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Promoting Health Equity Research: Insights From a Canadian Initiative

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In 2002 the Canadian Institutes of Health Research launched a national initiative to promote health equity research reflecting the World Health Organization imperative of investment in health equity research. Funded researchers and teams have investigated health disparities faced by vulnerable populations, analyzed interactions of health determinants, and tested innovative interventions. Strategies for building research capacity have supported students, postdoctoral fellows, new investigators, and interdisciplinary research teams. Partnerships have been created with 10 national and 7 international organizations. Strategies used to secure and sustain this research initiative could be adapted to other contexts. Nurse scholars led the launch and have sustained the legacy of this national research initiative. Moreover, nurse researchers and research trainees, supported by the initiative, have contributed to the expansion and translation of the health equity knowledge base.

Keywords: determinants of health, health disparities, population health, vulnerable populations

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Résumé

La promotion de la recherche sur l'équité en matière de santé : observations issues d'une initiative canadienne

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En 2002, les Instituts de recherche en santé du Canada ont lancé une initiative pancanadienne visant à promouvoir la recherche sur l'équité en matière de santé, conformément à une recommandation émise par l'Organisation mondiale de la Santé soulignant l'importance d'investir dans ce domaine. Les chercheurs et les équipes bénéficiant d'un financement se sont penchés sur les disparités touchant les populations vulnérables en matière de santé. Ils ont également analysé les interactions entre les déterminants de la santé et ont mis à l'épreuve des interventions novatrices. Des stratégies destinées à accroître la capacité de recherche ont appuyé les efforts des étudiants, des boursiers de recherches post-doctorales, des nouveaux chercheurs et des équipes de recherche interdisciplinaire. Des partenariats ont été créés avec dix organisations nationales et sept organisations internationales. Les stratégies utilisées pour consolider et soutenir cette initiative de recherche pourraient être adaptées à d'autres contextes. Les chercheurs en sciences infirmières ont assuré le lancement et maintenu l'héritage qu'a laissé cette initiative de recherche pancanadienne. De plus, les chercheurs et les stagiaires de recherche en sciences infirmières qui ont bénéficié de l'initiative ont contribué à l'expansion et à l'application de la base de connaissances sur l'équité en matière de santé.

Mots clés : déterminants de la santé, disparités en matière de santé, populations vulnérables, équité en matière de santé

Achieving health equity is prominent in the pursuit of the Millennium Development goals, as recorded in a 2010 editorial in the *Lancet*. The World Health Organization Commission on Social Determinants of Health (World Health Organization [WHO], 2008), chaired by Dr. Michael Marmot, recommended increased investment in health equity research. While concern about health inequities is growing internationally, "the evidence base on health inequity, the social determinants of health, and what works to improve them needs further strengthening" (Marmot et al., 2008, p. 1668). Although research has documented health disparities within and across countries, there is an urgent need to analyze disparities among vulnerable populations nationally, understand interplay among social and biological determinants of health, describe mechanisms through which factors such as poverty compromise health, illuminate barriers that impede action even when there is knowledge, and evaluate programs that reduce health disparities. In 2009 a Canadian Senate committee recommended that "population health intervention research on housing and mitigating the effects of poverty among . . . vulnerable populations be considered priorities" (Senate Subcommittee on Population Health, 2009, p. 31). Comprehensive interdisciplinary research is needed to investigate the ways in which biologic determinants of health link with social, economic, and cultural factors to create and sustain health disparities. Critical analyses by nurses, in collaboration with members of other disciplines, guide identification and intervention regarding the fundamental causes of health inequities (Reutter & Kushner, 2010).

To address the need to understand pathways to health equity and reduce health disparities, in 2002 the Canadian Institutes of Health Research (CIHR) launched a ground-breaking initiative, Promoting Health Equity, which incorporated innovations in research, created partnerships for change, and promoted knowledge translation. Strategies used to launch this national initiative, overcome obstacles, and ensure success and sustainability over the past decade may be a model for advancing the World Health Organization (WHO) recommendations. Nurse researchers have played a key role in creating and continuing this research initiative.

