Population Health Intervention Research: Advancing the Field

James Frankish, PhD (Psychology), MA, BA

The population health approach aims to improve the health of entire populations and to reduce health inequities.* It recognizes both health as a capacity or resource and the range of social, economic and environmental factors that contribute to it. A related articulation of health is “the capacity of people to adapt to, respond to, or control life’s challenges and changes”.¹

In their seminal paper, Hawe and Potvin² raise a cogent related question, “what is population health intervention research (PHIR)?” They argue that population-level health interventions are policies or programs that shift distributions of health risk by addressing underlying social, economic and environmental issues. These interventions might be programs or policies designed/developed in the health sector, but more likely in education, housing or employment. PHIR aims to capture the value and differential effects of interventions, the processes by which they create change, and the contexts within which they work best. Further, Hawe and Potvin call for an integration of learning to assist in development of the PHIR field. They go on to highlight that the Population Health Intervention Research Initiative for Canada (PHIRIC) defines PHIR as research that “involves the use of scientific methods to produce knowledge about policy/program interventions that operate within or outside of the health sector and have potential to impact health at a population level.” “Population health” refers to the science underpinning the practice of public health and understandings about health that come from an appreciation of how it is generated in populations.

An additional aspect is that of “impact at a population level”. This involves not simply improving health or reducing health risks, but implementing interventions to change risk conditions in order to alter distributions of health risk. We concur with Hawe and Potvin that “all systematic inquiry and learning from observing an intervention’s process or implementation, impact or outcome is encompassed in ‘intervention research’.” Evaluation research and PHIR encompass many of the same activities and methods. All evaluation research in population health is PHIR, but not all population health intervention research is evaluation research.

Hawe and Potvin conclude that “the ever-growing burden of disease demands that we design effective interventions and put them into practice”.² This Special Supplement, consisting of nine research papers, is offered as a modest “brick in the wall” of Canada’s population health agenda. It is based in the reality that the concept of PHIR continues to gain ground and that there is growing interest and concern among researchers and policy-makers to better identify effective and efficient interventions.

The Supplement aims to address this need by featuring PHIR from around the world. It contains an invited article by Dr. John Frank, the nine research papers, and a brief epilogue by Dr. Louise Potvin (Co-Principal Investigator of the PHIR Network Training Program).

* See <http://www.phac-aspc.gc.ca/ph-sp/approach-approche/index-eng.php> (Accessed September 1, 2012).

The selection process was rigorous and involved an international call for *outlines* of potential papers, a *relevance* review of the outlines by a Supplement Editorial Committee (see Acknowledgements), an invitation from the Committee to selected authors to submit full papers, and a final *relevance* review of full papers by the Committee. All invited papers were then submitted online and underwent CJPH’s standard peer-review process.

The call was advertised through academic/professional contacts, networks, associations, educational institutions, and listservs. We encouraged outlines of papers that reported on research from diverse disciplines/sectors on a wide variety of policies or programs designed to improve health at a population level. The 48 outlines received were rated for three “face” characteristics of “prototypical” PHIR, i.e., that it: 1) is a *research* project; 2) describes an *intervention*; and 3) aims to *improve population health*. The outlines were also reviewed based on breadth of coverage in five areas: 1) discipline/sector; 2) conditions of risk; 3) geography; 4) inclusion of community engagement; and 5) language (English/French). The following briefly summarizes each of the nine accepted papers.

Rowe et al. examine the effectiveness of an educational policing strategy in New South Wales, Australia to reduce the number of patrons of licensed premises involved in incidents of violence, disorder and motor vehicle crashes. The intervention in 21 non-metropolitan areas included letters, incident reports, covert audits and feedback meetings. Across all premises, the rate of patrons who consumed alcohol prior to involvement in incidents decreased as a result of the policing strategy. The authors’ findings suggest the benefit of a policing strategy as a possible PHI.

Lawless et al. report on the “Health in All Policies” intervention from South Australia. “Health in All Policies” is seen as a means of embedding concern for health impacts in policy-making. The primary mechanism is a “health lens analysis” – an intersectoral process drawing on public health research methods. In this paper, it was applied to water security, digital technology and migration, and appears to have led to increased understanding of the impacts on health outcomes, changes in policy direction, development/dissemination of research, partnerships between health and other government departments, and a positive disposition toward employing health lens analyses in future work.

In an interesting African paper, Samb assesses the impact of care subsidies on primary health centres in Burkina Faso. The government subsidizes 80% of emergency neonatal/obstetrical costs, while an NGO subsidizes the remaining 20%. Care subsidies have strengthened community members’ and their primary health centres’ power to act, such as participation in decision-making, as well as knowledge acquisition and skill development. (*This article published in French, with translation of abstract.*)

Author’s Affiliations

Professor, School of Population and Public Health; Director, Centre for Population Health Promotion Research, University of British Columbia, Vancouver, BC

Muhajarine et al. present the Canada Prenatal Nutrition Program as a PHI that aims to contribute to improved health outcomes for pregnant women and newborn children facing conditions of risk. Participants are socially, demographically and geographically diverse. Those who received high exposure to the program were more likely to reduce smoking and drinking, more likely to breast-feed, and less likely to give birth to preterm/low birth weight infants. An “equity” analysis showed variation by social group, indicating that benefits were disproportionately shared.

