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Population Health Intervention Research:

FOCUS on Health Inequalities

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Introduction

Much has taken place since the first meeting of the Population Health Intervention Research Initiative for Canada (PHIRIC) in September 2006. Since its inception, the PHIRIC planning committee has identified several activities that will support population health intervention research (PHIR) capacity in Canada, collectively building the necessary synergies and facilitating alignment between research, evaluation and interventions as they relate to population health. Supported by the Institute of Population and Public Health (IPPH) and the Institute of Nutrition, Metabolism and Diabetes (INMD), PHIRIC is a ten-year initiative that aims to build capacity in population health intervention research and its quantity, quality and use by policy makers and practitioners.

PHIRIC acknowledges the pressing need to better align research and evaluation with population health programs and policies. As health and social problems worsen, wisely investing resources becomes more imperative.

PHIRIC is the vehicle to bring coherence to existing relevant initiatives and to build on these while ensuring the link between research and intervention is supported in order to produce research that can be applied.

This is the second Spotlight issue on population health intervention research. The first served as a means of introduction, featuring PHIR across the country and introducing the role of PHIRIC. Since the first issue has encouraged readers to become engaged in PHIRIC's activities, there has been success in supporting continued research in this area. Recently, the CIHR-IPPH has issued two grant competitions in support of high quality public health intervention research - the Interdisciplinary Capacity Enhancement (ICE) Grants and Applied Public Health Chairs competition. Notably, these grants have also provided the opportunity to address health inequalities. The intervention research showcased in this issue reflects the rising concern for health inequalities and the need for research to have immediate impact in this area.

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The gross inequalities in health are not a new concern. Addressing the gap in social equity has been a forefront issue for several decades. Presently, the WHO Commission on the Social Determinants of Health is ready to launch a global movement to promote equitable health as a societal good. In order to achieve health equity, the root causes impacting health outcomes must be understood as the underlying current informing the current social health gradients. The Commission's central aim is to assemble the evidence to lay the basis for action to reduce health inequalities, particularly between countries.

It is only timely that this issue of the IPPH Research Spotlight be dedicated to research aimed at reducing inequalities. We feature research that addresses population health inequalities using an 'upstream' focus and that which relates to testing the efficacy, effectiveness or cost-effectiveness of program and policy interventions to reduce inequalities. All research highlighted also includes evidence of knowledge translation integrated into their research process.

We hope that you enjoy this publication on emerging research in the area of health inequalities reduction and looking forward to the great returns this research will ultimately yield.

John Frank

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FEATURE INTERVIEW: Interventions in Residential Neighbourhoods and Population Health

with James Dunn

Dr. James Dunn's research focuses on population-based interventions in residential neighbourhoods and their effect on adult mental health, healthy body weights and healthy child development. This research includes designing and conducting studies that will harness the power of 'natural experiments' in building a knowledge base for decision-making about population-based interventions at the neighbourhood level and its potential in improving health and reducing health inequalities. Indeed, Dr. Dunn feels it is imperative to identify the politically palatable and effective interventions that will improve every day living conditions of lower-income families, especially with respects to adult mental health and the healthy development of children up to the age of six. This research has already attracted attention from policy-makers who have initiated neighbourhood-based policies and programs, believing presumably, this is an appropriate and effective level of intervention. This research therefore, is extremely timely for decision-makers. The Chair program will be instrumental in highlighting this important research area while building research capacity and a knowledge base so that future decision-making can be better informed by evidence.

It is expected that this research will demonstrate the impact of

the neighbourhood interventions on the health status of residents. Current studies focus on the health effects of the demolition and reconstruction of Regent Park on adult mental health and children's developmental competencies, the impact on moving from market housing into subsidized housing on health outcomes, and the impact of Toronto's *Priority Neighbourhoods Strategy* on the health of populations living in those neighbourhoods.

