

KNOWLEDGE EXCHANGE AS A VEHICLE TO IMPROVE THE HEALTH OF ABORIGINAL COMMUNITIES

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INTRODUCTION

Some communities in Canada, including Aboriginal¹ communities, experience disproportionately poorer health outcomes, potentially reflecting a failure to effectively translate knowledge into action in these communities (Health Canada, 2006, Smylie, 2001, MacMillan et al., 1996). Chronic disease, post neonatal mortality, accidental death, and mental health illness are more prevalent in Aboriginal reserve communities than in other Canadian communities (Health Canada, 2003, Smylie, 2001, Smylie et al., 2003). For instance, in 1999 the suicide rate of Aboriginal people living on reserve was more than twice that of the general Canadian population. As well, Aboriginal people on reserve, including children and youth, are up to three times more likely to have diabetes than non-Aboriginal Canadians (Health Canada, 2003). Such figures are of concern to organizations that seek to improve the health and well-being of all children, families, and communities in Canada.

While there are effective interventions for some of the health conditions prevalent in Aboriginal communities, current initiatives have yet to achieve comparable health outcomes for Aboriginal communities (Smylie et al., 2003). Furthermore, these health disparities exist despite increased health care expenditures (Smylie et al. 2003). This suggests that research evidence and financial resources alone are not sufficient to improve the health and well-being of Aboriginal communities. Ensuring existing knowledge informs the development and implementation of policies, programs, research, and community action to improve the health and well-being of communities is an emerging area of interest to community providers, health care, and research funding organizations.

Knowledge exchange is defined as “a broad concept, encompassing all steps between the creation of new knowledge and its application to yield beneficial outcomes for society” (Canadian Institutes of Health Research, 2006). It is a strategy that increases the probability of evidence-informed decisions to improve health. Although publications, reports, summaries, newsletters, lectures, or presentations via conferences, workshops, or websites could be considered knowledge-exchange strategies (Tsui et al., 2006), they tend to be one-way communication, rather than promoting a two-way

1. Aboriginal is defined by Health Canada (Health Canada, 2003) as: The descendants of the original inhabitants of North America. The Constitution of Canada recognizes three groups of Aboriginal peoples — Indians (First Nations), Métis people, and Inuit. These three separate peoples have unique heritages, languages, cultural practices, and spiritual beliefs.

“exchange” of knowledge between those holding various types of knowledge (e.g., community members, researchers, policy advisors, etc.). Strategies relying on one-way communication often fail to change policy, practice, or behaviour — at both the individual and community level — because they do not involve stakeholders or consider the context in which the knowledge is to be applied (Grimshaw et al., 2001). Also, when such strategies are applied in Aboriginal communities, they do not recognize the value of indigenous knowledge, which is a significant concern expressed by Aboriginal community members (Indigenous Peoples’ Health Research Centre, 2005). Through a two-way process of dialogue between community members, researchers, and other stakeholders, knowledge exchange can identify the most important issues for a community and develop solutions.

One knowledge-exchange theory suggests that successful knowledge exchange depends on the context in which the knowledge is exchanged, characteristics of the knowledge or evidence, and how knowledge exchange is facilitated (Rycroft-Malone, 2004). Depending on the context then, some methods of facilitating knowledge exchange may be more effective than others, which partially explains why methods of knowledge exchange that work in one community are unsuccessful in another community. Knowledge-exchange strategies specifically designed for Aboriginal communities have shown promise in developing and implementing community solutions (Smylie et al., 2003). This manuscript presents promising knowledge-exchange strategies designed to increase the use of research evidence and cultural knowledge in Aboriginal communities. It is intended to be a resource for researchers and community organizations by providing examples of strategies to increase the participation in, and utilization of, research by Aboriginal communities. With the ultimate goal of improving health outcomes in Aboriginal communities, knowledge exchange is highlighted as a mechanism to empower these groups.

