Research as Intervention in Heart Health Promotion

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ABSTRACT

Background: Capacity building in health promotion has traditionally involved training interventions to support knowledge, skill and resource building for effective practice. However, there is a need to understand how research can be used to support capacity building and practice.

Methods: Findings are based on a parallel case study comprising qualitative analysis of 66 key informant interviews from five provincial heart health projects (Manitoba, Prince Edward Island, Ontario, Saskatchewan, and Newfoundland and Labrador) as part of the Canadian Heart Health Dissemination Project.

Findings: Results indicate research was used primarily to monitor and report results about health promotion capacity and dissemination to stakeholders, and contribute to participatory processes. Respondents noted that research as intervention had an influence on five areas of health promotion capacity and practice: increased heart health promotion knowledge/skills; improved programming, planning and prioritizing; increased motivation for (heart) health promotion initiatives; and cultivation of relationships as well as buy-in.

Interpretation: Research was a complementary capacity-building activity, although it did not directly increase program implementation. These findings contribute to linking researchers, practitioners and community decision-makers in the process of enhancing health promotion practice.

MeSH terms: Research activities; intervention studies; ability; health promotion

La traduction du résumé se trouve à la fin de l'article.

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While capacity building in health promotion has traditionally involved targeting interventions to develop specific skills, resources and knowledge for more effective practice, there is some evidence to suggest that research processes can be considered instruments of capacity building.¹ There are a number of studies in the broad field of health care examining how results of research studies or systematic reviews can be purposefully transferred and incorporated into clinical practice.²⁻⁴ However, despite the fact that participation in a research process may alter both performance and outcome,⁵ few empirical analyses of research as intervention (RAI) exist.

The Canadian Heart Health Initiative (CHHI), of which this study forms a part, was designed to address the epidemic of cardiovascular disease through research, intervention and policy. The dissemination phase of the CHHI (mid-1990s to 2005) was designed to extend best practices as well as undertake research to understand factors affecting organizational capacity for health promotion. This paper draws on five completed dissemination projects: Ontario (ON), Manitoba (MB), Prince Edward Island (PEI), Newfoundland and Labrador (NL) and Saskatchewan (SK). While these projects did not identify RAI as their primary objective, all explicitly incorporated research activities into capacity-building interventions targeting a range of public health staff and volunteers. This situation provides a unique opportunity to investigate: 1) to what extent have research activities served as interventions?; and 2) how have these activities influenced organizational capacity and (heart) health promotion practice?

One of the few health promotion studies that demonstrated the use of RAI was the Data-Based Intervention Research program undertaken to build capacity within state health agencies for translating cancer prevention and control science into practice.⁶ This program enhanced capacity to analyze and disseminate data, and effectively plan and target interventions for high-risk populations. In the Canadian context, COMMIT's research (Community Intervention Trial for Smoking Cessation) supported intervention activities and planning through issue framing, establishing community norms, and supporting advocacy.⁷ COMMIT also

TABLE I**Comparison of Research as Intervention (RAI) and Participatory Action Research (PAR)**

Planning/Design	RAI Data collection, analysis and results feedback are actively planned by researchers to serve in part to answer research questions, but just as importantly as interventions to targeted participants.	PAR Entire research process and action strategies are jointly planned and designed by researchers and participants. May or may not involve interventions targeted to the research participants themselves.
Participation Level	Meaningful* participation of stakeholders as advisors.	Ideally entails fully shared decision-making and power between researchers and participants. ¹²⁻¹⁴
Key Elements	Researcher partnership with stakeholders, data collection often planned as an intervention to raise awareness of participants, results feedback used for verification and reflection to encourage change.	Researcher-participant collaboration, joint creation of knowledge, joint use of results to facilitate change that benefits participants, research process focusses on participant empowerment. ¹⁴

* Meaningful participation refers to participants' voices being both heard and acted upon in terms of being able to influence the research process to some degree and benefitting from it through their input.

illustrated that its research feedback process increased stakeholder research commitment.¹ COMMIT researchers subsequently advocated for investigations of RAI in health promotion, although none has been completed to date. This is the focus of the present paper.

Research as intervention entails purposefully using aspects of a research process and results feedback to contribute to desired changes in knowledge and practice of research participants and stakeholders. RAI may involve using all or several stages of the research process to increase awareness, knowledge or to change behaviour, however a central focus of RAI is results feedback and reflection by stakeholders. While much health promotion research may be seen as an intervention to some extent, by being explicit about RAI we can begin to examine and understand research as a health promotion tool in itself. Given the paucity of literature and empirical examples related to RAI, we turn to the Participatory Action Research (PAR) literature, as they appear to share similar principles (see Table I). PAR is sometimes portrayed as the 'gold standard' for processes to which research projects should aspire.⁸ However, there are challenges to using PAR, including the considerable time to establish stakeholder trust, define operation principles and involve participants in all stages of research.⁹ In addition, PAR approaches frequently have the lofty goal of creating social change (often not a reality in a single research study). Based on the considerable time investment required to employ PAR, RAI is worth exploring as an alternative for achieving similar aims.

