

CIHR Institute of Population
and Public Health

Strategic Plan Refresh 2015-2018

Health Equity Matters



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Message From the Scientific Director

It is with much enthusiasm that I present this refreshed Strategic Plan for the Canadian Institutes of Health Research (CIHR) Institute of Population and Public Health (IPPH). The plan renews and advances our strategic priorities, reaffirms our commitment to health equity, and aligns with CIHR's Roadmap II objectives and related CIHR Signature and Major Initiatives. It provides the basis for continued collaboration with other Institutes and with Canadian and international partners.

We are entering a phase of building on the more robust public health infrastructure and capacity that now exists in Canada. This enhanced capacity reflects the efforts of many, notably national and provincial public and population health agencies and academic institutions, which have led the development of Schools of Public Health and related programs. Canada is well positioned to prepare and mentor the next generation of public and population health researchers. Formal and informal networks have been strengthened and researchers are highly engaged with decision-making and policy partners in many parts of Canada and globally. This connectivity is enlarging the footprint of population and public health scientists. Our reach extends well beyond the health sector, reflecting efforts to address underlying determinants of health. Intersectoral links provide a means to tackle health inequities. This refresh will allow us to further consolidate learning and impact, while continuing to support the impressive accomplishments and momentum of Canada's population and public health researchers.

Our Institute celebrates many achievements of the past five years. Thanks to members of the IPPH Institute Advisory Board, Institute staff and all those in the population and public health research community who have made important contributions to these achievements and to the refresh of our Strategic Plan. Inputs received have not only shaped this plan but also influenced a larger set of priorities within CIHR and with other funding partners.



The priorities in Health Equity Matters 2009-2014 have received substantial (and increasing) investments from the Institute and CIHR as a whole. We are particularly heartened to see that researchers have built on strategic investments through successful applications to the Open Operating Grant Program. We expect this pattern of success to continue as open reforms are fully implemented.

Our three strategic foci in this refreshed plan (scalable population health solutions, equity population health improvements and intersectoral action) are forward thinking and provide the basis for continued strategic investments, strong leadership and partnered efforts. This is not a time to be complacent – much remains to be done. But I am confident that the public and population health research community in this country is primed to be solution-oriented in its contributions to the health and health equity issues of today and tomorrow, both in Canada and globally.

A handwritten signature in black ink that reads "Nancy Edwards". The signature is written in a cursive, flowing style.

Nancy Edwards, RN, PhD, FCAHS
Scientific Director, CIHR Institute of Population and Public Health
October 2015

Purpose

The CIHR-IPPH strategic plan refresh (2015-2018) outlines the institute's renewed strategic research priorities and demonstrates alignment with CIHR's Roadmap II directions and Signature and Major Initiatives. A companion external communications plan will be developed for key research, policy and partner audiences to support the dissemination of the Institute's renewed strategic research priorities.



Introduction

Population and public health (PPH) research generates a solutions-oriented evidence base. It is about understanding what determines health at a population level and doing something about it. It is research on the interactions between the biological, social, cultural, and environmental factors that determine health, disease and disability at a population level. It involves generating knowledge about solutions that will ultimately change the daily living and working conditions to improve people's lives now and in the future.

Population and public health tackles the *causes of the causes* – “the fundamental structures of social hierarchy and the socially determined conditions these structures create in which people grow, live, work and age”¹. A focus on universal and equitable health care coverage is also paramount in challenging persisting inequities in access to high-quality care here in Canada and globally. However, no one sector can do this alone. Repeated calls for effective intersectoral strategies clearly signal that the causes and levers for health and well-being lie well beyond just the health sector². These causes are influenced by global, technological, social, economic and environmental factors and require horizontal and vertical policy approaches^{2,3,4}. Our research investments must be aligned to these Canadian and global calls for action.

