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Extending Collaborations for Knowledge Translation: Lessons from the Community-based Participatory Research Literature

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Abstract:

The purpose of this paper is to expand the current focus on researcher-decision-maker knowledge translation (KT) partnerships to include community partners. Lessons were drawn from the community-based participatory research literature. An inductive thematic analysis was conducted, using forty-two eligible articles, and resulted in the identification of four themes (principles, structure, process and relationships) and associated factors that could contribute to KT collaborations among the three groups of actors. These findings are presented in a KT Triad framework. Thus, the framework provides specific lessons to facilitate researcher-decision-maker-community collaborations based on an established body of literature. Including community partners in the KT process is important for integrating community context and needs into research-to-policy deliberations.

Introduction

Knowledge translation is an interactive process of knowledge exchange between health researchers and research users (Mitton et al, 2007), and can occur at the end of a research study, for the purposes of targeted dissemination of results, or during the research process (also known as integrated KT). A recent stream of health policy literature has highlighted the concept of knowledge translation (KT) in relation to the policy process (Black, 2001; Bryant, 2002; Innvaer, Vist, Trommald and Oxman, 2002; Lavis et al, 2003; Lomas, 2000; Lavis, 2006; Nutbeam, 2004). This literature has focused on the multiple benefits of linking researchers with decision-makers (Lavis et al, 2003; Lomas, 2000). By involving decision-makers in the research process, it is suggested that interaction between the two parties can increase the prospects of research use (Lavis et al, 2003; Lavis, 2006). In fact, a systematic review supports the notion that personal contact between researchers and decision-makers can be the most important facilitator of research in policy deliberations (Innvaer et al, 2002). In addition, collaboration can allow for a dialogue that fosters 'nuance and interrogation' around the research findings (Lomas, 2000), thereby providing an opportunity for decision- makers to 'internalize' research evidence over time through constant interaction with researchers (Golden-Biddle et al, 2003; Lavis, Ross, McCleod and Gildiner, 2003). In turn, researchers are more likely to develop policy-relevant research questions, and gain greater sensitivity to the decision-making context. Canadian national granting agencies have followed this lead by requiring active decision-maker participation on grant submissions (see http://www.cihr-irsc.gc.ca/e/26574.html).

Throughout this paper, the term 'decision-maker' refers to individuals from health organizations (e.g., community-based health institutions, hospitals, regional health authorities, ministries of health) that are involved in the development or administration of programs, and/or in the formulation of policies that aim to improve population health. In other words, decision-makers

might be involved in day-to-day operations or in longer term strategic planning. This definition encompasses the 'policy maker'. It excludes, however, members of the public (unless organized under a community stakeholder group). We are also excluding from our discussions those clinicians who make front-line decisions about patient care.

While partnerships between researchers and decision-makers have gained some currency in light of potential benefits to the research process and subsequent uptake, community stakeholder group input is also valuable in the KT process (Beresford, 2002; Fischer, 1993; Wagle, 2000). Community stakeholder groups, such as groups representing individuals with particular diseases, are important because they provide valuable information about the context of their members' lives. For example, Poland and colleagues (2006) suggest that social context, such as power relations, identity, and collective patterns of consumption, must be considered as *part of* the research evidence. As another example, the Promoting Action on Research Implementation in Health Services (PARIHS) model of research implementation explicitly considers research findings, clinical experience and patient preferences as evidence (Rycroft-Malone et al, 2002). These lay-person realities and perspectives need to be included during the knowledge translation process in order for health policies to be relevant, feasible and possibly more effective than those that are made without community involvement (Beresford, 2002; Fischer, 1993; Wagle, 2000).

To summarize, in this paper we suggest that a research process that involves collaboration between researchers, decision-makers and community partners (i.e., community stakeholder groups) may enhance KT for improved health policy. Far from being a hypothetical ideal, there are numerous studies that have used this approach and therefore a review of the lessons learned from these studies could contribute to our understanding of how to engage in an expanded view of KT. The purpose of this paper is to identify 'lessons learned' from community-based participatory research (CBPR) studies that could inform researcher-decision-maker-community collaborations.