The anticipated outcomes of his research include informing decision making on the latter phases of the redevelopment of Regent Park and subsequent public housing redevelopment projects in Toronto and elsewhere. Other outcomes are to identify and address the true impact of subsidized housing, including potential shortcomings in order to assist municipal housing agencies in supporting the related programs and innovations, and increasing their effectiveness. Furthermore, given the interest from policy makers in neighbourhood level interventions, this research will only further propel evidence-based decisions to support the impact of positive urban residential neighbourhoods on health outcomes and health inequalities.

Meeting the Challenges of Population Health Intervention Research: Five New Exciting Research Programs

FEATURE ARTICLE:

Population health intervention research is still an emerging field in Canada (Di Ruggiero, Rose & Gaudreau, in press). The knowledge deficit is even more striking for interventions aimed at reducing inequalities in health. Yet, according to the results of recent strategic initiatives undertaken by the Institute of Population and Public Health (IPPH), this area will see a great deal of action over the coming years. This is good news, but many challenges await us.

At a time when the development of evidence-based practice is becoming a watchword in public health, practitioners who strive to reduce health inequalities are having trouble meeting this need. Indeed, all attempts to synthesize the results of evaluations or to develop practical guides invariably reveal a dearth of primary research documenting not only the effects of interventions, but also the processes leading to interventions targeting health determinants. These interventions share at least two characteristics that are crucial if we wish to keep them from reproducing and increasing health inequalities (Frohlich & Potvin, 2008). Unfortunately, these characteristics also make such interventions hard to evaluate using proven biomedical methods (Potvin, Gendron, Bilodeau, & Chabot, 2005).

Such interventions operate like open systems; thus, the implementation contexts that constantly interact with the mechanisms inherent in such interventions become just as important as the mechanisms themselves in producing the desired effects (Poland, Frohlich, & Cargo, in press). This is why the mechanisms' effects cannot be viewed in isolation. To grasp their effects, we must track the actions

these mechanisms suggest in contexts of complex socio-political implementation. Assessments of effects cannot therefore be disassociated from a solid evaluation of processes and implementation.

It follows that, in order to reach the most vulnerable populations -- those most affected by health inequalities -- these interventions must be founded on partnerships with community stakeholders or with their spokespersons. Intervening then becomes infused with politics, and its players begin naming, defending and negotiating their interests (Potvin, 2007). Under these conditions, the logistic frameworks and models usually used to translate scientific knowledge into interventions, and that ordinarily steer definitions of the success indicators underpinning evaluations, are much less effective (Potvin & McQueen, to come). Indeed, strategic players who speak for group interests in any intervention now become action mediators whose interpretations and interests constantly fluctuate within the intervention itself.

Due to its inherent challenges, population health intervention research targeting reductions in health inequalities requires the development of methodological and theoretical innovations. Such innovations are strongly enhanced in multidisciplinary environments closely linked to practical settings, with resources allowing the necessary consolidation of implied relationships. This issue of *Spotlight on Research* will shed light on the crucial contributions made by two strategic IPPH programs in supporting this type of innovation.

The Interdisciplinary Capacity Enhancement Teams Grant Program has given a score of teams of researchers from many disciplines the opportunity to

by Louise Potvin

develop research programs dealing with issues of health inequality. Dr. Hwang's team, at the University of Toronto, is focussing not only on housing as a health determinant, but also on the homeless, and acute examples of the impact that housing has on living conditions and on health. Dr. Jean Shoveller, of the University of British Columbia, is implementing a program aimed at understanding how interventions can be developed to transform the cultural and structural conditions that put some groups of young people at risk for sexual problems.

The other program, Applied Public Health Chairs, will enable 14 eminent researchers to initiate as many programs of research; training; and knowledge sharing and exchange. These programs will provide knowledge on priority public health problems that will enable partner institutions involved in service delivery to develop an institutional research culture for research that is needed for implementing evidence-based practice. Furthermore, the utility of these research platforms for training researchers guarantees that Canada's upcoming generation of public health researchers will be better equipped to work alongside practical settings, thereby increasing the effectiveness of public health programs in reducing inequalities in health among Canadians.