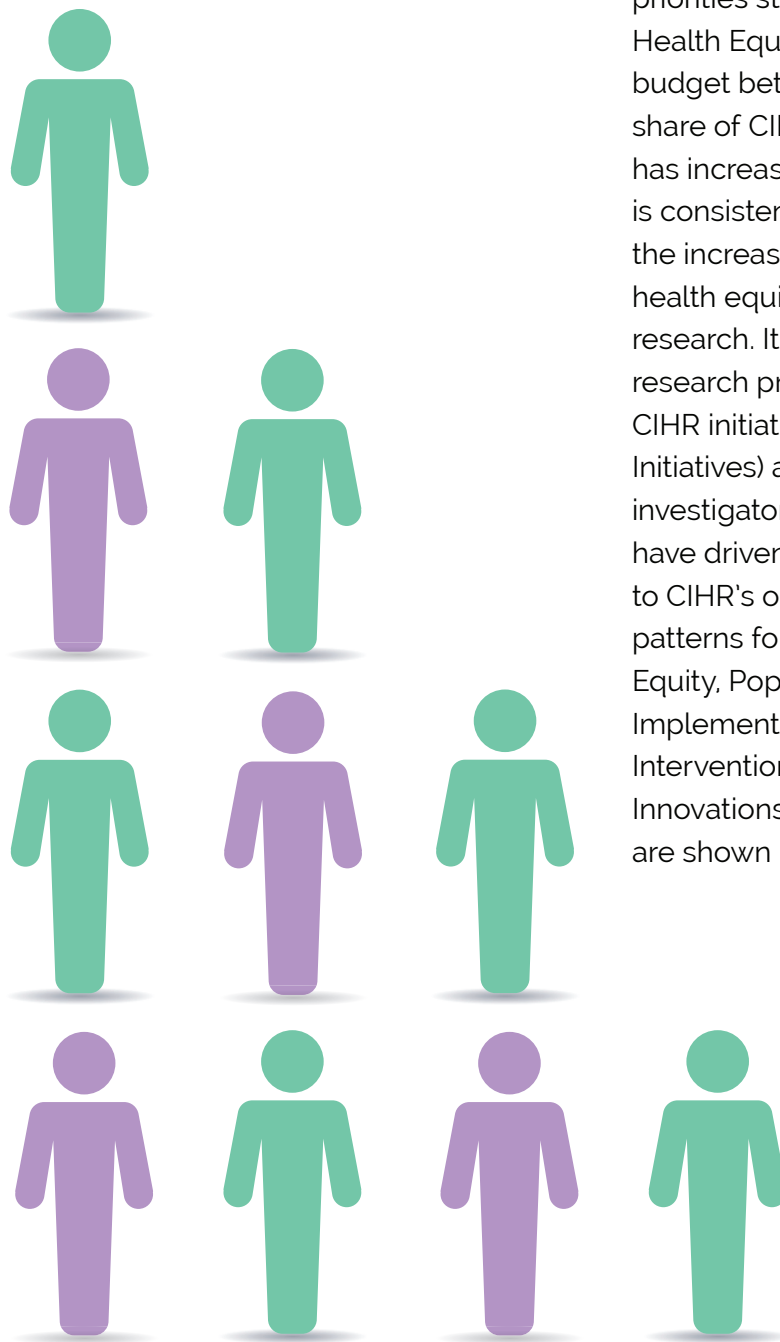


Taking Stock of Our Investments and Achievements: Reach and Impact of CIHR-IPPH

Since its inception, the CIHR-Institute of Population and Public Health (CIHR-IPPH) has played a critical role in population and public health research in Canada and globally. With health equity at its core, the Institute's second strategic plan (2009-2014) has served as a strategic beacon to signal several major shifts needed in this interdisciplinary field of research. These included to further examine the population health and health impacts of complex population health interventions (PHIs) and implementation systems for PHIs, and to interrogate health inequities and mitigation strategies in health and other sectors. The plan also called for methodological and theoretical innovations and research on the ethical implications of population health interventions.

CIHR-IPPH has advanced knowledge through funding excellence in population and public health (PPH) research and helped prepare the PPH research community for success in the CIHR open suite of programs. Through its scientific leadership, CIHR-IPPH has built the field of population health intervention research in Canada and catalyzed a culture of evidence-informed action in the public health system. The following section highlights the reach, leveraging and returns from CIHR-IPPH's investments, leadership and community building efforts since 2009.

Advancing Knowledge: Funding Excellence in Population and Public Health Research



Over the past six years, CIHR-IPPH has spent over \$50M through its Institute Strategic Initiative budget in its mandate and priority areas to deliver on a combination of Institute, CIHR, and partnered initiatives. CIHR-IPPH has also seen consistent increases in the amount of both investigator-initiated (open) and priority-driven (strategic) funding going to the four strategic research priorities stated in its 2009-2014 strategic plan Health Equity Matters. Despite a flattened CIHR budget between 2009 and 2014, the relative share of CIHR funding for Theme IV research has increased overall (Figure 1, next page). This is consistent with the change over time and the increase in share going, in particular, to health equity and population health intervention research. It also demonstrates that our strategic research priorities have been embedded in other CIHR initiatives (e.g. global health and Signature Initiatives) and, given the marked increase in investigator-initiated research, it is clear that we have driven high quality research applications to CIHR's open competition. The funding patterns for each of these priorities: Health Equity, Population Health Intervention Research, Implementation Systems for Population Health Interventions, and Theoretical and Methodological Innovations for Population Health Interventions are shown in Figures 2-5 (next page).

