



## Circle of Research and Practice

# From Evidence-Based Practice Making to Practice-Based Evidence Making: Creating Communities of (Research) and Practice

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*Models of research translation frequently emphasize independent roles for research producers and intended users. This article describes a novel approach for enhancing exchange between researchers and practitioners. The framework is based on Wenger's notion of Communities of Practice (CoP) where knowledge is regarded as a social enterprise at the center of member interactions. Research-based practices and policies emerge when research producers and users mutually engage one another about specific health promotion problems through negotiation and by creating and sharing technical standards and other resources. CoPs are more than loose networks or task-oriented teams. They aim to create both social and intellectual capital through mutual negotiation, reciprocity, trust, and cohesion. A Consortium of Quitline Operators*

*across North America and a Canadian project to enhance research capacity for tobacco control research serve as examples of how the model has been successfully operationalized.*

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**M**odels of “research translation” and evidence-based decision making often identify two relative solitudes: those charged with stimulating and producing research evidence (e.g., academic researchers) and those charged with using the evidence (e.g., health promotion practitioners and policy developers) (Kiefer et al., 2005). Each player has a different view on how research evidence should inform decision making. Producers view research as enlightenment, whereas practitioners think of research as a retail commodity. Following a brief description of these perspectives, we will introduce the concept of Communities of Practice (CoPs) as a means of bridging the solitudes and overcoming limitations associated with current views of research translation.

### **Research as Enlightenment**

In this model, researchers are tasked with generating novel ideas and then independently testing them. Results are presented at academic conferences or published in peer-reviewed journals where they can be used by practitioners requiring enlightenment. Exclusive reliance on such an approach is problematic. The issues selected for study may have more to do with the personal interests and curiosity of individual researchers and little to do with the social and health needs that providers are mandated to address. Researchers develop funding proposals that will be favorably reviewed by other researchers. The focus is on the internal validity of research designs, often at the cost of external validity (Glasgow et al., 2006). Researchers select research questions and outcomes that have been used and with which prospective peer reviewers are familiar; they often spend little or no time on whether the outcomes or populations of study will be meaningful to those expected to use their findings. Even if researchers select relevant questions and outcomes they frequently study solutions that are impractical to implement or that do not address the practical needs of providers such as cost considerations or contextual details. Furthermore, the

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► MESSAGE FROM THE ASSOCIATE EDITORS

We are very happy to have colleagues from Canada joining us again as contributors to this department. Our first Canadian commentary came from Irving Rootman and Maureen Cava describing formal relations with health care systems that facilitated research-practice linkages (Rootman & Cava, 2001). Brick suggested this new commentary by Paul McDonald and Sarah Viehbeck after he heard Dr. McDonald present to the annual meeting of the North American Quitline Consortium. McDonald's plenary was entitled *Insect Wisdom: Enhancing Our Practices Through Interaction* (McDonald, 2005). How could we pass that title up? During the presentation, Dr. McDonald indicated insects organize themselves to enhance their practices. In this commentary, Dr. McDonald and Sarah Viehbeck built on his comments in 2005, suggesting that most people have to go beyond reading the work of strangers to discussing it with people around them. The research and practice links in Canada's Communities of Practice, described in this commentary, provide an example of the closing of the gap between research and practice. In many ways we hope this "discussion with others" concept continues to be one of the pillars for the Circle of Research and Practice, and other activities such as continuing education, attending professional conferences, and spending essential time in your own communities of research and practice.

REFERENCES

- McDonald, P. (2005, May 2-3). *Insect wisdom: Enhancing our practices through interaction*. Keynote address to annual meeting of the North American Quitline Consortium, Chicago.
- Rootman, I., & Cava, M. (2001, January). Health promotion research and practice linkages in Canada. *Health Promotion Practice, 2*, 6-8.

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forums in which findings are shared may not reach the intended end users.