Fostering Research on Health Equity

Assessment of research funding practices reveals a poor fit between funding mechanisms and the intervention research that addresses health inequities (Edwards & Di Ruggiero, 2011). The funding opportunities provided by CIHR and its partners were designed to stimulate the research community to focus on vulnerable populations, factors that influence vulnerability and disparities, health disparities at the population

level, ethical and legal issues associated with health inequalities, and relevant interventions. The dramatic increase in health equity research expenditures and number of grants following the launch of the Promoting Health Equity initiative is documented in a recent CIHR report (CIHR Institute of Population and Public Health [IPPH], 2011). Strategic funding opportunities emphasize analysis of disparities across populations and the design of interventions that reduce inequalities and promote the health of vulnerable populations. Researchers are encouraged to consider the diverse factors that influence health disparities, including biological determinants (e.g., sex differences, developmental abnormalities) as well as socio-environmental, cultural, and structural determinants (e.g., unemployment, low socio-economic status, inadequate housing, discrimination, social support deficits, gender inequalities). Research that designs and tests innovative multi-level, multi-sectoral, and multiple-strategy population interventions (Raphael, 2008), pilot testing of interventions, and evaluation of differential impacts of interventions on vulnerable population subgroups is encouraged. Research gaps remain in our understanding of mechanisms underlying health inequalities and the evaluation of interventions that reduce inequalities (Bleich, Jarlenski, Bell, & LaVeist, 2012). Community-based participatory research to address the social determinants of health (Hawe & Potvin, 2009; Stewart, Letourneau, & Kushner, 2010) is invited. One funded researcher makes the following observation:

> *The focus on reducing disparities and creating equity forces research with these populations to move out of areas that are primarily descriptive and to identify concrete mechanisms for change.*

Funded interdisciplinary teams have focused on (1) understanding biological, socio-environmental, cultural, and structural factors that contribute to health inequities at individual and population levels; (2) addressing health disparities through intervention research and evaluation of the effects of practice, programs, and policies on health inequities; and (3) comparative research within and between countries. Some studies have emphasized health disparities experienced by specific vulnerable populations; others have examined interactions among social determinants of health. Four themes emerge in the funded research and research teams: health equity across the lifespan, vulnerable populations, social determinants of health, and access to services. Exemplar studies and anonymous quotations from funded researchers, derived from CIHR reports, illustrate these themes (CIHR, 2007; CIHR Institute of Gender and Health [IGH], 2011).

Health Equity Across the Lifespan

Mackenbach's (2011) analysis of a British initiative intended to diminish disparities in life expectancy and infant mortality reveals continuing challenges. Mackenbach advocates research using rigorous implementation and evaluation of targeted interventions. Supported studies have focused on such issues as children's health and development pathways, vulnerability trajectories for homeless youth, stigma and resilience among vulnerable youth, promoting equity for nursing home residents, and health equity for pregnant and parenting women facing substance use. A funded researcher comments as follows:

> *The analysis supported our hypotheses that older persons of ethnic minority status were less likely to utilize health services compared to those of the ethnic majority group and that health services utilization differs across socio-economic groups.*

Vulnerable Populations

Social, cultural, and economic circumstances influence quality of life and health disparities and have the potential to reduce inequities experienced by vulnerable populations (e.g., Dowd, Zajacova, & Aiello, 2009; Mier et al., 2008). Immigrants, refugees, the disabled, the poor, the homeless, the illiterate, Indigenous people, and women in precarious circumstances are vulnerable populations, more likely than others to become ill and less likely to receive appropriate health services (Beiser & Stewart, 2005). Funded research has examined diverse themes, including homelessness, housing, and health, vulnerability among sexual minorities, Indigenous/Aboriginal people's access to water, health barriers for immigrants, and migrant perinatal health.

Determinants of Health

We need evidence on determinants, including health practices, education, and socio-economic resources that can reduce health inequalities (Blakely & Carter, 2011; Goldman & Smith, 2011; Mackenbach, 2011). Exemplar funded programs have investigated pertinent topics such as communities in extreme poverty, social and economic inclusion of single mothers, and nutrition needs of homeless youth.

> *Ethnicity was not a good predictor of general health. In fact, poor socio-economic status, restrictions in activities, lower sense of cohesiveness, and poor social support were more predictive of poor general health.*

Access to Services

Improving the health of poor, vulnerable populations and reducing health disparities are linked to access to preventive and restorative services for

underserved populations (Allin, Grignon, & Le Grand, 2010; Lebrun, 2012; Mier et al., 2008). Supported studies have emphasized varied issues, including equitable access to health services for Aboriginal people, community medicine for people without health insurance, uptake of antiretroviral therapy among survival sex workers, and primary health care for marginalized populations.