METHODS

The findings stem from a multiple case study of five completed provincial dissemi-

TABLE II**Characteristics of Interview Respondents**

Characteristics	SK	MB	ON	PEI	NL
Total Respondents	12	13	13	14	14
Project Research Members	5	6	6	6	5
Project Stakeholders	7	7	7	8	9
Average length of project involvement (years)	5	4	3	4	3.5
Females	9	9	9	11	13
Males*	3	4	4	3	1
Respondent Affiliations					
Government	6	7	4	9	8
University	2	4	4	2	3
Non-government organizations	2	0	1	1	2
Community members	0	2	0	2	1
Other (consultants, resource centres)	2	0	4	0	0

* Though there were a larger number of female participants, we feel this does not represent a sampling bias as this is a reflection of the gender representation within the public health organization workforce.

nation projects based on 66 key informant interviews (n=12-14 per province). Respondents were purposefully sampled in order to achieve maximum variation in perspectives. As such, a range of provincial research team members (e.g., investigators, staff) were represented as well as stakeholders from regional and provincial government, non-government and community agencies (e.g., public health staff, Heart & Stroke Foundation) involved in the project (Table II). The interviews explored project objectives, meanings of capacity, intervention effectiveness and impacts, contextual factors, and facilitators and barriers. The interview guide was developed through consultations with the Project Advisory Group, research team, and a literature review.

Interviews were tape recorded, transcribed *verbatim*, coded and thematically analyzed in Nudist qualitative software to identify core consistencies and meanings using a coding scheme to index, search, summarize and analyze the data.¹⁰ The coding scheme was created using a combination of transcript review, guiding questions from the topic checklist, and research team discussions. Analysis included comparisons both within and across provinces based on

the emergence of key themes and patterns of similarities and differences. Inter-rater dependability, determined by comparisons of two researchers on a subset of interviews (n=14), reached 75% agreement. Negative cases were reviewed in relation to specific project contexts to determine the source of differences and the extent of divergence from common themes. Member checking consisted of providing participants with a summary of the research findings and a feedback form to assess whether the findings were an accurate representation of their experience with the project; these were completed by 50% of respondents. All feedback forms indicated that the summaries were an accurate reflection of the respective dissemination projects, indicating only minor clarifications.

In order to reduce any potential bias, these data were collected and analyzed by a combination of post doctoral and graduate students not involved in the provincial projects being studied. Researcher bias was minimized as study of RAI was not an objective of the larger project in which the team had a vested interest. Finally, this study received ethics clearance from the McMaster University Research Ethics

TABLE III

Use of Research as Intervention

Strategy	Frequency (%) [*]	Interview Quote Examples
Active Feedback of Results	30 (46%)	By feeding back the results to the health units from both the quantitative and the qualitative findings, we were raising the level of awareness of what was happening within not only their own unit, but more generally within the province. And thereby leading to internal discussions on how their predisposition, capacity and implementation might be further enhanced. <i>ON Interview</i>
Research Training and Practice	12 (18%)	We wanted them to track what they did, tell us how it went. People were not comfortable with that in the beginning. ...but as they were introduced to a standard tracking methodology, trained in it and tailored to them...they started doing it. And as time went on, people got more comfortable with the idea of doing assessment and tracking, and found that it was actually worthwhile. <i>NL Interview</i>
Encouraging Reflective Practice	10 (15%)	We always saw our surveys and our interviews as opportunities to help people engage in some critical reflection about their capacity and what it might mean to development. We quite consciously designed our instruments, our interview guides and our surveys in ways that would actually cause people to think about what would it mean to have more capacity, to have better capacity to do health promotion work. <i>SK Interview</i>
Participatory Process	10 (15%)	I saw the action research or the participatory research as the intervention. We used the philosophy of leading by following and working really closely with the community to understand what they wanted, where their strengths were, where they wanted to take those, how we could link together to advance their interests in health promotion. ...This was a research intervention that focused on mobilizing and because it was action research we did things and recorded them as we were going... <i>PEI Interview</i>

^{*} Number of respondents discussing each area of influence, total n=66.

Board and no identifying information is presented.