Like integrated KT approaches, CBPR involves the early participation of partners in the research process. This paper synthesizes the findings from CBPR studies, categorizes them into four main themes, presents them in a KT Triad framework, and discusses implications for the KT process.

Method

The CBPR literature was seen as the appropriate body of literature to draw from for various reasons. First, CBPR can provide a 'principled' approach to collaboration for the purposes of knowledge generation and translation. Much of the KT literature leaves its motivating principles unaddressed or implicit (Raphael, 2000). The principles that guide the CBPR approach, such as mutual benefit for those involved, and social change as a motivating goal, provide an explicit reference point for those engaged in the KT process. Second, there has been a surge of publications over the past two decades that have documented the CBPR approach (Higgins and Metzler, 2001). These studies provide an evidentiary base from which to learn how to best work with the community in practice. Third, CBPR focuses on actionable knowledge. This process closely aligns with health research conducted in collaboration with decision-makers (a CBPR approach is oriented towards change, whether at the community or policy level). The final rationale for choosing to explore the CBPR literature is related to the importance of explicating and/or integrating context in policy development. Policy is often complex and influenced by individual and organizational values. Without a dialogic structure, the context that influences and is influenced by policy remains unquestioned and often implicit (Armstrong, Waters, Roberts, Oliver and Popay, 2006; Elliot and Popay, 2000). By engaging decision-makers and community stakeholder groups in policy-relevant research, policy development becomes an interactive process of setting priorities, agendas, and policy-options. KT relationships are a vehicle for integrating context into evidence and moving evidence into action (e.g., policy).

Bibliographic databases (e.g. Pubmed, CINAHL, Medline) were used to identify the CBPR literature. The following six inclusion criteria were set: 1) articles related to population health; 2) qualitative or quantitative studies; 3) those that involved community organizations (broadly defined); 4) those that focused on the CBPR process or gave sufficient detail of the process; 5) those that involved individual researchers and/or individual researchers as part of an academic institution; and 6) articles published between 1996-2006. The following four exclusion criteria were set: 1) conceptual, editorial, or commentary articles; 2) articles outside of population health; 3) those focused on results of research that employed a CBPR approach without emphasis on the process; and 4) non-English articles. Forty-two articles were included for analysis. Each study described the process of using a CBPR approach for population health research.

The review of the literature involved an inductive thematic analysis for the ultimate purpose of identifying common learnings about the CBPR process that could be organized into a framework; we were less interested in the content-related findings of each study. This analytic approach was employed to facilitate an openness to findings that extended beyond our preconceptions about the CBPR process. This approach is suited to a type of conceptual model-building that derives its form from the body of evidence that is supporting its development (Charmaz, 2006), versus a deductive, theoretical pre-categorization that is 'filled-in' by the evidence. Our approach to analyzing the CBPR process involved reviewing each article, and noting the themes pertaining to successes and challenges of engaging community participation that were emerging across the different articles. The themes identified in each article were then compared in order to identify broader common themes across articles. The information in the articles relating to these broader themes were then systematically reviewed for a deeper understanding of them. For example, the themes, 'commonly developed infrastructure' and 'team leadership' were sorted under the broader 'structure' theme.

The first author conducted the analysis and used the team to discuss interpretations, resolve conflicting accounts and confirm triangulated findings.

Findings

Four broad themes emerged from the analysis of forty-two CBPR studies. These four themes include principles, structure, process, and relationships. Figure one is a visual representation of the findings, which are discussed in detail below. The 'KT Triad' depicts the four themes to be considered in a KT process involving the three key actors: community stakeholder groups, researchers, and decision-makers. At the center of this triad are the principles that support the KT process, which are drawn directly from the CBPR literature, as will be discussed in the next section. This framework suggests that the KT process must be rooted in the eight principles in order to ensure that the process will benefit each actor involved and result in a satisfactory partnership. The three actors are presented at each apex of the KT triad model, indicating that the partners are not hierarchical. As such, the triad can be rotated while maintaining the emphasis on the three groups of actors. This model presents the four main themes as points to consider during the KT process, and the specific lessons that inform each theme are depicted off to the side. For example, the theme 'structure' can be informed by the lesson that developing a common infrastructure among the three groups of actors was found to benefit the process in CBPR studies.