This issue features articles by three of these new Chairs — Dr. James Dunn, of the Centre for Research on Inner City Health (St. Michael's Hospital), is implementing research which will examine programs and policies aimed at improving housing conditions; Dr. Elizabeth Saewyc of the University of British

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FEATURE INTERVIEW: Homelessness, Housing and Health

with Stephen Hwang

The connection between housing and health and its impact on the health of homeless people are pressing health inequality issues in Canada. Investigating how housing conditions and policies have the potential to improve health of the homeless and, more importantly, solve the problem of homelessness are the key concerns addressed by Stephen Hwang and his ICE research team.

The ICE grant enabled this research team to obtain further funding for major research projects with the hope of generating new knowledge on the effects of socioeconomic dimensions of housing on population health, the inter-relationship between the course of

homelessness and health status, and the effectiveness of program and policy interventions to improve health and promote housing stability for Canadians experiencing housing vulnerability. This has paved the way for a recently funded longitudinal study that will examine how changes in housing affect the physical and mental health of homeless and vulnerably housed individuals in Vancouver, Toronto and Ottawa. This study will also look at other major health determinants including health care utilization, substance use, and social supports. Other projects developed through the ICE grant include the examination of the effects of social housing on adult and child mental health, under the investigation of James Dunn (also featured in this

publication).

Building on the success of the Research Alliance for Canadian Homelessness, Housing and Health (REACH) team, the ICE team will use its efforts to advance Canadian research on homelessness and housing to address health inequalities of Canadians experiencing housing vulnerability. It is the hope that the knowledge acquired from this research will contribute to the growing body of evidence to reach a diverse audience, and especially to convince policy makers that housing is an important determinant of health and a key factor that must be addressed in order to reduce health inequalities.

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Feature Article

Columbia is starting up a program that will study the development and implementation of interventions aimed at reducing health inequalities among adolescents; Lastly, Dr. Lise Gauvin of the Université de Montréal is embarking on a program that will enable the development and evaluation of interventions promoting an active lifestyle, as well as the impact urban settings have on health. All of these programs will be conducted using evidence-based data.

I invite you to take a good look at the creativity and enthusiasm shown by each of these researchers. They are the solid foundation upon which Canadian society can rely to build its

capacity to correct inequalities in health that fly in the face of values shared by the majority of our fellow citizens.

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Rural and Northern Youth Sexual Health Team: Building Interdisciplinary Research Capacity to Reduce Health and Social Disparities

FEATURE INTERVIEW: with Jean Shoveller

Across Canada, many young men and women experience serious health and social problems related to sexually transmitted infections (STIs) and unwanted pregnancies at an early age. Despite public health efforts, STI rates among youth are high and rising, particularly among rural and northern youth; and, while teen pregnancy rates level-off within the general population, this problem manifests disproportionately among marginalized groups, including young women and Aboriginal youth living in rural and northern places.

Jean Shoveller is leading an ICE team to address youth sexual health, with a special emphasis on improving opportunities for

young people living in rural and northern places. The team's research investigates the complex inter-relationships between gender, culture and place and their affect on youth sexual health. The research being conducted by the Youth Sexual Health Team is filling a knowledge gap related to developing new interventions to improve prevention, treatment and sexual health services for youth. For example, the team is developing socio-epidemiological profiles and maps of rural and northern BC, which characterise youth's sexual health outcomes, such as STIs and early-age childbearing, across the province. These maps are useful to program and policy planners because they help to illustrate the physical and social pathways or mechanisms through which social, material, and

psychological aspects of living in rural and northern areas "get under the skin" of young people and manifest in untoward sexual health outcomes.

