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Abstract: Knowledge translation (KT) is a topic of interest for researchers; however, little has been published about how to plan and prioritize KT activities. This article describes the development and outcomes of a KT strategic planning activity for a research organization. An online survey and planning meeting resulted in the identification of six priority areas: engaging families, nurturing partnerships, optimizing access to knowledge, KT capacity building, advancing KT science, and funding for future KT activities. The organization collectively determined short- and long-term objectives, strategies, and measurable outcomes for the KT priority areas. The strategic planning process helped with prioritizing KT activities and engaged members in a collaborative discussion of mutual interest. The process described may be useful for others interested in developing KT strategic plans.

Keywords: Knowledge translation; Knowledge mobilization; Strategic planning; Childhood disability research

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The process described may be useful for others interested in developing KT strategic plans.

Mots clés: Application des connaissances; Mobilisation des connaissances; Planification stratégiques; Recherche de la petite enfance d’invalidité

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Introduction

Knowledge translation (KT) is “a dynamic and iterative process that includes the synthesis, dissemination, exchange and ethically sound application of knowledge to improve health, provide more effective health services and products and strengthen the health care system,” as defined by the Canadian Institutes of Health Research (2013). KT is quickly becoming a priority for researchers; however, literature surrounding the processes used by research groups for planning and prioritizing KT activities is limited. Barriers to effective KT include insufficient time for researchers to adequately engage and build relationships with stakeholders and decision makers; the disconnect between the expectations of universities for promotion, tenure, and KT activities; a lack of skills and resources for developing and...
evaluating KT strategies; a lack of rigorous outcome measures and inadequate evidence for effective KT strategies; and a variety of contextual factors, including orientation and commitment to KT from organizations (Jacobson, Butterill, & Goering, 2004; Milton, Adair, McKenzie, Fatten, & Perry, 2007).

Bev Holmes, Gayle Scarrow, and Megan Schellenberg (2012) proposed a model, from a health research funding perspective, to assist organizations with developing KT plans and programs. This model presents five key areas to facilitate the use of evidence in healthcare practice and policy. These include (1) advancing the science of KT through research; (2) building capacity for KT; (3) the management of KT projects; (4) funding KT, and (5) advocating for KT.

CanChild has always sought to position itself as a leading international research centre by prioritizing education and knowledge exchange activities for and with consumers, service providers, policy makers, and students ("CanChild," 2012). CanChild’s existing research publications and products are accessed worldwide through its website, which receives over 12,000 unique visitors each month from over 205 countries. CanChild was founded as a Health System Linked Research Unit (HSLRU) at McMaster University in 1989 (King, Servais, Forchuk, Chalmers, Currie, Law, Specht, Rosenbaum, Willoughby, & Kertoy, 2010). Initially, the premise of the HSLRU was to bridge the gaps between research, practice, and policy via a provincially funded partnership between community health practitioners, researchers, and government. This was an early example of a collaborative venture to bridge the knowledge-to-practice gap, which is now often referred to as “integrated knowledge translation” or “iKT” (Bowen & Graham, 2013).

KT strategic planning described in this article was carried out in order to ensure that CanChild is able to better serve the childhood disability research community. In general, strategic planning aims to combine futuristic thinking, objective analysis, and the subjective evaluation of values, priorities, and goals, in order to determine future directions that will ensure an organization’s vitality, effectiveness, and ability to add public value (Poister, 2010). Mittenthal, Cardona & Blanchard (2002) described ten key principles for strategic planning in not-for-profit sectors, which include: (1) achieving a clear and comprehensive grasp of external opportunities and challenges; (2) gaining a realistic and comprehensive assessment of the organization’s strengths and limitations; (3) using an inclusive approach; (4) establishing an empowered planning committee; (5) involving senior leadership; (6) sharing responsibility between staff and members; (7) learning from best practices; (8) setting clear priorities and implementation plans; (9) patience; and (10) a commitment to change.

A successful strategic plan is one that produces long-term organizational improvements in effectiveness, capacity, and relevance by being both practical and informative (Mittenhal, 2002). Thus, CanChild undertook the strategic planning process using best practice strategies described in the literature.