INSERT FIGURE 1 HERE

Principles

The original eight CBPR principles identified by Israel and colleagues have generally endured over the years, with some minor refinements (Israel, Schultz, Parker and Becker, 1998). It is important to note that these principles fall along a continuum depending on the "context, purpose and participants involved in the process" (Israel et al, 1998: 177).

The first principle recognizes communities as a unit of identity (1). Israel and colleagues identify six criteria to identify communities: identification and emotional connection with other members, common symbol systems, shared values and norms, mutual influence but not necessarily equal influence, common interests, and commitment to meeting shared needs (Israel et al, 1998). The next principle is that the research should build on strengths and resources within the community (2) (Israel et al, 1998). This second principle recognizes the community's capacities, and works to enhance these capacities (Chavez et al, 2004). It is further emphasized that communities should be empowered by the research process (Fisher and Ball, 2005). This emphasis on empowerment is directly related to the third principle of promoting co-learning and co-construction of meaning that attends to social inequalities (3) (Higgins and Metzler, 2001; Israel et al, 1998; Fisher and Ball, 2005). The fourth principle is that health is approached from both a positive and ecological perspective (4). This forth principle looks to a host of social, environmental, and individual factors when considering a particular health issue.

The fifth principle points to the need to "integrate knowledge *and* (emphasis added) action for the mutual benefit of all partners" (5) (Israel et al, 1998: 179). As Cornwall and Jewkes (1995: 1668) state, "the key element of participatory research lies not in the methods but in the attitudes of researchers, which in turn determine how, by and for whom research is conceptualized and conducted. The key difference lies in the location of power in the various stages of the research process." Communities are seen as an integral *partner* in the research process, and this involvement is aimed at improving the health of the population.

The sixth principle of the CBPR process is community involvement in all stages of the research process (a principle that has come to characterize CBPR) (6) (Israel et al, 1998; Israel et al, 2003; Green and Mercer, 2001). This involvement is considered a reciprocal process, where the community can benefit from the researcher's knowledge and skills, and in turn the researcher

benefits from the community's perspective, knowledge and skills (Israel et al, 1998; Delemos, 2006; Leung, Yen and Minkler, 2004; O'Fallon and Dearry, 2002). The seventh principle states that the research process should be cyclical and iterative (7) (Israel, 1998). In line with the emphasis on collaboration and co-learning, the research process should build on lessons learned throughout the process. The last principle identifies the need to disseminate findings to all participants involved (8). By disseminating findings and knowledge gained throughout the process, the community is recognized as a co-owner of this knowledge (Corwall and Jewkes, 1995).

Structure

CBPR researchers suggest that the infrastructure for collaboration should be established early in the research process (Minkler, 2004; Plumb, Price and Kavanaugh-Lynch, 2004; Parker et al, 2003; McAllister et al, 2003). One 'essential' facilitator that emerged from the analysis was the joint development of this infrastructure (Israel et al, 1998; Eisinger and Senturia, 2001; Israel et al, 2005; Macaulay et al, 1999). It was found that the process of consultation and collaboration required a set of guidelines to serve as reference points to facilitate dispute resolution, and joint actions (Higgins and Metzler, 2001; Ammerman et al, 2003; English et al, 2004; Gray, Fitch, Davis and Phillips, 2000; Shoultz et al, 2006). Infrastructure development included setting priorities; specific plans of action; and setting terms related to the ownership of results (Israel et al, 1998; Fisher and Ball, 2005; Israel et al, 2005; Minkler, 2004), how meetings are conducted, and how decisions are made (Higgins and Metzler, 2001; Yoo et al, 2004). Having a structure that facilitated ongoing feedback, evaluation, and recognition from community partners was beneficial to the process (Minkler, 2004; Parker et al, 2003; English et al, 2004; Edgren et al, 2005; Ma et al, 2004).