CIHR Expenditures in IPPH Mandate Area and Strategic Priorities, 2009-10 to 2014-15

Figure 1

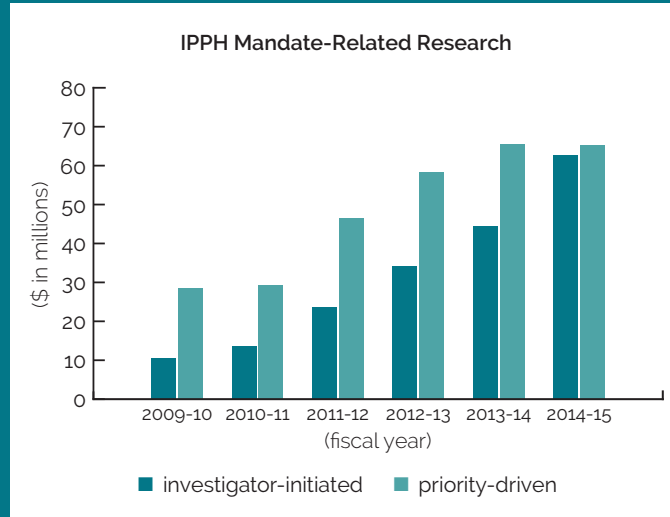


Figure 2

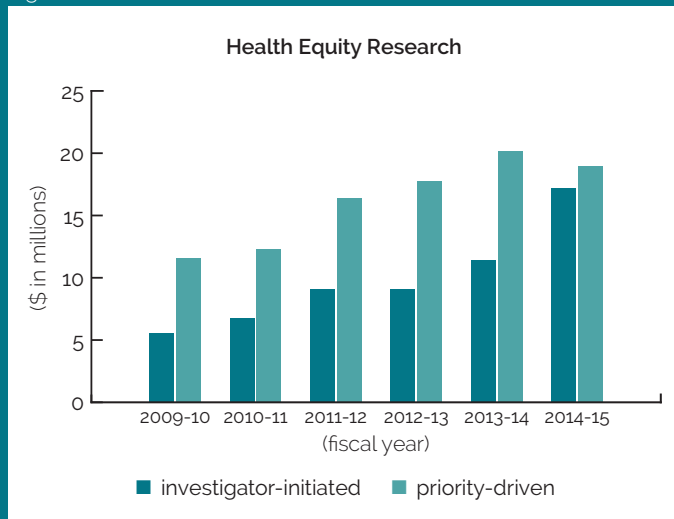


Figure 3

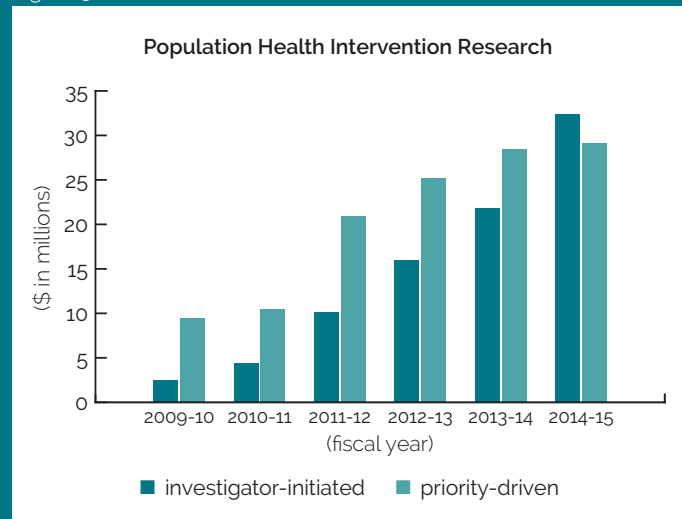


Figure 4

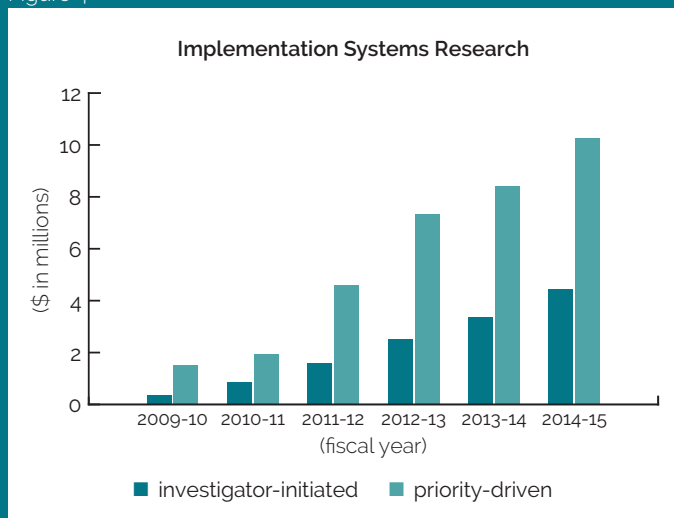
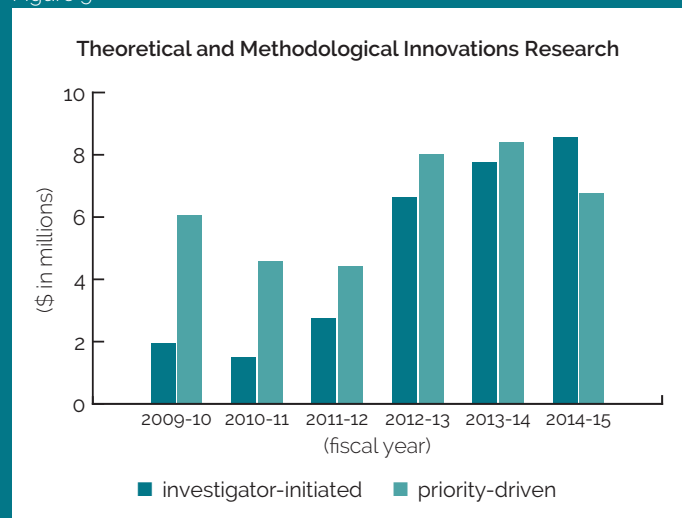