RESULTS

How research was used as an intervention

Results showed that the most frequent use of research was through active feedback of results to a range of audiences (coalitions in PEI and NL, community committees in MB, public health units in ON, and Health Regions in SK) (Table III). While ON did not initially have an intervention, feeding back research results in the form of health unit capacity and implementation profiles, reports, publications and through the provincial advisory group became recognized as an intervention function by generating awareness and developing planning support. In MB, research team members described how their primary strategy was to feed back risk factor survey results to community committees to raise awareness of community health issues and form the basis of consultation about how results could be used. The provincial projects also used data collection processes for training and providing research/evaluation practice opportunities (e.g., conducting evaluations). This also involved a participatory process where coalitions co-developed resources (e.g., tracking forms) and shaped the evaluation process. This was particularly the case in NL, where results were validated by participants through a workshop feedback process; this also provided an opportunity for coalitions to make

improvements to their decision-making processes and program activities.

Feedback also enabled coalition members to value the research more and understand why they were participating.

Saskatchewan participants spoke most often of using research findings to encourage reflective practice through the design and process of their data collection and through workshops, meetings, follow-up interviews, a historical timeline and 'visioning' process, a Learning Circle, and the sharing of best practices research. The research findings and health promotion principles modeled by this project team stimulated practitioner reflections on the scope and nature of their own health promotion practice.

The PEI project used research as an intervention in similar ways to NL, but the PEI research process itself was participatory. By involving volunteers in data collection, the project provided research training that contributed to participants' value of and skills for research. The research also functioned to help the coalition monitor their performance. Through the development of a joint community-staff research group (CRATs), stakeholders actively participated in the development of a community survey, tracked local participation and behaviour changes, and helped conduct event evaluations.

The influence of research as an intervention

Recognizing the limits of attribution, respondents commented that the use of

RAI complemented other capacity-building activities through enhancing organizational and individual learning, verification of results, application of results to practice, collaboration, and development of trust between researchers and participants. Overall, respondents reported that RAI enabled knowledge and skill building (Table IV), particularly in NL. That is, research results facilitated grant writing by the coalitions and generated a greater understanding of the value of needs assessments, goals and objectives, and evaluation. In addition, the data from this project helped the coalitions to recognize each other's weaknesses and strengths, highlighted opportunities to build rural community capacity and contributed to their evolution to broader wellness coalitions.

Most notably for PEI, research had an influence on heart health implementation where feeding back research results contributed to better quality and more comprehensive programming based on learnings from evaluations. In addition, PEI's involvement of community members in the research had a direct effect on increasing research knowledge and skills within the community (survey administration, focus groups, etc.) and increased their ability to take an evidence-based approach. Finally, the project's use of PAR facilitated community development, power sharing, collaboration, and building on existing research practices.

As in NL, research was perceived to be effective in contributing to general capacity development among rural communities in

TABLE IV

Influence of Research as Intervention

Area of Influence	Frequency (%) [*]	From the Interviews...
Increased Heart Health Knowledge/Skills	12 (18%)	In the beginning, tracking was very weak and ill defined and haphazard. At the very end, the capacity for tracking and assessment became extraordinary in that they actually reviewed our tracking and basically said, "this didn't suit our region" or "these aren't the questions we want answered – so we're going to change it". So their confidence increased in modifying the tracking process and in using it to inform activity development, and whether in fact activity should occur, or reoccur. <i>NL Interview</i>
Improved Programming	12 (18%)	And it enabled us to keep on giving information from the community back to the community. So we would do a program, we would evaluate it and then we could share that information with the working groups so they could see if their programs were effective... <i>PEI Interview</i>
Planning and Prioritizing	8 (12%)	What we did is we brought smoking rates of the students in their communities, we brought physical activity rates of the people in their communities. They worked with us. We got that data, we brought that back, they used it...And, in fact, that was a capacity-developing experience for them because all of a sudden they discovered and said, gosh we had no idea it was like this. So they took charge, they made decisions on what to focus on and how. <i>MB Interview</i>
Increased Motivation for Heart Health Programming	6 (9%)	So that increased predisposition to be more fully engaged in heart health activities. And that led to a desire for greater capacity to do that and therefore, the quick uptake of the opportunity for new external funding from the province to do it. <i>ON Interview</i>
Cultivating Relationships and buy-in/support	4 (6%)	It [results] wasn't just shared with us...as health promotion people. They were talking to acute care folks and to community health services managers. So they were talking about this stuff everywhere, and so we weren't the only ones who were bringing it to the boss. The boss had also heard it at her provincial table and her provincial meetings. And then we could move forward to improve things if it was necessary as we already had the support. <i>SK Interview</i>

* Number of respondents discussing each area of influence, total n=66

MB. A large part of this was having access to local risk factor data. This was described as being particularly beneficial for community committees to raise awareness and interest among partners and provide concrete data to inform planning of health promotion strategies.