Methods

The KT strategic planning process took eight months, from June 2012 to February 2013. It was built upon the KT conceptual model proposed by Holmes et al. (2012), which encompasses advancing KT science, building capacity, managing KT projects, advocating for KT, and funding for KT. The development work was iterative and addressed the following stated objectives:

- Defining vision
- Environmental scanning
- Objective analyses of member interests and expertise
- Prioritization of future directions

Objective analyses of member interests and expertise

An online survey was emailed to CanChild scientists, research associates, international collaborators, post-doctoral fellows, PhD students, and KT research support staff. The survey was considered to be a quality assurance tool and therefore was exempt from ethics review by the McMaster University Research Ethics Board. Consent was implied by completion of the survey. The purpose of the survey was to elicit information about members’ KT interests, strengths, and experiences. The definition of KT used for this survey was based on the CIHR (2013) definition outlined earlier.

Survey questions were formulated based upon the KT model developed by Holmes et al. (2012) in the five key KT areas as described above. For each area, members were asked about frequency of current activity in the area, satisfaction with current activity, and perceived importance of the KT area. Members responded on a ten-point scale from one (not at all) to ten (very much), with the exception of one question about funding for KT, which asked about whether they had applied for or received funding and was measured with a dichotomous “yes/no” scale. The survey allowed for open text responses on personal strengths in KT and what CanChild should ideally look like in five years with respect to KT. One reminder email was sent.

Numeric responses on the survey were summarized using descriptive statistics. Two team members assessed the qualitative responses and grouped them into themes and categories. Objectives four and five – establishing an empowered planning committee involving senior leadership – were accomplished through a one-day strategic planning meeting held in September 2012. This meeting commenced with the presentation of the vision statement and a discussion of the survey findings. The environmental scan was discussed and international members reflected on the congruence of these factors with those in their own countries.
Small groups were created to discuss and decide which priority suggestions from the survey could be controlled or acted upon. Priorities that were not possible to be influenced or controlled were removed from the list generated from the survey data. To further refine the priority areas, participants voted using electronic clickers, thereby allowing for anonymity and immediate feedback. Six strategic priority areas were identified through this process.

Plan formulation

Once priority areas were identified, small groups were required to propose action plans for each area and to define explicit strategies and measurable KT outcomes to form the basis of an initial five-year plan.

The meeting was finalized with the establishment of working groups to continue planning and to further discuss and develop the objectives, outputs, outcomes, and proposed activities for each priority area using a standardized framework. These working groups consisted of 33 individuals collaborating on the six identified priority areas, with four to twelve people per group, including a lead or co-leads. In addition, the leads of the working groups met to discuss the potentially overlapping objectives and activities across priority areas. Following this discussion, one of the co-authors (DM) merged the draft strategic plans developed by each group into a program logic model. This logic model formed the first full draft of an overall "KT Strategic Plan." This plan was subsequently reviewed and commented on by the leads of each working group.

Obtaining commitment

Following the structured planning meeting, key CanChild leadership stakeholders endorsed moving forward with the “KT Strategic Plan.” The plan was ratified by the KT Strategic Steering Committee and endorsed by the director. This ratified “KT Strategic Plan” was circulated to all members and taken back to a local CanChild meeting for the formulation of volunteer working groups to begin implementation of the plan.

Results

Vision

CanChild’s KT vision was defined as: “being a world-leader in the dynamic and iterative process that includes synthesis, dissemination, exchange and ethically sound application of knowledge to improve the health of children with disabilities, provide more effective health services and products and strengthen the health care system.”