Strong leadership from community actors may facilitate the collaborative process (Ma et al, 2004; Krieger et al, 2002; Lantz et al, 2001). Studies identified strategies that facilitated this leadership, such as brainstorming, simulations, and problem-solving activities (Farquhar, Michael

and Wiggins, 2005). These activities are related to the premise that the community knows a great deal about their situation (Farquhar et al, 2005; Metzler et al, 2003). Other studies described the benefits of having a 'coordinating entity' or clearly defined roles to assist the research process, whether an advisory board, staff, or system (Fisher and Ball, 2005; Minkler, 2004; English et al, 2004; Shoultz et al, 2006). In sum, it was noted that having a *point* of leadership was crucial to the process (Higgins and Metzler, 2001).

In addition to having jointly developed infrastructure and community leadership, it was important to include community volunteers and staff at the forefront of the partnership process, such as having community members chair meetings, and lead community actions (Fisher and Ball, 2005; Eisinger and Senturia, 2001; Israel et al, 2005; Lantz et al, 2001). Also, by hiring local staff, challenges related to recruiting participants, understanding local subtleties, and collecting data could be confronted (Fisher and Ball, 2005; McAllister et al, 2003; Edgren et al, 2005; Marcus et al, 2004).

In addition to the benefits of fostering community participation in the research process, additional benefits are realized in relation to community capacity-building (Edgren et al, 2005). For example, Marcus et al. reported that community actors were able to teach the health promotion/disease prevention curriculum, and write grants for future research (Marcus et al, 2004). Other studies demonstrated the importance of committing to the principle of mutual learning (Minkler, 2004; McAllister et al, 2003; English et al, 2004; Yoo et al, 2004).

A number of studies mentioned the advantage of having funding channelled directly to the community (Minkler, 2004; Parker et al, 2003). This funding system provided sufficient funds to support both the research and the partnership and its various costs such as meetings, staffing, and other activities (Plumb et al, 2004; Parker et al, 2003). Using a CBPR approach to developing and implementing a health interview survey in California, Brown and colleagues found that another

important lesson was to explain resource constraints to the partners (Brown, Holtby, Zahnd and Abott, 2005). They found that by being open about the limitations of the resources possessed for the study, they were able to foster trust between partners and foster realistic expectations (Brown et al, 2005).

Process

Three main characteristics emerged from the CBPR literature that seemed relevant for decision-maker-researcher-community stakeholder group collaboration. First, this collaborative process is slower than the traditional research process due to the emphasis on relationship development and consultation (Fisher and Ball, 2005; Macaulay et al, 1999; Gray et al, 2000; Yoo et al, 2004; Krieger et al, 2002; Lantz et al, 2001; Metzler et al, 2003; Quandt, Arcury and Pell, 2001; Israel, Schulz, Parker and Becker, 2001). Two studies found that community members often felt that they contributed more than they received from their involvement in the project (Parker et al, 2003 ; Lantz et al, 2001). In certain circumstances community members viewed participation as taking away from their daily activities, adding an additional burden to their time and resources (Israel et al, 2005; Metzler et al, 2003). This characteristic of time and the challenges associated with it can be addressed by ensuring that structural features of the process support community participation, such as financial reimbursement for the time engaged in the process.

Second, the participatory process necessarily involves each member in all of the research stages. This second characteristic was a challenge identified by many of the studies, as was the time required to merge the goals, values, priorities, and perspectives of the different groups of actors (Parker et al, 2003; Israel et al, 2005; Shoultz et al, 2006; Lantz et al, 2001; Metzler et al, 2003; Mosavel, Simon, van Stade and Buchbinder, 2005). Because of the breadth of participation, it is often difficult to arrange for all partners to meet on a consistent basis (Krieger et al, 2002). Also, due to the diversity of members within a community group, it is difficult to capture a 'community'

representation (Krieger et al, 2002; Minkler, 2004). Deciding who should be represented in the decision-making process can be another challenge facing inclusive participation (Eisinger and Senturia, 2001; Macaulay et al, 1999). The participation process may require substantial reinforcement, which was typically carried out by the researchers, challenging the intention to have a community driven process (Ma et al, 2004; McAllister et al, 2003; Minkler, 2004; Naylor et al, 2002).

The third characteristic of the process is access to key policy events. Peterson and colleagues found that the community is often unable to access policy related events (Peterson, Minkler, Vasquez and Baden, 2006). Meister and Guernsey de Zapien (2005) found that the intersection among community members, researchers, and policy makers is a purposeful event that extended the three groups of actors beyond traditional interactions. This finding suggests that decision-makers must make efforts to include both researchers and communities in policy events.