The team is also conducting research in partnership with young people themselves as a means to better understand how especially vulnerable sub-groups of youth and adults could interact in more positive ways within the health care, educational and social service systems to improve sexual health equity for all young people. As a result, the team's research is being used by school boards, health regions and community service groups to examine existing programs and to develop new interventions that to ensure that vulnerable sub-groups of youth do not fall further behind despite (or as a result of) interventions.



Building Capacity for Population-Level Monitoring and Interventions for Healthy Youth

FEATURE INTERVIEW: with Elizabeth Saewyc

Much research to date has focused on identifying and monitoring health inequalities. Upon further examination, it is important to take a closer look at the *why* of health inequalities. That is, understanding the mechanisms by which some groups experience health inequalities and investigating how the social and physical environments, laws and policies, risk exposures and supportive resources influence young people's physical and mental health.

Violence is a potent determinant of health, although not regularly monitored or addressed within the public health system. For her Applied Public Health Chair, Elizabeth Saewyc will further investigate how exposure to violence such as bullying or sexual abuse influences youth's involvement in health-compromising behaviours, levels of stress and mental health, as well as which protective factors in youth's lives can help offset such exposure. This research will examine the extent to which reducing violence at the

community level helps drive improvements in health and healthy behaviours, and the types of population-level interventions that are effective in reducing health inequalities among adolescents.

The Applied Public Health Chair program will support research and collaboration to expand national capacity for monitoring the risk and protective factors influencing adolescents' health, and will help raise awareness of adolescence as a second key stage for fostering healthy development and

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with Lise Gauvin

The Applied Public Health Chair led by Lise Gauvin explores how social inequalities transform into health inequalities through the influence of neighbourhood environments on behaviours surrounding healthy eating and physical activity. One of the goals of her Chair program is to better understand the process underlying these transformations while investigating the potential societal interventions to reduce these inequalities. In partnership with the Montréal Public Health Department and the Centre de recherche Léa-Roback sur les inégalités sociales de santé de Montréal (CLR), Gauvin is attempting to reach an audience who can influence the health of populations by improving the milieus in which people live.

The Chair will provide Lise Gauvin and her team with the time required to enable the progress of the projects and the opportunity for discussion and partner collaboration. Its activities will focus on the direction and magnitude of associations between neighbourhood exposures and healthy eating, physical activity,

FEATURE INTERVIEW: The Montreal Lifestyle and Neighbourhood Chair In Applied Public Health

and healthy body weights, identifying selected neighbourhood determinants associated with more favourable lifestyle behaviours. Based in Montréal, Lise Gauvin's research addresses health promotion and intervention issues related to these contributing health factors. To date, her Chair program has facilitated the ongoing development of several projects, including an empirically-based conceptual model of the associations between physical/environmental structures and walking behaviour in urban and suburban environments; and an investigation of the associations between disordered eating and social, cultural, and economic disparities, measured at the neighbourhood and individual levels. Other projects include research to better understand the associations that can exist between neighbourhood environment, lifestyle, and health among adults by simultaneously measuring characteristics of

neighbourhoods, lifestyle profiles, and the health of elderly residents from an existing cohort called NuAge, a project designed to establish the role of nutrition in successful aging.

Through its several projects, the Chair will continue to support research that proposes the possibility to improve healthy eating, increase involvement in physical activity, and promote healthy body weights at the population-level through interventions and public policies aimed at modifying physical and social environments of residential neighbourhoods.

Lise Gauvin and her team would like to acknowledge the Montréal Public Health Department as a major intervention partner.

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preventing unnecessary morbidity and mortality among Canadians. The anticipated outcomes of this research are expected to provide evidence to public health and to other government sectors to help guide healthy youth policy in a number of arenas. By fostering and expanding effective youth health monitoring systems, there is an anticipated improvement in

the ability to identify improvements and emerging issues in youth health and to help identify key areas where interventions would be most effective in reducing health inequalities for vulnerable populations.