Public Health Science and Practice: From Fragmentation to Alignment

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All organizations are perfectly aligned
to get the results they get.
Arthur W. Jones

The Public Health Agency of Canada (PHAC) is pleased to be part of the emerging Population Health Intervention Research Initiative for Canada (PHIRIC) and to support its ongoing development. PHIRIC is a watershed initiative. It has the potential to change fundamentally the way we think about bridging research, evaluation, policy and practice. Most importantly, it has the potential to move us from a fragmented approach to one that connects these functions within public health to strategic alignment. This alignment, in turn, will contribute substantially to health gains.

There continue to be gaps between science, policy and practice in population and public health.[1] Several influential reports,[2,3] literature reviews[4] and project-specific needs analyses have identified persistent issues and gaps in knowledge development and use with respect to informing public health decisions, especially about healthy living and chronic disease prevention. Some of these issues and gaps highlight several needs:

- to develop more congruence between the needs of research users (including but not limited to policy-makers) and the research questions being formulated and addressed by investigators;
- to improve linkages between databases of surveillance and research evidence (e.g., National Diabetes Surveillance System);
- to develop explicit strategies, structures and partnerships to facilitate knowledge uptake into practice and policy decision-making (e.g., improving access to and use of systematic reviews; decision-making skills in accessing, appraising and using evidence); and
- to learn from practice (e.g., generate "practice-based evidence").

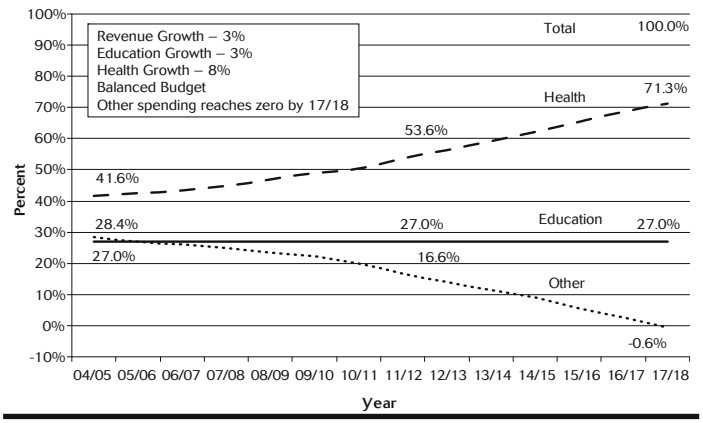
To address these gaps, PHAC has placed a high premium on evidence-informed practice and provides a national focal point for knowledge development and exchange activities. Starting at home, PHAC employs senior science advisors as one strategy to create a culture of evidence-informed decision-making. PHAC supports the development of a similar culture in other organizations and among individual decision-makers. For example, PHAC's Office of Public Health Practice offers online learning modules and peer-exchange opportunities to build capacity for evidence-informed public health practice. In addition, PHAC's Canadian Best Practices Initiative includes a web-based portal designed to support evidence-informed decisions about public health policies and programs.

A critical success factor for these and other knowledge development and exchange initiatives is ongoing engagement with partners, especially other national, provincial and territorial organizations. Partners must include major research funding agencies (e.g., the Canadian Institutes of Health Research), users of research evidence (e.g., the Chronic Disease Prevention Alliance of Canada and its provincial counterparts, and provincial/territorial governments) and organizations investing in capacity development to better bridge science, policy and action (e.g., the Centre for Behavioural Research and Program Evaluation, Canadian Population Health Initiative). No single organization in isolation can create capacity for population health intervention research and its use. We are the system. Collectively we need to align our efforts and resources to create a system to generate and use relevant, compelling and timely evidence to improve health policy and program interventions.

The urgency to improve the effectiveness of population-level interventions for health has never been greater. The tsunami of chronic diseases cannot be treated one individual at a time. The status quo is not an option. I could not offer a more compelling business case than that delivered by Andy Hazlewood from British Columbia (Figure 1).[5] If education has flat-lined and health expenses continue to grow at the current rate, there will be no resources available for any portfolios other than health and education beyond 2018. We have great reason to be alarmed. We need to translate that concern into action.

We have actions on which to build in Canada. A highly relevant experience is the Canadian Heart Health Initiative (CHHI), as dis-

Figure 1. The business case: British Columbia[5]



cussed in this insert by Riley and colleagues. Fundamentally, the CHHI was about creating capacity to align science, policy and public health action. It was a pan-Canadian experiment on how to take a public health approach to chronic disease prevention, using cardiovascular disease as a focus for addressing multiple risk factors. The CHHI, like any other initiative, *cannot* and *should not* be replicated; however, important lessons can guide thinking for PHIRIC.

I will briefly offer my own set of lessons, based on my role as an investigator for the Saskatchewan Heart Health Project, which was part of the CHHI. I learned, first hand, that research and evaluation essentially merge when it comes to population health interventions. I also learned that the structures, processes, leadership and resources required for impact-oriented studies are fundamentally different from those of traditional, discovery-oriented research. For instance, take the role of public health decision-makers (those responsible for programs and policies). If science is to make a difference, it needs to be done *with* and *for* those of us who are trying our best to navigate complex public health problems. But that's not the whole story. We also need to create opportunities for "reflective practice" and other strategies for knowledge exchange and use. Otherwise, even the most relevant evidence may not reach its potential for impact on policy, program and other investment decisions.

Yet our current infrastructure for knowledge development is essentially focused on discovery research. This research is crucial and deserves our support; however, there is a need for better balance. We do not have comparable capacity to generate and use research and evaluation studies that are highly relevant to today's urgent health problems. We need to build capacity for impact-oriented studies – studies that can directly guide tough decisions that need to be made (and will be made with or without evidence) about public health policies and programs implemented at local, regional, provincial, territorial and national levels, and in health and non-health sectors.

If we want more evidence-based practice,
we need more practice-based evidence.
Lawrence Green

Balance in the system also refers to the two-way street between science and practice. The "research to practice" mantra needs to be balanced with "practice to research". Moving from practice to research is about creating practice-based evidence that can help us learn about what works under diverse circumstances across Canada. This is a critical gap in evidence-informed public health practice and one that is envisioned as a primary focus of PHIRIC.

PHIRIC is cutting-edge, and I enthusiastically support it on behalf of PHAC. We have the need, the experience, the building blocks and the leadership within Canada to create sustainable capacity to better align research and evaluation with public health policy and practice. Sustainability is key. It will take vision, action and persistence to move us beyond the exemplary "prototypes" that we have developed in Canada. Canadians deserve this higher return on their investments as donors and taxpayers.

There is nothing more powerful than an idea whose time has come.
Victor Hugo

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