Relationships

Many of the studies highlighted the importance of regular meetings and regular communication for partnership building (Brown et al, 2005; Fisher and Ball, 2005; Plumb et al, 2004; McAllister et al, 2003; Ammerman et al, 2003; English et al, 2004; Yoo et al, 2004; Ma et al, 2004; Masi et al, 2003). Ma and colleagues (2004) found that satisfaction with the research process was strongly correlated with the frequency of communication between groups of actors. The consistency of meetings is underscored by a commitment to resolve conflicts as they arose (Macaulay et al, 1999). It was suggested that face-to-face contact is an important form of communication, allowing a generative and reciprocal exchange of thoughts and ideas (Ma et al, 2004). The qualities of communication that facilitate such exchange include honesty, willingness to listen, and a partnership versus a hierarchical perspective (Ammerman et al, 2003; Israel et al, 1998;

Israel et al, 2005; Macaulay et al, 1999; McAllister et al, 2003; Minkler, 2004; Mosavel et al, 2005; Plumb et al, 2004).

Moreover, flexibility was required because of the variety of actors involved, and the different knowledge, skills, and values that intersect within such a project (Chavez et al, 2004; Israel et al, 2003; Eisinger and Senturia, 2001; Ammerman et al, 2003; Linnan et al, 2005). For example, community members who were hesitant to have a control group confronted Ammerman and colleagues in the research design stage (Ammerman et al, 2003). The research team, staying committed to the principles of community participation, employed creative and flexible strategies with the community to ensure that each participant was benefiting from the intervention. The "flexibility of all actors" principle is supported by Macaulay and colleagues who state that the partners must be tolerant of the complexity, unpredictability, and potential conflict that may arise (Macaulay et al, 1999). Shoultz and colleagues extend beyond tolerance and note that the partners must be accepting of differences that exist regarding project vision, and expectations (Shoultz et al, 2006).

Some studies found that the history of researchers working *in* communities rather than *with* communities was a major challenge (Marcus et al, 2004; Minkler, 2004; Mosavel et al, 2005; Quandt et al, 2001). In a study of the issues surrounding cervical cancer in South Africa, the research team found that the political and racial tensions challenged the level of trust between the community and the researchers (Mosavel et al, 2005). The history of power being situated outside of the community can be a challenge to the feeling that the community can engage in the research process (Cornwall and Jewkes, 1995; Israel et al, 1998; Israel et al, 2005; Minkler, 2004; Parker et al, 2003; Eisinger and Senturia, 2001; Quandt et al, 2001; Vasquez et al, 2006).

Discussion

Community-based participatory research is an established method by which to involve community stakeholder groups, researchers and decision-makers in a research process. The KT process, which could include research production but also extends to the implementation of research in decision-making, can benefit from the years of accumulated experience with CBPR (namely, working with partners). These findings demonstrate that the community is a pivotal participant, with the potential to contribute a unique set of knowledge, skills, and abilities (Israel et al, 1998). Although much of the KT literature has focused on the need for researcher-decision-maker partnerships, this review provides guidance on how to incorporate community stakeholder groups in this collaboration. In particular, our findings point to key elements that can facilitate collaboration among researchers, decision-makers and community groups.

If researchers and decision-makers are to embark on an inclusive approach to KT, and we suggest they ought to, they can draw many lessons from the work reviewed in this paper. One implication of the findings presented in this paper is that the KT process may not be one of simply connecting different groups of actors. The internal working of this connection has rarely been addressed in the KT literature (Golden-Biddle et al, 2003). Most KT partnership literature focuses on the need for face-to-face interaction (Innvaer et al, 2002), argues for reflective recognition of partner needs and values (Golden-Biddle et al., 2003), identifies markers of successful partnerships (Kothari, MacLean and Edwards, 2009), and acknowledges the varying degrees of decision-maker involvement (Ginsburg et al, 2007; Ross et al, 2003). But the literature falls short of identifying values or principles for working together, or the practicalities of infrastructure requirements and building capacity among partnership members. We suggest that the findings presented in this paper can be a starting point for considering tangible ways of fostering connection and inclusion of various groups of actors in the KT process. Often the KT literature addresses the extent to which

research is being integrated without acknowledging these numerous considerations that may be part of the process (Nutbeam, 2004).