Research as Retail

Research users have their own version of evidentiary alchemy. In their view, relevant, easy-to-understand evidence should be summarized and placed in convenient repositories where it can be retrieved when required. Research is viewed as a commodity like bread or automobile tires (Lomas, 1993). When you need it, visit your local repository and pick out the object of your desire. An entire industry concerned with the creation of best practice reviews and online repositories of meta-analyses has emerged to fill the perceived void. However, this model also has problems. Relevant research is often not available, either on its own or as the basis for a best practice review. Recently, a nonprofit health organization wanted to know whether they should offer group-based behavioral counseling for smoking cessation. In an effort to make an evidence-based decision they commissioned a review of the research literature to answer four basic questions: (a) Is group counseling for smoking cessation effective? (b) If so, what should the content be? (c) What is the optimum number and frequency of sessions? and (d) What are the characteristics of the most effective facilitators? Given that group cessation has been a topic of research inquiry for more than 40 years, confidence was high. However, the review could only find evidence to address the first question. Researchers' narrow focus on overall effectiveness resulted in underreporting of findings useful for addressing basic operational questions (Manske, Miller, Moyer, Phaneuf, & Cameron, 2004). The desire

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to use evidence to inform practice was there, but the means were not.

A variation of the retail model is for a user to commission a study or evaluation. A contract specifies items such as the study of population, outcome measures to be used, deadlines, and deliverables. However, there is little incentive for researchers, especially those in academic institutions, to participate. Engaging in contract work can bring a promising career to a screeching halt. Peer-reviewed grants and publications remain the basis for making decisions about tenure, promotion, and annual performance. Therefore, investigators who spend time on contract work may jeopardize their chances of obtaining tenure, a promotion, or a pay raise.

Another limitation of the retail model is that good, valid research often takes time to fund, conduct, analyze, and disseminate. Intended

users cannot always wait. Their circumstances or priorities may change before results are known.

### ► PRACTICE-BASED EVIDENCE MAKING: RESEARCH AS EXCHANGE

Health promotion practice, like most human endeavors, takes place within, and its meaning is derived from the history, experience, and comparisons created through social interaction (Brown & Duguid, 2001; Gherardi, Nicolini, & Odella, 1998; Lave & Wenger, 1991). Merely creating and disseminating data is not sufficient for enhancing practice. For example, the statement that every cow in the European Union is subsidized by \$2.50 per day represents a simple piece of data. However, to inform our practices and policies data such as this must be put into social context. In other words, knowing that \$2.50 per day is more than what 75% of individuals in Africa have to live on immediately allows us to consider the policy and practice implications of this particular bit of evidence (Williams, 2004).

This approach makes intuitive sense. Consider how people develop the necessary expertise to perform their current roles as health promotion researchers, practitioners, or policy developers. Did they learn by exclusively examining a pile of data? Most of us need to go beyond reading the work of strangers. Odds are that most sought out other scientists and practitioners to help them understand what they had read and what it might mean for their practice, policy interests, and/or research. We greatly benefit from discussing ideas and data with people we know and trust. They

help us put new knowledge in the context of our existing knowledge and existing practices of the larger field. An essential component of true knowledge translation rests with creating systematic opportunities for meaningful, focused interaction or exchange between parties that share a desire to improve a common practice. The best way to facilitate evidence-based practice is to generate more practice-based evidence (Green, 2006).

### Communities of Practice

If greater exchange would help, how can this be done? One possibility is to build on Wenger's (1998) notion of CoPs. In this framework, how people interact and who interacts are at least as important as what they interact about. A CoP begins with a group of people who share a common interest in a particular practice or problem. The focus of the community is not only on *sharing* "best" practices but also on *creating* knowledge and resources to advance the practice or issue of interest. CoPs are dynamic social structures that require cultivation to emerge and grow. They involve more than loose interaction and passive sharing of data or information (a.k.a. networks).

Wenger (1998) has identified three essential elements of CoPs: (a) mutual engagement, (b) joint enterprise, and (c) shared repertoire. For example, community members mutually engage one another on collectively negotiated goals and an understanding of what the community is about. Over time, community members strive to develop a shared history, language, stories, resources, and technical standards. There is an expectation that social capital and cohesion will be generated through mutual negotiation, norms of

reciprocity, and the creation of trust between members.

