



CHSRF's Knowledge Brokering Program:

A Review of Conditions and Context for Success

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EXECUTIVE SUMMARY

Between 2004 and 2007, the Canadian Health Services Research Foundation (CHSRF) funded a *Knowledge Brokering Demonstration Site Program* (hereafter, KB program). The program provided funding support to six healthcare organizations to pilot innovative approaches in the field of knowledge brokering.

All six healthcare organizations were supported in hiring staff specialized in the promotion of evidence-based decision-making. The role of the “knowledge brokers” was largely focused on bringing researchers, managers, and decision-makers together to engage in collaborative problem solving. The budget for the KB program totaled \$1,400,000 over the three-year period.

This review provides a description of the ways in which the hired knowledge brokers facilitated the use of research evidence in decision-making processes of each healthcare organization funded under the KB program. It finds that targeted investment in knowledge brokering can offer some promise in promoting evidence-based decision-making among frontline staff and middle- and senior-level leaders of healthcare organizations. The key conditions and context for success as they arose in this initiative include:

- ▼ solid leadership and commitment from senior management
- ▼ dedicated resources
- ▼ clear objectives and good project management and evaluation
- ▼ flexibility and variation in tools and approaches, and
- ▼ persistent effort throughout the project.

KNOWLEDGE BROKERING PROGRAM OBJECTIVES

CHSRF had two overarching objectives for this program:

1. To stimulate the development and implementation of structures, processes, or people in decision-making organizations for the purpose of linking researchers with decision-makers in their organization and facilitating their interactions; and
2. To increase the appropriate use of high-quality research evidence in the decision-making process of health services organizations.

A total of 25 applicants applied for grant funding under CHSRF’s KB program. All applications were reviewed by a merit review panel. The panel recommended six applications for funding. Of the six recommended proposals, three were located in Alberta; two were located in Quebec; and one was located in Ontario. CHSRF allocated an annual budget of \$300,000 for the duration of the program. Each site received \$50,000 per year for three years. Grant funds were to be used to supplement the salary of at least one knowledge broker hired by each site. As a condition of receiving funding, each site was required to establish co-funding arrangements with partner organizations that matched or exceeded the amount provided by CHSRF.

THE KNOWLEDGE BROKERING SITES

At the end of the three-year KB program, each funded site submitted a final report documenting the results of their respective intervention projects. The submitted final reports provided indications of short- to medium-term impacts associated with the implementation of various knowledge brokering activities. At a KB program meeting convened by CHSRF in 2009, further information on the longer-term impacts emerged. This report highlights key points raised during participant presentations and discussions. Two sites (site five and six) did not complete the project and were lost to follow-up after 2006. Although they did not attend the June 2009 meeting they are described at the end of this section.

Site Number	KB Site Name	Location
1	SickKids Hospital	Toronto, Ontario
2	The Capital Care Group	Edmonton, Alberta
3	Montréal Health Services Development Agency	Longueuil, Quebec
4	Canmore General Hospital	Canmore, Alberta
5	Many Jurisdictions, One System	Edmonton, Alberta
6	Interregional Knowledge Brokering Alliance	Montreal, Quebec

Site 1: Hospital for Sick Children (Toronto, Ontario)

Prior to the KB program, the management team at the Hospital for Sick Children (HSC) adopted a particular focus on knowledge brokering. Their motto “sharing knowledge is impact” encapsulated their overall approach to service development. HSC viewed CHSRF’s KB program as an opportunity to further their *Knowledge Brokering for Pediatric Healthcare Research* project. The project primarily aimed to build exchange opportunities between HSC scientists and decision-makers; and, secondly to build knowledge transfer competencies among health scientists.

At the June 2009 meeting, HSC project participants and management indicated that changes had occurred in the organizational design and culture of HSC as a result of their KB project. For example, the concept of knowledge translation (KT) became an integral element of the hospital’s strategic directions and staff job descriptions. Furthermore, their perceptions pointed to the belief that KT had the potential to become a sustainable activity at the hospital. For example, a KT “pillar” was added to the Research Institute at HSC for which the KB project’s principal investigator assumed a Director-level position. The anticipated longer-term outcomes (after year six) include the development of national dissemination and implementation support via a pediatric healthcare centre KT unit. Furthermore, the project team was continuing to develop plans for broader professional training and certification in KT, as well as linkages with other pediatric centers and KT research initiatives. As of June 2009, an ongoing HSC knowledge broker position was pending decision by management. The experience at HSC indicated that face-to-face interactive approaches were essential to success, as was developing an organizational infrastructure for KB to ensure sustainability.