> *Our research shows that people (children and adults as well as seniors) who live with disabilities are the highest users of health services. . . . Disability is a stronger predictor of utilization of health services than age, gender, education, income, ethnicity, or any of the other social predictors.*

Building Research Capacity in Health Equity

Building a health-equity knowledge base requires the development of research capacity (Edwards & Di Ruggiero, 2011). The Canadian research initiative has offered diverse tools for building research capacity, ranging from 1-year catalyst or pilot project grants and research program development grants to 5-year research program grants and interdisciplinary team grants. Application pressure for all strategic funding opportunities has been high. Since this major initiative was launched, over 60 large teams of researchers, practitioners, program planners, and policy-makers have been funded. More than 400 researchers and research users from nursing and other disciplines have been supported, reflecting widespread commitment in Canada to understanding and diminishing disparities. The funded research teams are notable for their interdisciplinary approaches, multi-site representation spanning cities and provinces, and numerous institutions. These teams, covering the full spectrum of health research (biomedical, clinical, health services, population health), focus on health across the lifespan, access to health services, social determinants of health, and illness burden in vulnerable populations. This strategic initiative has significantly enhanced Canadian capacity in health equity research by investing in training and mentorship. To illustrate, research capacity built through research teams has encompassed over 450 graduate students, fellows, and new investigators (CIHR IPPH, 2011). One team investigating rural maternity care supported 27 students from across disciplines for 5 years. Another team examining stigma, resilience, and youth supported its trainees through writing groups, workshops, and a conference. The initiative influenced the careers of established and new researchers by providing opportunities to conduct innovative research; intensifying programs of research; fostering the involvement of knowledge users and researchers; and creating a community of scholarship through online contacts, workshops, and conferences (CIHR IPPH, 2011).

Influencing Health Equity Policies, Programs, and Practice Through Research

Future research should guide policy and program decisions regarding factors that influence health (Dankwa-Mullan et al., 2010). The Canadian initiative has promoted the exchange of transferable knowledge. National symposia, workshops, and the publication, in 2005, of a special issue of the *Canadian Journal of Public Health* devoted to health equity research are some of the vehicles used to promote exchange. The initiative has compiled an electronic mailing list to maximize contact among researchers and alert researchers and has developed a Web site where researchers and knowledge users share information.

The importance of linking research to policy and practice is increasingly recognized. However, policy development to reduce health disparities "is still largely intuitive and would benefit from incorporation of rigorous evidence-based approaches" (Mackenbach & Bakker, 2003, p. 1409). The initiative has emphasized knowledge translation and transfer by encouraging funded programs and teams to engage policy-makers, the public, program planners, and the voluntary sector and to conduct intervention research that might inform policies, programs, and practice.

In 2004 a National Policy Forum on Health Disparities was hosted in partnership with five national organizations. More than 50 participants, including funded researchers and policy-makers at the federal, provincial, and territorial levels, examined the policy implications of health disparities research and discussed synthesis papers commissioned by this initiative, ultimately leading to policy influence. In 2005 funded research teams investigating homelessness and health participated in a workshop with program planners, practitioners, and policy-makers to develop strategies for fostering participatory research and for mobilizing programs, practices, and policies based on research evidence. At the Canadian Public Health Association conference in 2005, a workshop was held to discuss the research-policy interface. Speakers included Dr. Margaret Whitehead of the Department of Public Health at the University of Liverpool, Canadian researchers and policy-makers, and representatives of six national partner organizations.

The Canadian research initiative also supported the Health Equity Group of the Cochrane Collaboration of Canada in establishing priorities for systematic reviews on health equity for policy-makers. In 2007 it hosted a public research communication event, in partnership with Human Resources and Social Development Canada, on homelessness and health. A 2011 workshop on H1N1 in vulnerable populations and a 2012 health equity workshop co-led with the National Centre on Social Determinants of Health engaged researchers and policy influencers (Edwards & Di Ruggiero, 2011).