Environmental factors

For the societal (policy) climate, an increased policy and funding emphasis on care for the elderly reflecting an aging population was acknowledged, which has a competing impact on the resources available for children and youth. On the other hand, the prevailing social perspective that children and youth are the economic future is beneficial. This, coupled with the shift away from a deficit-focused healthcare model toward a coordinated and asset-focused approach, should help to improve services for children with disabilities and their families. In policy development, we identified a positive trend toward evidence-based policymaking combined with community perspectives, which would support the case for KT. From an economic perspective, the impact of the current global financial crisis has led to a decrease in resources available for research and innovation. At the clinical level, significant budget cuts within the healthcare system were identified and these inefficiencies will need to be addressed, especially in areas where health needs are complex and services are fragmented. It was recognized that, while the application and uptake of scientific evidence across the health system is often inconsistent and limited, research focusing on health system improvements and iKT strategies are currently being promoted more widely. It was concluded that organizations could take advantage of the ongoing momentum around iKT and evidence-based policymaking in order to support KT strategic actions.

Member objectives

There was a 76 percent response rate to the online survey (45 of 59 members). Figure 1 shows the respondents by affiliation.
Figure 1: Diagram of CanChild’s member affiliation and participation in the survey and workshop.

Ratings on the survey to each KT area in terms of frequency, satisfaction, and importance are summarized in Table 1.

Table 1: Median ratings and range on a 10-point scale of how much respondents are doing in each KT area, how satisfied they are, and the importance of the area (N = 45).

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Advancing KT science (n = 43)</td>
<td>6.0 (4)</td>
<td>6.0 (3)</td>
<td>9.0 (2)</td>
</tr>
<tr>
<td>Building capacity for KT (n = 44)</td>
<td>5.5 (5)</td>
<td>6.0 (3)</td>
<td>9.0 (2)</td>
</tr>
<tr>
<td>Managing KT projects (n = 44)</td>
<td>7.0 (5)</td>
<td>7.0 (3)</td>
<td>9.0 (2)</td>
</tr>
<tr>
<td>Advocating for KT (n = 44)</td>
<td>8.0 (4)</td>
<td>7.0 (3)</td>
<td>9.0 (2)</td>
</tr>
<tr>
<td>Applied or received funding for KT (n = 44)</td>
<td>Yes = 68%</td>
<td>N/A</td>
<td>9.0 (2)</td>
</tr>
</tbody>
</table>

On average, members of the CanChild network were very involved in all KT areas surveyed. KT areas were ranked of high importance, regardless of whether respondents were personally involved in KT.

Forty-one respondents identified one or more strength(s) or success stories from their KT activities. The three most prominent themed areas of success were teaching and raising awareness about KT (n = 17), making research understandable/accessible to multiple audiences (n = 16), and engaging with stakeholders/knowledge users throughout the research process (n = 11). Several other areas, which were identified less frequently, included moving the science of KT forward (n = 4), conducting high-quality research to inform KT messages (n = 3), and implementing research into policy (n = 3).
In the second open-ended question, thirty-five respondents described their vision of KT at CanChild in an ideal world. Themes and examples are listed in Table 2.

### Table 2: Themes from respondents regarding ideal KT at CanChild in five years

<table>
<thead>
<tr>
<th>Funding</th>
<th>Infrastructure</th>
<th>Partnerships</th>
<th>Dissemination strategies</th>
<th>KT science</th>
<th>Building capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources for people, KT activities, infrastructure</td>
<td>KT experts and multiple staff doing and promoting KT work</td>
<td>With knowledge users throughout the KT process (e.g., youth, families, service providers, decision makers)</td>
<td>Access and engagement using multiple formats and technological advances (social media, webinars, videos, modules, apps, integrating with e-health records)</td>
<td>CanChild as a KT science resource</td>
<td>International KT training program (online or in-house webinars and resources)</td>
</tr>
<tr>
<td>Supported by provincial/federal agencies</td>
<td>Full-time knowledge brokers (KBs) or champions to work with clinical sites and researchers</td>
<td>With communities of practice, KBs, champions</td>
<td>Evidence-based resources</td>
<td>Get funding for specific KT research projects to implement best practices</td>
<td>Be an &quot;interactive&quot; place where research and clinical practice come together, networks sharing knowledge and experiences, building products, facilitating implementation of knowledge, discussing topics brought by clinical experience</td>
</tr>
<tr>
<td>Teamed up with private investors to &quot;push&quot; ideas to consumers (e.g., tablet applications)</td>
<td>Parent, teacher, therapist, child/youth with chronic health conditions on KT committee</td>
<td>With large institutions such as the WHO, the UN</td>
<td>Knowledge summaries</td>
<td>Evaluate KT processes, strategies, and how to sustain knowledge use</td>
<td></td>
</tr>
<tr>
<td>Successful grants for KT funding</td>
<td>Support from volunteers from the community</td>
<td>With researchers</td>
<td>Webinars (on KT and content-specific areas)</td>
<td>Develop and evaluate KT process and outcome measures</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase national and international collaboration on primary research and KT</td>
<td>Parent and teacher resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase support from community volunteers to raise issues, initiate contact, disseminate knowledge</td>
<td></td>
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</tr>
</tbody>
</table>