METHODOLOGY

Resources in both the peer-reviewed and grey literatures related to knowledge exchange were identified. Peer-reviewed research was identified by searching data bases such as Academic Search Premier, PsycINFO, Pubmed, and the First Nations Periodical Index. Grey literature was identified through Google or federal and provincial government data bases. The following key words were used in both search strategies: knowledge exchange, knowledge mobilization, knowledge translation or knowledge transfer and Aboriginal, indigenous, Inuit, Indian, or First Nations. These key words correspond with

related Medical Subject Headings (MeSH) headings. Reference sections of identified sources were reviewed to identify other potentially relevant materials. All identified articles were reviewed for relevance and only documents pertinent to knowledge exchange in Aboriginal communities were included. Only documents written in English were included.

Consultations with members from the Aboriginal Advisory Committee of the Alberta Centre for Child, Family, and Community Research were also conducted using a semi-structured interview format. Members of the Aboriginal Advisory Committee are primarily Albertan First Nations. Consultations focused on obtaining information on perceived barriers to knowledge exchange and perspectives of Alberta Aboriginal communities.

RESULTS

Findings were grouped into the following key areas: principles for knowledge exchange with Aboriginal communities, examples of knowledge exchange strategies, and recommendations from the Aboriginal Advisory Committee. Each of these theme areas will be reviewed to identify key components of the development and implementation of optimal knowledge-exchange strategies in partnership with Aboriginal communities.

1.0 PRINCIPLES FOR KNOWLEDGE EXCHANGE IN ABORIGINAL COMMUNITIES

Several principles for successful community-based research and knowledge exchange were identified including cultural appropriateness, inclusion of Elders, awareness of historical antecedents, empowerment, respect of indigenous knowledge, cross-cultural communication, and long-term commitment. It is important to note that the specific principles outlined in this paper represent general principles that support knowledge-exchange efforts in any community.

1.1 Cultural appropriateness

Modifying knowledge-exchange strategies to specific contexts and communities increases the success of the knowledge-exchange activities (Canadian Institutes of Health Research, 2007; McShane et al., 2006; Smylie et al., 2006; Tsui et al., 2006). Aboriginal communities are diverse, requiring strategies that fit specific contexts (Kassam and Graham, 1999). The Canadian Institutes of Health Research asserts that:

A researcher has an obligation to learn about, and apply, Aboriginal cultural protocols relevant to the Aboriginal community involved in the research [and] should understand and respect Aboriginal world views, including responsibilities to the people and culture that flow from being granted access to traditional or sacred knowledge. (Canadian Institutes of Health Research, 2007:24, 36)

Knowledge-exchange strategies are more effective when they are aligned with the culture and values of Aboriginal communities (Smylie et al., 2006).

1.2 Inclusion of Elders

The support of community Elders facilitates the participation of the community in knowledge exchange (LaFrance, 2003). Strategies that include collaboration with community Elders ensure that traditional wisdom and experiences, which are highly valued by Aboriginal peoples, are incorporated into the research and knowledge-exchange processes (LaFrance, 2003; Canadian Institutes of Health Research, 2007). For example, the Canada Health Network, in response to input from Elders, uses concepts from the medicine wheel to educate Aboriginal communities about diseases like HIV/AIDS (e.g., the life cycle of the virus and the disease path of the individual are demonstrated through the medicine wheel) (MacLeod, 2004). Although the definition of an Elder varies (Indian and Northern Affairs Canada, 2007), the Elder is a representative of the community and is identified as a leader by the community.