Site 2: Capital Care Group (Edmonton, Alberta)

The Capital Care Group’s KB project focused on developing an evidence-based information systems solution to service improvement. This involved the adoption of Minimum Data Set 2.0 (MDS 2.0) assessment and care-planning instruments for Alberta’s long-term healthcare system. The planning group saw the KB project as an opportunity to ensure that data were used appropriately within the area of long-term care and more broadly in the province of Alberta. Over time, however, project participants adapted their objectives to focus on promoting the benefits and future impact

of the new system by emphasizing the links between better information, better quality research, and a stronger long-term care system with better health outcomes. To support the KB project, a KB Associate was hired, a planning group of 15 decision-makers was created, and resources were dedicated to researchers and decision-makers to support activities, events, networking sessions and face-to-face meetings, including interactive educational sessions, half-day meetings, symposia and dinners. Another group, known as the Knowledge Brokering Group (KBG) which was comprised of participants from three long-term care organizations, the local health region, universities, and the province oversaw the KB project.

The successful outcomes identified by the project team at the June 2009 meeting included: increased number and size of networks; obtained seed funding for pilot research; continuity of the project team, organizations and participants throughout and beyond the funded KB project; and positive research facilitation activities completed. KB became integrated into the overall organizational structure with senior management positions having explicitly included KB terminology and activities into their work. Furthermore, decision-makers had successfully been integrated into major research grant proposals, and, in turn, research priorities of researchers were influenced through the involvement of senior decision-makers. Over the duration of the project, an increasing number of student researchers became involved in participating healthcare organizations. As an indication of support from KBG organizations for the project, the resultant in-kind contributions increased beyond the original estimate of \$414,000 to \$490,000.ⁱ The above results were attributed to various factors: the good will and flexibility among participants; the experience of the project group in working together; participants' commitment to the project; flexibility to adapt project over time as needed; and, the hiring of a project support person with the grant funds.

Site 3: Montérégie Health Services Development Agency (Longueuil, Quebec)

The implementation of KB activities in Montérégie Health Services Development Agency (MHSDA) coincided with the reorganization of health administration and delivery in the Montérégie region as a whole. MHSDA's KB project involved the establishment of an Information and Knowledge Management Directorate responsible for producing, synthesizing and transferring vital information to decision-makers. It was expected that, through the agency's partnership with the University of Sherbrooke, knowledge transfer would occur via seminars, symposia, scientific conferences, case studies, and lectures.

Over the course of the project, a KB team was formed which was headed by the Director of Information and Knowledge Management. As well, an advisory group was created to facilitate the interchange between researchers and decision-makers. Unlike other sites, Montérégie used CHSRF's KB program funding to hire 4.5 FTEs to act as knowledge brokers.

Based on participant comments at the June 2009 meeting, knowledge brokering activities at the agency inspired a change in the organizational culture toward evidence-informed decision-making. For example, a self-administered pre-test and post-test evaluation conducted by the agency 18-22 months after the start of their KB project indicated improved use of evidence in the decision-making practices of the organization's key leaders (CEO network, management committee, and board of directors). The results of this evaluation exercise served to legitimize the KB undertaking, presented an overall picture of success to date, allowed process modifications to be made, and established the foundation for continuous monitoring and evaluation of KB activities in the Montérégie region.

ⁱ All financial information was verified and extracted from original project files within Grants, Awards, and Partnerships (GAP) at CHSRF. In this case, file 'KBD-1215-09-Johnson'. Commitments given in the Full Scale Application were compared to final numbers submitted on Payment Control Forms to attain these values.

The agency also considered the establishment of a permanent knowledge broker position within its organization as an absolute requirement for the future. The project leads stressed the importance of leadership, context, peer listening, and an environment in which to feel free to experiment as necessary ingredients for successful knowledge brokering at the Montérégie site.

Site 4: Canmore General Hospital (Canmore, Alberta)

The KB project developed by Canmore General Hospital involved the introduction of a new model for evidence-informed decision-making to improve patient safety and quality of care and to support a cultural shift towards evidence use within the hospital. The project entitled *Practice Enhancement Achieved Through Knowledge (PEAK)* aimed to use knowledge brokers to assist hospital clinicians and practitioners to create and submit “personal learning projects” (PLPs) based on questions they would like evidence-based answers to and that arise from a reflection upon their own practice. The knowledge brokers, in conjunction with unit managers, selected the PLPs that were most likely to benefit patient care within the hospital. A search strategy was developed by the knowledge brokers working with researchers and information specialists to find evidence-based solutions for each selected PLP. Literature search results were posted and staff education sessions were conducted.

The research team for this project consisted of five academics based at the University of Calgary. Two knowledge brokers were hired to function as resources and leads for the PEAK project, linking rural healthcare decision- and policy-makers with researchers and health information specialists.

All completed PLPs were presented and evidence on practice improvements was shared with hospital staff. The knowledge brokers focused on facilitating conversations, sharing and implementing evidence, not simply on presenting the “evidence”. The literature reviews were also shared through bulletin boards (in year one), and from year two onwards, were posted on the PEAK website created specifically for the project. Information was further shared through staff meetings, informal and formal teaching sessions and opportunities, brown bag lunch sessions, and a variety of other meeting venues (including with managers and clients).