A recurring theme was the hope that CanChild would have adequate funding for infrastructure (e.g., resources, technical support, and people with KT expertise) to help support researchers and to increase stakeholder engagement and access to information. Respondents provided many examples of active strategies to disseminate and engage with partners using technology and social media. Another important KT vision involved increased partnerships and improved strategies for true integrated exchange activities with partners locally and internationally. Ideally, members envisioned CanChild as a KT science hub, which could build capacity in KT by providing training and mentoring opportunities for budding childhood disability researchers.

### Priorities

Thirty-one members attended the structured planning meeting (see Table 1). The activities identified as tangible possibilities are listed in Table 3 and the voting process identified the following six priority areas: (1) building KT capacity through actively recruiting KT postdoctoral fellows; (2) improving infrastructure through engaging with families/youth; (3) increasing funding; (4) increasing partnerships with knowledge users through the KT process and increasing partnerships using communities of practice, knowledge brokers, and champions; (5) promoting KT science through CanChild as a core KT science resource that is connected to the international KT science community; and (6) disseminating strategies through increasing access and engagement using multiple formats and technological advances.

### Table 3: Activities identified as within our control. The highlighted activity (in bold) was voted on as a priority area.
### Plan of action

Over the six months following the meeting, volunteer working groups synthesized the overall "KT Strategic Plan" model ("CanChild," 2015).

### Commitment

With the full endorsement of the "KT Strategic Plan," the organization began to work on implementing plans for the six identified priority areas. Importance was placed on short-term goals and "quick wins." Evaluation of progress was discussed every three to six months at team meetings and updates were provided to all team members by newsletter ("CanChild," 2015).

### Discussion

This article outlines the process adopted by a children's research centre to develop a KT strategic plan, in order to accelerate knowledge mobilization as well as increase research impact and outreach in childhood disability. The organization used traditional strategic planning methodology and built on the KT framework provided by Holmes et al. (2012). The Holmes framework was designed as a model for health research funders, but Holmes et al. (2012) suggest agencies use this framework and five key areas to plan or expand KT activities.

Using the Holmes framework to structure the online survey was a helpful starting point from which to focus questions of interest. An online survey was a quick and inexpensive way to obtain input and engage with members from diverse disciplines, contexts, and countries. The 76 percent response rate to the survey provided a comprehensive overview of our KT strengths and areas of interest. Results from the survey identified that members had experience in all five key KT areas and that they valued the importance of an overall KT strategy.

Success stories submitted by members highlighted the range of expertise among the membership, along with a possibility for future collaboration. The envisioning of CanChild's KT activities in an ideal world allowed participants to think beyond external limitations and identify common themes, priorities, and subsequently develop action plans with measurable KT outcomes. Additional CanChild members further honed these plans over several months. The final KT strategic planning document received endorsement by all members, which is critical to successfully implementing the plan. Priorities for the implementation phase include engaging with families and youth, nurturing partnerships, optimizing access to knowledge, building KT capacity, advancing KT science, and securing funding. These priorities are re-evaluated on a regular basis in order to review progress, discuss challenges, and determine the feasibility of moving forward given existing resources.