In ON, changes in capacity were also observed, primarily as the project team had linked up with provincial resource centres where capacity-building activities were already taking place. Thus, while respondents could not make a direct connection between research activities and effects upon capacity given the provincial capacity-building context, they did note that virtually all health units used the project's research results strategically for planning and programming. In particular, research feedback on capacity and programming levels was observed to increase awareness, motivation and priority for heart health across the province.

Using research to encourage reflective practice in SK was perceived to have resulted in improved quality of organizational practice (through monitoring and evaluation activities). As well, respondents observed increased transfer of health promotion capacity to others within the Health Districts through cultivating relationships/buy-in for health promotion with staff in different departments within each Health District. The SK project's research was also considered key in helping practitioners to reflect back to a group of peers and gain knowledge of and skills for

the broad scope of health promotion practice.

DISCUSSION

In all of the provincial cases studied, while the projects did embark upon inclusive research processes for their stakeholders, RAI was not a *primary* study focus, and did not aim for the extent of participation required by PAR. Despite this, changes in health promotion capacity and practice were still observed, mirroring expectations of a more intensive and involved PAR approach, but without the same time investment. These findings suggest that the results of RAI may resemble those achieved by much of Participatory Action Research as fully realized PAR processes and outcomes are rare.¹¹

The findings indicate that through RAI, participants increasingly understood and valued the research process as well as its contributions to knowledge and practice, leading to improved collaboration with research teams. Changes in motivation, understanding and skills for health promotion practice illustrate examples of *direct* influences upon capacity, whereas changes in awareness of needs and strategies that lead to enhanced program implementation reflect examples of the *indirect* influence of RAI. The majority of observations related to use of RAI were changes in capacity, which ultimately contributes to enhanced implementation. While we should not rely on RAI to have direct influences on imple-

mentation, it can play a support role in combination with other capacity-building strategies to strengthen health promotion practice.

Research as intervention cannot be discussed without reference to its ethical implications. Researchers have an obligation to be explicit about their use of RAI and how this can impact participants. With respect to study limitations, the provincial projects did not systematically study negative impacts resulting from the use of RAI. However, some potential negative effects were discussed by provincial project researchers: providing research results for feedback without adequate follow-up supports may turn off participants and negatively impact capacity building; and results can be misinterpreted, used inappropriately or rejected entirely. Though negative impacts of research are not unique to RAI, they are often overlooked in research processes.

While RAI can be seen as a contributing factor to increases in capacity in the current study, another limitation is that we are not able to directly attribute capacity changes to RAI processes as the larger project was not designed to study RAI outcomes. There is a need for future studies with a central focus on RAI with appropriate measures (including quantitative indicators) to directly examine outcomes in a more systematic way. We also have much to learn about what works best in using RAI and applications in a broad range of research contexts.¹ In addition, it is worth

exploring if RAI experiences differ based on the type of research undertaken. In an era of knowledge translation and knowledge transfer, it is essential that these processes be studied and understood to enhance capacity for research-practice interactions.

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RÉSUMÉ

Contexte : Le renforcement des capacités de promotion de la santé implique souvent des mesures de formation qui favorisent l'acquisition des connaissances, des habiletés et des ressources nécessaires dans l'exercice de la profession. Toutefois, on ne comprend pas suffisamment comment la recherche peut appuyer le renforcement des capacités et la pratique professionnelle.

Méthode : Nos constatations reposent sur une étude de cas parallèles comprenant une analyse qualitative de 66 entretiens avec les informateurs clés de cinq projets provinciaux sur la santé cardiovasculaire (Manitoba, Île-du-Prince-Édouard, Ontario, Saskatchewan et Terre-Neuve-et-Labrador) dans le cadre d'un projet pancanadien de diffusion d'information sur la santé cardiovasculaire (*Canadian Heart Health Dissemination Project*).

Constatations : La recherche sert principalement au contrôle et au compte-rendu des résultats sur les capacités de promotion de la santé et sur la diffusion de l'information sanitaire aux intervenants, ainsi qu'à alimenter les processus participatifs. Les répondants ont indiqué que la recherche en tant que mesure d'intervention avait influencé cinq aspects de leurs habiletés et de leurs pratiques de promotion de la santé : elle avait amélioré les connaissances et les habiletés en matière de promotion de la santé cardiovasculaire; amélioré la programmation, la planification et l'établissement des priorités; accru la motivation à mener des initiatives de promotion de la santé (cardiovasculaire); en plus de cultiver les relations et de rallier les intéressés.

Interprétation : La recherche était une activité de renforcement des capacités complémentaire, mais elle n'a pas directement accru la mise en œuvre des programmes. Ces constatations confirment l'utilité de relier les chercheurs, les praticiens et les décideurs communautaires lorsqu'on veut améliorer les pratiques de promotion de la santé.

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