CoPs perform several roles that ultimately facilitate the conduct, implementation, and use of research to improve health promotion practice and accountability. They connect people who might not otherwise interact or interact frequently (e.g., researchers and practitioners with specialized expertise or positioning). They help organize people on purposeful actions that deliver tangible results and benefits of interest and importance to members. They enable dialogue to explore and solve problems and create mutually beneficial opportunities. CoPs stimulate communication, mentoring, and self-evaluation. They capture and actively disseminate existing knowledge to help members improve their practice and programs of research. They provide a forum for identifying solutions to common problems and processes for collecting evidence and evaluating practices. CoPs provide a shared context to communicate and share information and experience.

To facilitate both research and practice, each CoP should include a combination of research producers and research users. Collectively the group could agree to enhance practices related to brief counseling among primary care providers for the detection and treatment of hypertension or methods for enhancing the effectiveness of legislation to prevent driving after drinking.

CoPs have been used with success in business. Lessor and Storck (2001) reported that the formation of CoPs increased social capital which, in turn, decreased learning curves, reduced reinvention, increased responsiveness and innovation. More recent examples are emerging in health promotion. Lambraki, Morrison, Manske, and

Barry (June 2005) conducted a case study of Canadian provinces and territories with high, medium, and low levels of implementation of a comprehensive tobacco control strategy. Jurisdictions with the most mutual engagement, joint enterprise, and shared repertoire exhibited the highest levels of knowledge exchange specific to their goals. Although the study was correlational, results are at least consistent with the possibility that communities possessing the fundamental elements of a CoP may be more likely to engage in knowledge exchange, which in turn leads to improved tobacco control practice and policy.

#### ***Moving From Theory to Reality: Two Examples***

The North American Quitline Consortium ([www.naquitline.org/welcome.asp](http://www.naquitline.org/welcome.asp)) is a group of researchers and program providers from across Canada and the United States who collectively focus on developing and sharing evidence to improve telephone-based counseling for smoking cessation. They came together on a common practice and then developed mutual goals and priorities through negotiation. Regular Web-based seminars, teleconferences, and occasional face-to-face meetings are used as mechanisms for members to share their research and practice protocols and obtain feedback. Common barriers for improving practice and potential solutions are discussed. For example, many providers need assistance on how to obtain sustainable funding. Members from funding organizations are able to offer tangible suggestions on potential funders and on how to approach them. Gaps in current knowledge are identified, and these provide a basis for prioritizing research

needs. Moreover, program providers and funders provide specific suggestions on the type of research outcomes that they would find most compelling for program decision making. Researchers, in turn, are able to develop more compelling grant proposals by stating that they have received explicit input from leading providers and researchers.

We are attempting to systematically build research capacity for tobacco control in Canada using a variation of Wenger's model. Three primary strategies are being employed: (a) systematically recruiting researchers, program providers, and students interested in tobacco control; (b) creating a series of productivity tools; and (c) building social capital by creating smaller, focused CoPs (teams) on specific tobacco control practices or policy issues. Proactive recruitment ensures there is a mix of people from practice, policy, and research from across the country, and at different stages of their career. More senior personnel are encouraged to mentor those new to tobacco control. Researchers are expected to engage with practitioners and vice versa. Those residing in geographic areas with significant resources are encouraged to share with those who live in areas where there are fewer resources. Providing access to productivity tools acts as an incentive for participating in a CoP. The CoP members are given access to a Web site with policy, program, and research aids, including documents that describe standard research and evaluation protocols, administrative staff, and a repository for sharing proprietary data. Community members are able to apply for seed grants and funds to enable face-to-face exchanges and learning opportunities. An electronic newsletter and tailored e-mails alert

participants to funding opportunities (both personnel and operating grants) and new research evidence in the field. A "SWAT" (strategic weapons and tactics) program is being developed to provide a mechanism for rapidly linking policy makers and program providers with researchers and experienced evaluators who may be able to prepare policy briefs or a program evaluation. The researchers and evaluators are able to use these requests as an opportunity for training students and as professional development for themselves or their research staff. Annual symposiums and regional forums bring researchers, funders, policy developers, and providers together so that they can identify priorities and mutual interests.