1.3 Awareness of historical antecedents

The history of Aboriginal communities “has important contemporary and practical implications, because many of the attitudes, institutions, and practices that took shape in the past significantly influence and constrain the present” (Indian and Northern Affairs Canada, 1996). For example, the federal government developed and administered the residential school system, beginning in 1874, to address its obligation, under the Indian Act, to provide an education to Aboriginal people and assist with their integration into the broader Canadian society. Although there were never more than 100 schools in operation, approximately 100,000 children attended until the last one was closed in Saskatchewan in 1996. Although the hearings of the Royal Commission on Aboriginal Peoples uncovered many stories of physical and sexual abuse at residential schools, the experiences of children who attended these schools varied (Indian and Northern Affairs Canada, 2004). Similarly, since colonization was experienced in diverse ways by Aboriginal communities, it is important to consider the history of specific communities. Because

government, program, and research efforts have not greatly improved the health and well-being outcomes in Aboriginal communities, and in some cases have negatively impacted health and well-being (as with residential schools), it is difficult for Aboriginal communities to trust those outside their community (Kassam and Tetley, 2003). As a consequence of historical experiences, it takes substantial time and effort to develop trusting relationships between Aboriginal community members and researchers (Kassam and Tetley, 2003; Lencioni, 2002).

1.4 Empowerment

To be an authentic two-way process, knowledge exchange cannot be hierarchical in nature (Kassam and Graham 1999). The issue of power dynamics is closely linked to the history of Aboriginal communities (Indian and Northern Affairs Canada, 1996; Moss, 1990). Knowledge-exchange strategies that empower communities with equal partnerships support the development of trusting and open relationships (Kassam and Graham, 1999). Currently, there are intervention research projects, based in Aboriginal communities in Alberta, which emphasize knowledge exchange and the role of relationships at project inception. Dr. Geoff Ball and his team are working on a project to help communities identify factors influencing healthy lifestyle and prevention of type II diabetes, and Dr. Lola Baydala is working with a community to implement a program supporting drug and alcohol abstinence (Alberta Centre for Child, Family and Community Research, 2007). With an emphasis on relationships and knowledge exchange, these projects are working with communities to develop evidence, while empowering communities to invest in their health outcomes.

1.5 Respect for indigenous knowledge

A key principle of effective knowledge-exchange strategies is respect for indigenous knowledge (Neelameghan and Chester, 2007); understanding and respecting indigenous knowledge is a basis for effective knowledge-exchange strategies with Aboriginal communities (Smylie et al., 2003; Neelameghan and Chester, 2007). Alberta's Aboriginal peoples come from diverse contexts; defining indigenous knowledge is complex. However, key attributes of indigenous knowledge described by Kassam and Graham (1999) are helpful when collaborating with Aboriginal communities. These include:

1. Indigenous knowledge is context specific: it is related to and contained within a group of people who live in a defined geographic region.
2. It informs, and is formed by, the cosmology of the population.

3. It is cumulative, based on the sacredness of the past, or tradition. It compels the holders of indigenous knowledge not only to be conscious of the wisdom of their generation, but also to know that of the generations that preceded them.
4. Neither the knowledge nor its holders are homogeneous.
5. Indigenous knowledge arises from closeness to the land and relationships with living things. It is obtained by the labour of living and experiencing the context.
6. Those who have studied the concept of indigenous knowledge describe it primarily within the context of Aboriginal cultures with an oral tradition (Kassam and Graham, 1999: 196).

It is also important to retain the integrity and meaning of indigenous knowledge when using it in scientific frameworks (Davis, 2004; Indigenous Peoples' Health Research Centre, 2005).

1.6 Cross-cultural communication

Language, both in terms of complexity and dialect, can be a barrier to communities sharing knowledge (Hanson and Smylie, 2006; Tsui et al., 2006). Thus, it is necessary to establish research literacy or a common vocabulary to discuss research evidence or indigenous knowledge (Kassam and Tettey, 2003). Communicating the research process and findings in the languages of a community (which may include Aboriginal dialects) supports the exchange of knowledge (Canadian Institutes of Health Research, 2007). Currently, the ability of many program planners and researchers to communicate effectively in Aboriginal dialects is limited. However, bilingual programs that maintain language traditions for Aboriginal youth, while also providing the tools for academic success, may, in the long-term, support the cross-cultural communication necessary for knowledge exchange. Indeed, there are almost 10,000 Aboriginal youth under age 25 in Calgary (Statistics Canada, 2001) who will affect the health and well-being of our communities in the future. Engaging these youth in knowledge exchange increases the probability of interpreting and translating information in a way that is both accurate and culturally appropriate.