The funded teams are shaping practice, informing the design of interventions and service-delivery models, and supporting evidence-informed decision-making. One researcher describes the impact of research funded by this Canadian initiative on programs and policies:

> *This grant has translated directly into policy initiatives. I have led the provincial team recommending HPV co-testing as part of cervical cancer screening. . . . have significant involvement in the HPV vaccine recommendation and evaluation process led by the [provincial] Centre for Disease Control.*

Innovative modes of knowledge translation have increased the accessibility and use of research evidence. One interdisciplinary team developed the Rural Birth Index, an evidence-based tool for assessing maternal health-care needs in rural areas. A funded researcher reports: "Since its development in 2007 and publication [Grybowski, Kornelsen, & Schuurman, 2009], the Rural Birth Index has been used to strengthen advocacy for vulnerable populations by quantifying a community's need." Policy briefs produced by this team continue to inform rural maternal health-care policy (CIHR IGH, 2011). Another team presented research results to government committees and informed a provincial plan to reduce poverty (CIHR IPPH, 2011).

The teams have expanded the knowledge base on the underlying causes of disparities and on tailoring relevant interventions. Supported researchers describe the impacts of their funded research:

> *The team . . . designed a CIHR-funded pilot study to develop a new Quality of Life Instrument for Homeless and Hard to Reach Individuals. From a program planning and policy perspective, this study implies that homelessness prevention strategies would be more efficient if they were specifically aimed at [population] clusters.*

Another research team was interested in access to health services for immigrants and refugees:

> *Our preliminary research points to remedies that should be considered . . . including elimination of 3-month waiting periods in the provinces that require it; facilitation of health coverage for those who are eligible; improvements to the refugee claims process; implementation of emergency health insurance coverage for those in need while their claims are in process . . . and at community health clinics; increases in capacity and relaxation of enrolment.* (Caulford & Vali, 2006, p. 1254)

One team conducted the largest study to date of high-risk exploited youth in North America. Another team developed a gender-sensitive

scale for accessing barriers to cardiac rehabilitation available to health practitioners online (CIHR IGH, 2011).

The initial 20 funded research teams communicated their findings through 430 journal articles, over 200 newspaper/magazine articles, and over 1,000 presentations at national and international conferences. Collectively, the teams successfully leveraged more than $40 million in additional funding (CIHR IPPH, 2011), representing a significant return on investment.

Creating Partnerships to Promote Health Equity Research

Research partnerships are essential in pursuing an evidence base focused on eliminating health disparities (Dankwa-Mullan et al., 2010). In Canada, responsibility for health is shared among federal and provincial/territorial governments. Consequently, the initiative forged important linkages with the Federal-Provincial-Territorial Task Force on Population Health, a body charged with advising government and government organizations at all levels. Ten national organizations, including major funders of health and social sciences research and organizations focused on influencing health-related policies (e.g., Canadian Population Health Initiative, Citizenship and Immigration Canada, Statistics Canada, Health Canada, Public Health Agency of Canada, Social Sciences and Humanities Research Council, National Homelessness Secretariat), joined the initiative as partners. These national partners helped guide strategic funding opportunities, support specific studies, and translate knowledge into effective practice, programs, and policies. Partnerships also were created with counterpart organizations internationally. International collaborators included the Fogarty International Center of the US National Institutes of Health, INS Mexico, the Academy of Finland, the Medical Research Council in the United Kingdom, ZonMW Netherlands, the Research Council of Norway, and the WHO Poverty, Equity and Social Determinants of Health Group (see Figure 1).

Reduction or elimination of health inequalities has become an international aim (Bleich et al., 2012). In preparation for an international think tank in 2003, the initiative commissioned leading Canadian scholars to prepare six papers synthesizing relevant research, published subsequently (Beiser & Stewart, 2005). The think tank attracted 103 researchers from across Canada, the United States, Mexico, Australia, and New Zealand. An international symposium held in 2006, dedicated to promoting interdisciplinary research and knowledge translation in Canada and other countries, engaged more than 130 researchers, research trainees, policy-makers, and representatives of non-governmental organizations. Dr. Michael Marmot, Chair of the WHO Commission on Social

Figure 1 ***National and International Partners and Collaborators***

International Partners

NIH Fogarty USA

INS Mexico

Academy of Finland

Medical Research Council UK

ZonMw Netherlands

Research Council of Norway

HRSDC Homelessness Partnering Secretariat

Canadian Population Health Initiative

Citizenship and Immigration Canada

Statistics Canada

Health Canada

Public Health Agency of Canada

Federal / Provincial / Territorial Task Group

CIHR: 13 institutes and corporate partners

Heart and Stroke Foundation of Canada

Social Sciences and Humanities Research Council

International Collaborators

Centre for Primary Health Care and Equity, University of New South Wales, Australia

WHO Poverty, Equity and Social Determinants of Health Group

WHO Committee on Social Determinants of Health

Determinants of Health, presented innovative research models and affirmed the importance of evidence-based policy: "This [Canadian] initiative aims not just to understand health disparities but to contribute to reducing and ultimately eliminating them" (Marmot, 2006).