Based on the presentation of the PEAK project at the June 2009 meeting, it was conveyed that evidence-informed practice improvements took place for practitioners and clinicians. These improvements occurred in 23 of the 63 (37%) PLPs in acute care; 22 of 66 (33%) PLPs in community care; and, 8 of 21 (38%) PLPs in long-term care. One PLP contributed to a change in policy. Over time, the development of PLPs led to an increased number of team learning projects and increased experimentation with the use of practice circles. Furthermore, a growth in peer teaching was observed. The PEAK model had a positive impact on team cohesion and communication as well as on the recruitment and retention of health professionals. Improvements in patient safety and quality of care were also perceived.

Similar to other sites, project leads reported a positive shift in the organizational culture of Canmore General Hospital to one of inquiry and reflection following the implementation of the PEAK model. Staff continued to submit questions beyond the completion of the KB project. The reported longer-term impacts included the integration of the PEAK model into decision-making at different levels of the organization, and its consideration as a best practice by the Quality Council of Alberta. The project team’s paper was published in the innovations section of the *Journal of Continuing Education in the Health Professions* (2008) encapsulated their PEAK model experience.

Project leads commented that for knowledge brokers to be effective, it was essential that participants valued them as research ‘uptake specialists’ and not simply as information retrieval specialists. Support from senior management also played a vital role in achieving buy-in for the project at all levels of the hospital. The roles of knowledge brokers as *facilitators* and *collaborators* were underscored. Their success was strongly supported by the implementation of a ‘trial and error’ approach. *Joanne’s Story and Daniele’s Story* (the stories of the two knowledge brokers) were presented at the June 2009 workshop as examples of effective ways to promote knowledge brokering in healthcare organizations. Lessons learned included the benefits of good leadership, the generation of a unique language, and an interdisciplinary team approach, which together contributed to the creation of a knowledge culture within the institution.

Site 5: Many Jurisdictions, One System (Edmonton, Alberta)

Beginning in 2005, site five was very late in submitting their annual progress reports. They submitted their 2005 progress report six months late, and their 2006 progress report seven months late. In June 2007, CHSRF was informed of a turnover in project staff that included the Lead Investigator. Despite repeated attempts to contact the Lead Investigator, site five failed to meet their reporting obligations. Thus, the final two payments for 2007, totaling \$53,000 were never released. Furthermore, their final report was never submitted.ⁱⁱ

Site 6: Interregional Knowledge Brokering Alliance (Montreal, Quebec)

The proposal submitted by the Centre de Santé et de Services Sociaux (CSSS) of Bordeaux-Cartierville-St.Laurent involved the formation of an alliance with the Centre for Health and Social Services of Sherbrooke (CLSC). The CLSC is affiliated with the University of Sherbrooke and its Institute of Aging, and thus provided a key academic research link which was crucial for the knowledge brokering process. Unfortunately, the Lead Investigator departed the project in 2007 and the project never reached completion. A final report was pulled together by secondary staff and submitted in October 2009, but did not contain enough detail to have their results reported on an individual basis. Overall, the total spent on the project was \$303,665, of which \$81,730 was contributed by CHSRF.ⁱⁱⁱ

CONCLUSION

Across at least four funded sites, the various KB activities implemented seem to have made an influence on the culture of the participating organizations when it comes to valuing evidence-informed decision-making and linking researchers and decision-makers. KB has become integrated into the strategic directions of these organizations and is being manifested in various ways, for example, in revised position descriptions to incorporate specific KB functions and/or in the creation of new KB positions or departments. At the time of the review, all four sites that completed their intended KB project have continued to utilize a range of research dissemination strategies with at least two sites retaining a knowledge brokering position following the project’s completion.^{iv} There were several cited examples of decision-makers using evidence-based information to a greater extent than prior to the implementation of the site-specific KB project. Furthermore, there was a general consensus that additional pilot programming in the area of knowledge brokering would be beneficial to the healthcare system due to its potential to promote learning and experimentation in areas not traditionally aided by research funding.

ⁱⁱ All financial information was verified and extracted from original project files within Grants, Awards, and Partnerships (GAP) at CHSRF. In this case, file ‘KBD-1237-09-Boucher’

ⁱⁱⁱ All financial information was verified and extracted from original project files within Grants, Awards, and Partnerships (GAP) at CHSRF. In this case, file ‘KBD-1231-05-Labadie’.

^{iv} Based on submitted final project reports and the debrief session with teams in June 2009.

Overall, targeted investment in knowledge brokering at the organizational level appears to offer some promise in promoting evidence-based decision-making at various levels within healthcare organizations, ranging from CEOs to front-line practitioners and staff. The key conditions and context for success as they arose in this initiative include: solid leadership and commitment from senior management, dedicated resources, clear objectives and good project management and evaluation, flexibility and variation in tools and approaches, and persistence of effort throughout the project.

Important questions about the KB program remain unanswered after this review. Longer-term outcomes of the funded KB projects as they relate to organizational evidence-informed decision-making and the nature and extent of the spread of these innovations within the broader healthcare system remain largely unknown. Furthermore, while the submitted site-specific reports documented the processes and challenges encountered during the three-year implementation period quite well, it was difficult to comment on the nature of the *human interaction* that formed an integral element of each KB project.