To ensure the future success of Aboriginal youth, educational systems are working to improve academic achievement. For example, the Piitoayis Family School integrates an Aboriginal perspective with the Alberta Learning curriculum, practices cultural ceremonies, and includes Elders while offering Blackfoot and Cree language classes, drumming, singing, and dancing (Calgary Board of Education, 2007). In addition, the Aboriginal Youth and Education Strategy (Pride Program) has increased grade nine graduation rates

for Aboriginals in urban schools; one school increased graduation rates from 49 percent in 1996 to 98 percent in 2006 (United Way of Calgary and Area, 2004). Such efforts to engage and retain youth in education may facilitate effective knowledge exchange in the future.

1.7 Long-term commitment

Knowledge exchange, research, and program development have the best opportunity for success when both the community and the research team are able to make a long-term commitment (Smylie et al., 2006). In many cases, principal investigators have longstanding relationships with communities prior to the research process. For example, the Tungasuvvingat Inuit Family Resource Centre had a seven-year relationship with the research leader before partnering in a research study (Smylie et al., 2006). Once initiated, two more years were required to negotiate the community research agreement, conduct interviews, and meet deliverables (Smylie et al., 2006).

Although researchers may be constrained by the timeframes of competitive grant cycles, it is critical to develop partnerships with Aboriginal communities (Abonyi and Jeffery, 2006). To ensure these processes occur, sufficient time and funds for partnership development should be included in grant proposals (Abonyi and Jeffery, 2006; Hanson and Smylie, 2006). In addition, researchers and program planners may use seed grants, small grants, and pilot funding to ensure thoughtful and informed development of the research program. This allows the development of new knowledge at each step; community and research partners can grow together, problem solve, and celebrate successes along the way. Regular achievement of milestones maintains community engagement and alliance to the project. In addition, it improves the probability of the development of an informed and feasible research program.

2.0 KNOWLEDGE EXCHANGE STRATEGIES

Knowledge exchange strategies facilitate the process of putting research into practice. Although research on the effectiveness of knowledge-exchange strategies in Aboriginal communities is limited, promising practices such as participatory action research, visual strategies, and others are presented here. These strategies have been implemented in localized communities and therefore may not be generalizable to all Canadian Aboriginal communities.

2.1 Participatory action research

Participatory action research principles address many of the considerations for knowledge exchange with Aboriginal communities. It is collabora-

tive, with community validation and input from community members and organizations built into the research process (Kassam and Graham, 1999). One goal of participatory action research methodology is to improve outcomes that the community has identified as important (Reason and Bradbury, 2001; Hult and Lennung, 1980; McNiff, 2002). Community members and researchers share knowledge throughout the research process, not just at the end of a research project. This increases the relevance of the research to the community and the likelihood that the community will use the knowledge gained from research to improve community well-being. Participation action research also aligns well with Aboriginal values; it is inclusive, respects the wisdom and participation of the group, and is dynamic. It may be a useful methodology to facilitate knowledge exchange and research partnerships. Indeed, knowledge transfer theories incorporate principles inherent in participation action research, recognizing the importance of relationships in exchanging knowledge between groups from diverse backgrounds (Reardon, Lavis, and Gibson, 2006; Smith and Davies, 2006).

2.2 Visual strategies

Knowledge exchange strategies with a visual focus are more effective than written strategies for some Aboriginal communities (Abonyi and Jeffery, 2006). For instance, researchers developed a framework and indicators to monitor health and wellness in indigenous communities in northern Saskatchewan using a logic model. This visually presented the linkages between the project's objectives, activities, outcomes, and required resources to their community partners (Abonyi and Jeffery, 2006). This is evidence of a well-developed methodology for program development (logic model) being adapted to the communication preferences of the target audience (Aboriginal communities in northern Saskatchewan), while retaining valued components of program evaluation and ensuring effective knowledge exchange. The visual logic model communicated information about the project, but was also embedded within an overall goal — that of linking partners — and supported the development of these relationships.