The CBPR literature is based on a particular worldview of how things ought to be; in particular, CBPR practitioners aim to be aware of and then ameliorate power differentials between researchers and community members within the context of the research project, as well as address broader injustices by focusing on social change. Thus, a second implication of using the KT Triad framework for KT might be that the ultimate goal of policy change becomes much more pressing than is currently emphasized. Traditional KT partnerships expect that the decision-maker will somehow become motivated to consider research findings because he or she has devoted time to the knowledge generation process, or has provided a policy-relevant research question. The use of the KT Triad framework might encourage partnerships to move beyond this and consider the multiple influences on policymaking, and how these in turn might be addressed through community group advocacy. Policymakers are much more likely to be swayed by evidence-based arguments presented by a community stakeholder group – representing a number of constituents – than a lone researcher.

A third way in which the KT process might be enriched by the use of CBPR lessons learned is through the relational dimensions of knowledge generation. Knowledge, in the KT literature, is typically considered a product rather than a process. The findings presented in this review point to the influence of history, particularly the history of researchers working *in* the community, conceptions of policy development and the degree to which researchers and community partners access this development process and the ways in which 'principled' collaboration can enhance the knowledge produced through the lasting relationships that are developed. The reciprocity among the three groups of actors stands in contrast to unidirectional models of KT. This reciprocity holds

potential to benefit the partners throughout the KT process beyond simply accessing the final product.

It is worth reemphasizing the rationale for community involvement in particular and collaboration in general in the KT process. Collaboration among the three parties may serve to enhance the credibility of the research message. As Lavis and colleagues note, the credibility of the message is important to push for action at the policy level (Lavis et al, 2006). Proponents of CBPR suggest that credibility is enhanced through context-specific, community-driven, and methodologically sound research (Cornwall and Jewkes, 1995; Israel et al, 1998). If put in practice, the lessons from this review can empower community stakeholder groups by developing their capacity to generate their own research, and channel their voice through formal channels. The principles of CBPR support Fischer's (1993) notion that participation is best marked by shared ownership of research results, involvement in setting goals, the freedom to end the relationship and reciprocal influence.

We suggest that the use of the KT Triad framework will empower both community stakeholder groups and researchers. Community groups hold valuable information about the context of their members' lives and, if given the platform for active contribution, these groups can play an important role in the 'research for policy' process. The lessons presented in this paper point to the structural, process, relational and principled features of the KT process that may be explicated through a systematic consideration of the KT Triad framework presented. What remains to be seen in future studies is if the KT Triad way of working can result in faster or more effective policy change than might otherwise occur without community group influence.

Conclusion

The KT Triad framework highlights lessons that have been learned from the implementation of the CBPR approach to health research. These lessons can contribute to a growing recognition that

a KT process that considers the systematic inclusion of a diversity of partners, can heighten the validity of the knowledge that decision-makers are receiving and the context-specificity of this knowledge for the policies that they are developing. This framework can be used as a guide to begin a new KT process within the policymaking context, while encouraging further documentation of what is and is not currently working in practice.

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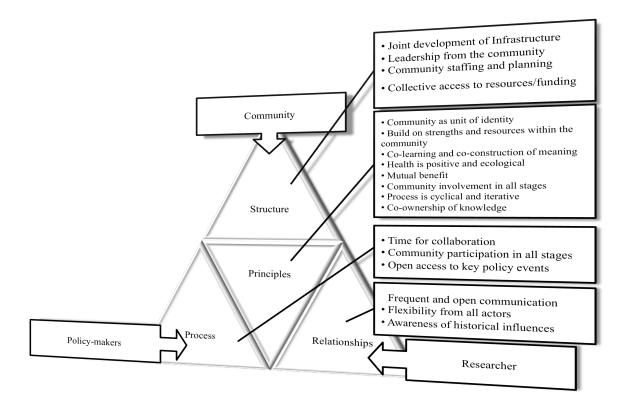
Figure 1. Supporting the knowledge translation (KT) triad