In a further Canadian example, Laurin provides a modeling of the collective decision-making process by which a community-based population-level intervention transformed the organization of early childhood services in a Montréal community. The area is one of the most multi-ethnic and poorest neighbourhoods in the city. The intervention (Understanding Early Years) is a Canada-wide initiative aimed at strengthening communities’ capacity to use quality information to support reflection on the organization of early childhood services. A time chart presents events that influenced the procedures. Also presented are contextual factors that influenced decision making. (*This article published in French, with translation of abstract.*)

Cushon et al. sought to determine the effectiveness of an “immunization reminders project” in Saskatoon, Canada in improving vaccination coverage rates and ameliorating geographical disparities in coverage. The intervention involved calling and/or writing parents/caregivers, and resulted in higher coverage rates and an apparent decline in disparities between groups. The findings have prompted practice/policy changes.

Jack et al. focus on the effectiveness of the Nurse-Family Partnership (NFP) intervention. NFP is a low-income, intensive nurse home visitation program. The qualitative case study sought to determine whether the NFP can be implemented in Canada with fidelity to the US model, and to identify adaptations required to increase its acceptability to service providers and families. The authors found that the model is acceptable to Canadian providers, nurses and families and suggest that a consistent approach to adapting the program in Canada is needed.

McLaren and Emery examined the association between exposure to fluoridation and oral health inequities in Canadian children. After adjusting for socio-economic and behavioural variables, data from the Canadian Health Measures Survey showed that fluoridation was linked to better oral health. The effect was seen across income/education categories, and was more pronounced in lower education and higher income adequacy households.

Finally, Macnaughton et al. present a methodological case study of the At Home (Housing First) Initiative. The model is underway in five Canadian cities as an intervention with homeless people with mental health issues. Quantitative and qualitative methods were used to evaluate the program’s implementation. Overall, the findings show how critical ingredients of complex interventions can be adapted to different contexts while implementation fidelity is maintained. This approach also identifies systemic and organizational factors that affect implementation. It gives information

about both whether and how key aspects of the intervention are implemented effectively across different settings, thus providing implementation data that are rigorous, contextually relevant and practical.

This special supplement opens with John Frank’s eloquent questioning as to what we “know” when it comes to PHIR. It closes with Louise Potvin’s pointed but legitimate view that we certainly do not know what we need to if we want to seriously influence related policies and practices.

The supplement’s collection of papers provides a reasonable set of examples of PHIR as it is currently being practised. While the papers offer a range of relevant perspectives, they also serve to highlight the ongoing need for further refinement and development of the field. In the end, we would argue for four points in order to move forward in advancing both the science and practice of PHIR: the need for an explicit values stance; the adoption of a contextualist epistemology and pragmatic accountability; the development of explicit standards for measuring intervention success (and failure); and an explicit emphasis on building community capacity-building and self-reliance for PHIs and related research.

The values stance and emphasis on capacity-building and self-reliance would be grounded in a set of “stewardship” principles for fostering PHIs. It would also recognize that communities cannot be reliant upon resources they do not have when it comes to mounting and evaluating interventions. Population health stewardship would argue for: respect for existing communities; the creation, nurturing and enabling of responsible actions; the engagement of local people in improving practices; the return of benefits equal to the benefits received; the viewing of PHIs as part of an extended “health” ecosystem; the judicious use of resources grounded in the way people view places and the values of those places; and last, a vision that is respectful of natural processes and cultural traditions and relevant to community needs.

The notions of a “contextualist” epistemology and pragmatic accountability align with the leading-edge thinking of Green and Glasgow³ and others who have powerfully argued that external validity is as important (perhaps more so) as internal validity when it comes to areas such as population health. All decision-making operates within a paradigm or environment that shapes the process and the outcome(s). To paraphrase Bertrand Russell,⁴ ‘*change is scientific, progress is ethical*’. In our view, the way forward for population health intervention research, its proponents, and all Canadians who wish to reduce health and societal disparities, lies as much in ethical progress as it does in ‘scientific’ change.

REFERENCES

1. Frankish J, Green L, Ratner P, Olsen L, Larsen C. Health Impact Assessment as a Tool for Effective Health Policies and Programs. Vancouver, BC: UBC Institute of Health Promotion Research, 1997.
2. Hawe P, Potvin L. What is population health intervention research? *Can J Public Health* 2009;100(1, Special Insert):18-114.
3. Green LW, Glasgow RE. Evaluating the relevance, generalization, and applicability of research: Issues in external validation and translation methodology. *Evaluation & the Health Professions* 2006;29(1):126-53.
4. Russell B. *Unpopular Essays*. London, UK: Allen and Unwin, 1951; 13-14.