2.3 Varied forms of media

Using alternative types of culturally appropriate media increases the community's interest in findings (Smylie et al., 2006). Researchers, working with an urban Inuit community on antenatal educational programs, developed an interactive CD-ROM of Inuit Elders providing prenatal teaching in the Inuktitut language (Smylie et al., 2006). Upon evaluation, community

members agreed that the CD-ROM was a valuable resource for pregnancy information (Smylie et al., 2006). It also gave urban Inuit access to the wisdom of Elders, despite the large distance between their urban residence and their Inuit Elders. This strategy was developed with Inuit Elders and fit the communication (visual/oral) and language preferences of the community, thus adhering to principles of effective knowledge exchange.

2.4 Community gatherings

Community gatherings are another culturally valued and inclusive strategy (Chapman, McCaskill, and Newhouse, 1991). Community gatherings may facilitate the development of relationships between researchers, program planners, and community members and provide an opportunity for community input and validation (Kassam and the Wainwright Traditional Council, 2001). The City of Edmonton Urban Aboriginal Community Dialogue Process recognizes the importance of community gatherings and dialogues to ensure opportunities for Aboriginal people to voice their opinions and identify their priorities (City of Edmonton, 2007). This effective knowledge exchange and engagement process was guided by an Elders Circle, led by the Aboriginal community, and inclusive of all interested individuals and organizations. The initiative has produced the first-of-its-kind Urban Aboriginal Accord, and documents that offer insights into optimal ways of working together to improve the well-being of Aboriginals living in Edmonton.

The Quesnel Aboriginal Diabetes Prevention and Awareness Program in British Columbia also incorporated community gatherings in its knowledge-exchange strategy related to diabetes awareness. Their knowledge-exchange activities delivered a culturally appropriate and community-based health promotion and diabetes prevention program. The program has hosted workshops, produced and distributed health fact sheets, and provided educational activities at community events (Quesnel Tillicum Society, n.d.).

2.5 Talking circles

Talking circles are an important traditional practice in many Aboriginal communities (Umbreit, 2003). "Rather than active verbal facilitation, communication is regulated through the passing of a talking piece: an object of special meaning or symbolism" (Umbreit, 2003:1). The circle keeper discusses the reason for having a talking circle, explains the special meaning of the talking piece, and then passes it on for discussion to begin (Umbreit, 2003). Talking circles create a space for mutual respect and reflection (Umbreit, 2003) and can be a useful tool for research creation, validation, and interpretation.

Their usefulness extends to many areas outside the Aboriginal setting, including youth and female empowerment, education and learning (e.g., 12th International Conference on Learning, Teen Talking Circle Project). The intention of a talking circle is to find a common ground of shared meanings and experiences in which differences are recognized and respected. The outcome of a talking circle includes an openness which points in the direction of pertinent questions. Both talking circles and community gatherings reflect the oral nature of many Aboriginal communities.

2.6 Storytelling

Storytelling is a traditional strategy in Aboriginal communities. It conveys cultural traditions and values, generates knowledge and is a knowledge-exchange strategy (Smylie et al., 2003; Davis, 2004; Tsui et al., 2006). Indeed, some Aboriginal people are very experienced and highly regarded as storytellers. Narratives allow the sharing of information through experiences and may assist individuals in learning key concepts (Tsui et al., 2006). Storytelling may be useful for sharing health information and can be a good foundation on which to build knowledge and discussion. Individuals may share their personal story on a one-on-one basis (as in a brief intervention), or share a health information story with a group. People can compare stories and experiences, empathize, seek common ground, and make individual or collective decisions. Storytelling and storyboards have been used to influence health behaviours in the use of alcohol (Territory Health Services, 2002). Storyboards (boards with felt pieces that can be rearranged) provided a visual representation for a story about the responsible use of alcohol. When conversation and dialogue around the topic were invited, the storyboard was used to visually represent these new stories (Territory Health Services, 2002).

