit Majumdar (University of Alberta, Medicine)
- Brian Hayes (McMaster University)
- Linda Lee (UBC)
- Annette O'Connor (University of Ottawa)
- Rejean Landry (Laval University)
- Steven Bornstein (Memorial University)
- Alan Best (UBC)
- Jill Francis (ICEBeRG)

- Bonnie Stevens (University of Toronto)

International:

- Richard Grol (Netherlands)
- Martin Eccles (UK)
- A. Oxman (Norway)
- Lisa Bero (US)
- Michele Wensing (Netherlands)
- Liza V. Rubenstein (US)
- Brian Mittman (US)
- Sally Green (Australia)
- Angela Coulter (UK)
- Vicki Entwistle (UK)
- Gwynn Alwin-Jones (UK)
- Victor Montori (US)
- Andy Osterman (Norway)
- Jo Rycroft-Malone (UK)
- Alison Kitson (UK)
- Tracey Bucknall (Australia)
- Susan Michie (UK)

Being able to access a list of KT experts (with contact information) along with description of previous and current research projects, area of clinical focus, and opportunities for collaboration was viewed as being very helpful.

Question 6: Do you have an inventory of relevant **KT interventions**?

Informants acknowledge that there is a lot of information in the form of original articles, systematic reviews etc., but only a few were able to list specific sites where inventories of interventions could be accessed. The following sites were mentioned:

- KT clearinghouse (<http://ktclearinghouse.ca/home>)
- Cochrane database (<http://www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/HOME?CRETRY=1&SRETRY=0>)
- Effective Practice and Organization of care Group [EPOC] (part of Cochrane Collaboration) (http://www.mrw.interscience.wiley.com/cochrane/cochrane_clsystrev_crglist_fs.html)

Additionally, few interventions have been tested within a child health context where there is reliance on interdisciplinary teams. Most intervention studies are focused on one discipline (e.g. physicians only or nurses only). There is a need to take disparate studies and synthesize them, something that has not yet occurred within the child health context. Informants said that they would welcome the development of a website that would summarize and evaluate the findings from studies of KT interventions (with links to original articles).

Question 7: How do you keep current in terms of **KT methodology and advances**?

The responses received from this question were similar to several of the questions already posed. Informants said that they would either approach a trusted colleague for information on KT methodology and advances, or they would access one of the several sites previously mentioned.

Question 8: Do you have a resource centre for **users and stakeholders**?

Most of the informants stated that within their home institution, other than the library (either for staff or for patients/families), there were generally no other facilities or resources for users or stakeholders. Librarians were mentioned as an under-used source of information, particularly for advice on how to conduct effective literature searches, as well as accessing

various information sources (web-based, paper-based, grey literature etc.). It was also stressed that users and stakeholders should also include patients and families. Any dissemination strategies should also include a plain-language version of study findings. An important consideration would be to include special interest groups (e.g. Diabetes Foundation, Lung Association etc.) in dissemination plans.

Question 9: Within your facility/network/group, is there **expertise in dissemination strategies**? If not, where would you go for this kind of resource?

Depending on the intended audience, informants said they would, again, seek out colleagues or access the sites previously mentioned. It was recognized that traditional dissemination vehicles such as in-services, seminars, or journal publication may increase knowledge, but are not necessarily effective in changing behavior. There is a recognized need for greater expertise in effective dissemination strategies, particularly in the pediatric context where few dissemination strategies have been empirically tested.

Question 10: Within your facility/network/group, is there **networking between scientists, users of research, and KT researchers**?

Most informants were able to cite past and current opportunities for networking between these three groups. These ranged from various in-house events to national and international conferences, usually organized around a specific clinical context or condition (e.g. pediatric emergency medicine, neonatal network, asthma, brain injury etc.). These networking events were seen as critical in developing rapport between individuals, who, despite having different roles and objectives, shared a common clinical perspective. Networking between these three groups occurred either physically (e.g. conferences, formal meetings) or remotely through teleconferencing or the internet. A few informants thought that having a designated ‘knowledge broker’ to facilitate the interaction between the groups may be a good idea. It was also suggested that a website could become a sort of ‘automated broker’ by involving researchers and users and KT researchers in an interactive on-line community.

Question 11: In your facility/network/group, is there a **forum for exchange between KT researchers**?

Forums for exchange between KT researchers were not very well known among the group. Interaction between KT researchers was described as being mainly informal and based on personal relationships. Several more formal opportunities for networking were mentioned:

- Knowledge Utilization Conference (held yearly, invited meeting)
(<http://www.kusp.ualberta.ca/KU0Xarchive.cfm>)
- KU-UC online newsletter
(<http://kuuc.chair.ulaval.ca/english/master.php?url=bulletin.php>)
- RTNA webcasts (<http://www.ahfmr.ab.ca/rtna/wc.php>)

Question 12: What are the top 3 priorities in terms of **KT training, mentorship, developing services?**

The following is a list of priorities as stated by the informants (no particular order):

1. Development of ‘built-in’ mechanisms that measure the effectiveness of implementation of evidence-based practices (the ability to track in an ongoing manner)
2. Develop a national training curriculum in KT with care competencies, with training at three levels: workshops, formal training programs, and mentorship.
3. Develop KT research methodologies specific to KT issues.
4. Develop a repository of resources to build understanding of ‘who is doing what’ (will promote collaboration, reduce duplication of resources, address ‘gaps’)
5. Develop a way to get very basic information out to researchers—what KT is and what it isn’t (a need to reach consensus on goals, methods, measurement etc.)
6. Develop capacity by sponsoring mentors financially
7. Develop better ways of taking scholarly products and transforming them into formats more suitable for the end user (user-friendly)
8. Develop efficient and effective ways of eliciting feedback from end users of research (including the public)

9. Making sure that evidence is not only reaching the right people, but being adopted by them.
10. Streamlining access to information—making sure you can get to the most relevant information efficiently
11. Finding better ways to understand the complexity that exists in clinical practice (e.g. RCTs are not appropriate for looking at change management)
12. Need to get better at articulating the outcomes of research (recognizing successful KT) and speaking to a wider community and the government
13. Develop better training around KT for decision makers
14. Begin to aggregate and synthesize the evidence for a new level of understanding (tease out influencing factors)

Question 13: What are the top 3 priorities in the next 2 years in terms of **KT activities**?

1. Continued development of pathways for common childhood illnesses
2. Expand successful strategies beyond the institutional level (e.g. provincially)
3. Develop a web-based curriculum for primary care practitioners (best practices)
4. Develop a pediatric centre of excellence in KT
5. Determine which factors influence research use in different contexts
6. Development of reliable measurement tools
7. Renewed focus on outcomes (link with quality improvement)
8. Develop a ‘New Investigator’ Forum/workshops—propagate a new culture by individual invitation to young clinician/researchers

9. Imbedding of KT into clinical research
10. Determine how we can leverage the evidence being generated to help with policy change
11. Need to invest in the knowledge infrastructure—up till now individual clinicians/researchers, policy makers, and patients have been responsible for KT—this is doomed to fail—we need to articulate the importance of KT infrastructure and advocate for it across the Canadian healthcare system
12. Advocate for KT research which is embedded within the healthcare system so that we can have a better understanding of how we assess KT gaps and develop interventions to address them
13. Budget allocation towards KT on all levels: federal, provincial, regional, institutional
14. Need to address the efficacy/effectiveness of KT interventions by approaching it systematically