Small seed grants facilitate the formation of CoPs on priority topics. Each CoP develops a program of research and a plan for obtaining funding. Providers and funders are often willing to underwrite the costs because their research colleagues have committed to working on a problem of mutual interest using outcomes and deliverables that have been mutually negotiated. Providers are also in a position to provide rapid access to potential research participants. This not only benefits the researchers but also ensures that results are externally valid to intended adopters and attend to issues of practical concern. Results transform practice and policies long before peer-reviewed manuscripts have been written. The CoPs are structured so that each party is able to obtain something of value through mutual negotiation, joint enterprise, and shared repertoire. Academic researchers get access to priority data, research funding, potential research participants, and opportunities for their students. Practitioners get ready access

to specialized expertise and first access to valid research specifically designed to inform their decision making.

The project that has been attempting to build tobacco control in Canada through the creation of CoPs has been in place for less than 2 years ([www.ice-rci.org](http://www.ice-rci.org)). Attendance at annual symposiums has increased by 220%. There has been a rapid infusion of students and scientists new to tobacco control and a renewed commitment by experienced researchers to work more closely with one another. Eight new multidisciplinary teams of people who had not previously worked together have received seed grants to work on problems of mutual priority. Dozens are receiving and contributing to various communication vehicles. Policy makers and researchers are volunteering to be part of the policy SWAT initiative. The number of data sets being placed in the data repository is accelerating. Research and program funders are taking notice of this progress. They have enthusiastically accepted an invitation to the next annual symposium to witness how a dynamic, functional community is actively engaged in creating and using evidence to inform Canadian tobacco control.

The preliminary results are encouraging. This third model, research as exchange through Communities of (research and) Practice, has potential to influence evidence-based decision making through mutual engagement. It provides a roadmap for bridging the relative solitudes of health promotion research and practice.

## REFERENCES

Brown, J. S., & Duguid, P. (2001). Knowledge and organization: A social-practice perspective. *Organization Science, 12*, 198-213.

Gherardi, S., Nicolini, D., & Odella, F. (1998). Toward a social understanding of how people learn in organizations. *Management Learning, 29*, 273-297.

Glasgow, R. E., Green, L. W., Abrams, D. B., Fisher, E. B., Goldstein, M. G., Hayman, L. L., et al. (2006). External validity: We need to do more. *Annals of Behavioral Medicine, 31*(2), 105-108.

Green, L. W. (2006). Public health asks of systems science: To advance our evidence-based practice, can you help us get more practice-based evidence. *American Journal of Public Health, 96*, 406-409.

Kiefer, L., Frank, J., Di Ruggiero, E., Dobbins, M., Gully, P. R., & Mowat, D. (2005). Fostering evidence-based decision making in Canada. Examining the need for a Canadian population and public health evidence centre and research network. *Canadian Journal of Public Health, 96*(3), 11-119.

Lambraki, I., Morrison, W., Manske, S., & Barry, N. (2005, June). *Explaining failure of knowledge brokering in school based tobacco control*. Accepted as a poster presentation for the National Conference on Tobacco or Health, Ottawa, Ontario, Canada.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. New York: Cambridge University Press.

Lessor, E., & Storck, J. (2001). Communities of practice and organizational performance. *IBM Systems Journal, 40*, 831-842.

Lomas, J. (1993). Retailing research: Increasing the role of evidence in clinical services for childbirth. *Milbank Quarterly, 71*, 439-475.

Manske, S. R., Miller, S., Moyer, C., Phaneuf, M. R., & Cameron, R. (2004). Best-practice-based smoking cessation: Results of a literature review applying effectiveness, plausibility, and practicality criteria. *American Journal of Health Promotion, 18*, 409-423.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge: Cambridge University Press.

Williams, J. (2004). *50 facts that should change the world*. Toronto: Penguin Books.