3.0 RECOMMENDATIONS FROM THE ABORIGINAL ADVISORY COMMITTEE

Three members of the Aboriginal Advisory Committee of the Alberta Centre for Child, Family, and Community were consulted on knowledge exchange in Aboriginal communities. This is a summary of their insights.

- To support a meaningful dialogue, personal and respectful relationships need to be developed between researchers and community members.
- Given that relationships are a factor in current knowledge-exchange theory, it is important to acknowledge the historical antecedents of contemporary issues in developing relationships with a community. Aboriginal

history may inform the current context and affect the development of relationships between Aboriginal community members and researchers.

- Community participation is an opportunity for self-determination and validation of Aboriginal peoples as equal partners in research endeavours. This process ensures that the research and its findings are relevant and important to the community, increasing the likelihood of that research results will be utilized. Community members need to be assured that participation in knowledge exchange activities will yield valuable results. They must be comfortable with the process before they invest their time.
- A deeper understanding of indigenous knowledge supports researchers' efforts to engage in research and knowledge-exchange activities with Aboriginal communities.
- Traditionally, Elders are considered the knowledge holders in Aboriginal communities. Their support is necessary to encourage community members to participate. In order to ensure that the correct Elders are approached, community members should identify their Elders.

CONCLUSIONS AND NEXT STEPS

Effective, evidence-informed interventions, combined with innovative and appropriate knowledge exchange strategies, hold promise as a way of improving health outcomes in Canada's Aboriginal population. These strategies are most effective when aligned with Aboriginal values and ways of learning. The lack of evidence about effective knowledge exchange suggests that innovative strategies should be evaluated to determine the outcome of such work. Knowledge exchange is one strategy to increase the likelihood that Aboriginal communities can use current evidence and influence the way in which the information is shared. The active engagement of community leaders and adherence to an Aboriginal framework in research and knowledge exchange empowers these communities to improve their health outcomes.

Knowledge-exchange activities that adhere to the communication preferences, and are congruent with, the cultural practices of Aboriginal communities increase the probability of success beyond current practices. Inclusion of Elders and community leaders in all aspects of the process ensures that cultural nuances of the community are respected and upheld. Effective knowledge exchange through collaboration, partnership, and evaluation shows promise as a strategy to improve the health for Aboriginal populations.

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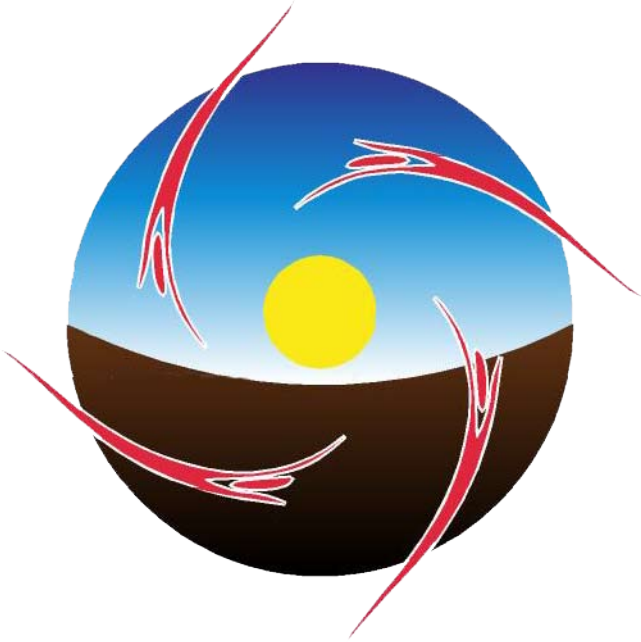
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