The Canadian research initiative generated partnerships with the directors of the NIH National Center for Minority Health and Disease in 2004 and the Fogarty International Center in 2005. During Global Health Forum 8 and Ministerial Summit on Health Research in Mexico in 2004, meetings were held with delegates from Canada and Mexico to promote research collaboration and a Mexican–Canadian Dialogue on Vulnerable Populations was launched. In 2007 funding opportunities were generated with research organizations in five countries, leveraging millions of dollars through international partnerships. To illustrate, Public Health Challenges and Health Inequalities was created with the Academy of Finland, the Research Council of Norway, the Medical Research Council in the United Kingdom, ZonMW Netherlands, and five CIHR institutes.

Insights from the Canadian initiative were also shared with international audiences at the International Conference on Inner City Health (2002), the Mexico–Canada Collaboration Workshop (2002), the Canadian–Australian Dialogue on Health Disparities (2004), the Canadian Reference Group for the WHO Commission (2006), and the International Union for Health Promotion and Education (2007).

Other international impacts have emerged from the funded research. One team has worked with the ministry of health in Peru on a cord-clamping intervention to reduce infant anemia, while an investigation of marginalized youth has been cited as a promising intervention by the US Office of Juvenile Delinquency (CIHR IPPH, 2011).

Another supported researcher explains:

> *There has been considerable interest in our work by the international community of researchers in the field of intellectual disabilities, as several countries (Britain, Scotland, the United States, Australia) have all identified health disparities for this population as a major policy issue.*

Concluding Comments

This Canadian research initiative, mentioned in a recent review (Bleich et al., 2012), dedicated to promoting health equity and reducing health disparities began by focusing on creating new knowledge and building partnerships with organizations in health and health-related sectors that could use the information to effect change. It initially faced extremely limited research capacity and lack of funding partners. Moreover, challenges emerged in the early years regarding consensus on research prior-

ities and the launch of specific strategic research initiatives. Barriers were posed by scepticism regarding the significance of a full spectrum of biomedical, clinical, health services, and population health research in understanding health disparities and health equity, of multiple methodologies, and of partnerships with health-related sectors — including those influencing income, education, justice, and culture at the provincial, national, and international levels, not just the health sector alone. Peer-review committees comprising established health-equity researchers had to be formed to bridge the gap in existing committees and to foster relevant and rigorous evaluation of proposals. Securing and sustaining funding to ensure excellent research is a continuing challenge. Successful strategies used to overcome these obstacles are emphasized in this article, including investing in consultation on research priorities; creating innovative and comprehensive strategic research funding opportunities; building research capacity through training and interdisciplinary multi-site teams and programs; promoting intervention research; fostering knowledge translation and transfer to policy, program, and practice domains; and mobilizing partnerships at the provincial, national, and international levels.

Research on how and why health inequities arise is facilitated when partners are committed to reducing them. Understanding disparities within and between countries and between groups in countries (WHO, 2008) and developing strategies to eliminate them depends not only on national partnerships but also on international collaborations. Consequently, the Canadian initiative has led an international think tank; facilitated international research partnerships with counterpart organizations in Mexico, Norway, the United Kingdom, the Netherlands, and the United States; and leveraged research funding through its international partnerships.

Canada's national community of scholars, practitioners, policymakers, and program planners set in motion by this CIHR initiative continues to pursue its conjoined goals: promoting health equity in Canada and striving to meet the international challenge articulated in the 2008 WHO report. Researchers and research institutions, in collaboration with knowledge users in practice and policy domains, can advance the priority need identified in this report for "Knowledge — of what the health situation is, globally, regionally, nationally, and locally; of what can be done about that situation; and of what works effectively to alter health inequity" (p. 33). This initiative reflects the call for translational, transformational, and transdisciplinary research on health disparities (Dankwa-Mullan et al., 2010) and the call for nursing research that promotes health equity (Reutter & Kushner, 2010). Nurse scholars led the launch and have sustained the legacy of this national research initiative. Moreover, nurse researchers and research trainees, supported by the initiative, have

contributed to the expansion and translation of the health equity knowledge base.

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