Adopting a KT strategic planning process was a useful exercise to prioritize KT activities. CanChild exists as a centre with a commitment to KT, dedicated staff and resources to support KT initiatives, and a target audience interested in childhood disability. In a review of organizational factors that positively influence university-based researchers' engagement in knowledge transfer activities, Nora Jacobson, Dale Butterill, and Paula Goering (2004) suggest that engagement in KT by dedicated centres with mandates to specific user groups is important. Additional benefits of the KT strategic plan included an opportunity for engagement with our members, beyond individual research agendas, along with the ability to share experiences and expertise across diverse partners, contexts, and countries.

Logistical challenges that presented while working through the process included the need for an administrative commitment to provide the necessary resources and supports. To address this challenge, a steering group, with representation across the membership, was formed to plan the details of the process including the survey, environmental scan, and stakeholder meeting.

<table>
<thead>
<tr>
<th>Building KT capacity</th>
<th>Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Create a dynamic and interactive place</td>
<td>A. Staffing/experts</td>
</tr>
<tr>
<td>B. Develop a mechanism to promote interaction between research and clinic</td>
<td>B. Values – to influence resource allocation</td>
</tr>
<tr>
<td>C. Make research and clinical practice visible (also for funding)</td>
<td>C. Partnerships with families, youth – we can strengthen and support</td>
</tr>
<tr>
<td>D. Develop International KT training program</td>
<td>D. Volunteers from community – use one another’s talents</td>
</tr>
<tr>
<td>E. Actively recruit (KT) post-doctoral students (increase funding)</td>
<td>E. Who we invite into our work/partners/collaborators</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Funding</th>
<th>Increasing partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Secure successful KT grant funding</td>
<td>A. With knowledge users through the KT process</td>
</tr>
<tr>
<td>B. Increase understanding of CanChild as experts (consultants)</td>
<td>B. Communities of practice/knowledge brokers/champions</td>
</tr>
<tr>
<td>C. Reshape our research ideas as projects</td>
<td>C. Increase national and international collaboration on primary research and KT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KT science</th>
<th>Dissemination strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Establish CanChild as a core KT science resource that is connected to the international KT science community</td>
<td>A. Access and engagement using multiple formats and technological advances</td>
</tr>
<tr>
<td>B. Evaluate KT processes, strategies, and how to sustain knowledge use</td>
<td>B. Evidence-based resources</td>
</tr>
<tr>
<td>C. Develop and evaluate KT process and outcome measures</td>
<td>C. Knowledge summaries/keeping currents</td>
</tr>
<tr>
<td>D.</td>
<td>D. Webinars (on KT and content-specific areas)</td>
</tr>
</tbody>
</table>
While a multidisciplinary research group undertook this process, there is no reason why it could not be used by health care organizations interested in narrowing the knowledge-to-action gap. Not all five areas proposed by Holmes (2012) need to be a priority for teams interested in implementing KT initiatives. In fact, the process would help in aligning organizational priorities with interests, expertise, and the external climate.

The challenges of a KT plan for a research centre are fairly unique and different from the challenges faced by an individual researcher. Members volunteering their time were vital to carrying out the different steps of the process. This reflects the need to allocate adequate funding resources for KT activities. A future challenge will be to evaluate the impact of prioritized KT activities. For this purpose, specific measurable outcomes have been incorporated into all KT activities to facilitate and justify the continuity of such strategies, and to assess the impact of the action plan in relation to the initial objectives.

A limitation of this strategic planning process was that it was restricted to CanChild members and, ideally, could have benefitted from a broader representation of different knowledge users, such as families, community practitioners, and policymakers. This limitation has been identified as a key component of the organization’s strategic plan for moving forward.

CanChild is currently in the implementation phase of the plan and is using a variety of KT activities to encourage exchange within members, stakeholders, and knowledge users. The organization has posted a summary of the “KT Strategic Plan” on the CanChild website (“CanChild,” 2015) and is working to create a KT Hub to highlight KT activities and resources. It is hoped that the description of this process will be useful for other institutions and groups interested in developing KT strategic plans.

Acknowledgement

The authors sincerely thank all members of CanChild for their ongoing participation in the strategic planning process.

Websites

Canadian Institutes of Health Research, http://www.cihr-irsc.gc.ca/

CanChild Centre for Childhood Disability Research, https://www.canchild.ca/


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