Figure 5



NOTES: Figures 1-5 represent a subset of data that had been previously validated for relevance to the CIHR-IPPH mandate area and its four strategic research priorities. The data in these figures are not mutually exclusive and the same grant or award may be counted under more than one strategic research priority. Data for these figures were provided by CIHR Data Production.

Capacity Building: Building a Field of Research on Population Health Interventions

As noted in the 2011 CIHR international review and several recent reports and analyses of published literature, relatively little attention has been given to research on population health interventions^{7,8}. Operating within and beyond the health sector, these interventions include policy, program and resource distribution approaches that address the determinants of health and exert influence at organizational and system levels. Our Institute has garnered international recognition for its deliberate approach to building this research field. Through targeted investments; intellectual contributions at numerous international symposia; four commissioned scientific papers on population health intervention research (PHIR), including the influence of context, economic analysis and 'Big Science' approaches; and strategic alliances focused on increasing the quality, quantity and use of PHIR, CIHR-IPPH has stimulated novel theoretical and methodological advancements in this emerging field. The institute has developed ethical principles for population health intervention research, and peer review guidelines for PHIR that have been integrated in CIHR-led and other funder-led initiatives.

Capacity Building: Positioning Our Research Community for Success in the New CIHR Open Suite of Programs

CIHR-IPPH worked closely with IHSPR and IGH, to help Pillar III and IV scientists prepare for the funding transition of the CIHR Open Suite of Programs. This included setting up a nomination process for champions at universities across the country, hosting a boot camp for these champions (n= 28) and co-developing an action plan to encourage strong application pressure from both new investigators and senior investigators for the foundation grants. Our efforts to drive CIHR-IPPH scientists to the OOGP saw an increase in application pressure from pillar 4 scientists for the 4th cycle; these increases have exceeded those for other domains of science funded by CIHR. We will continue to track application pressure and success rates with the new reforms to inform our ongoing outreach to public and population health scientists.



Scientific Leadership: Linking Evidence With the Public Health System in Canada

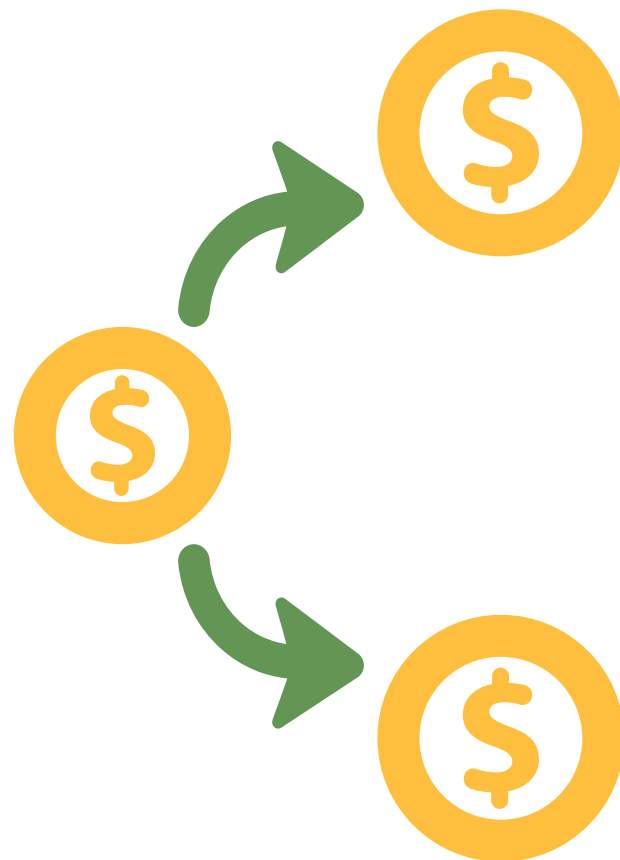
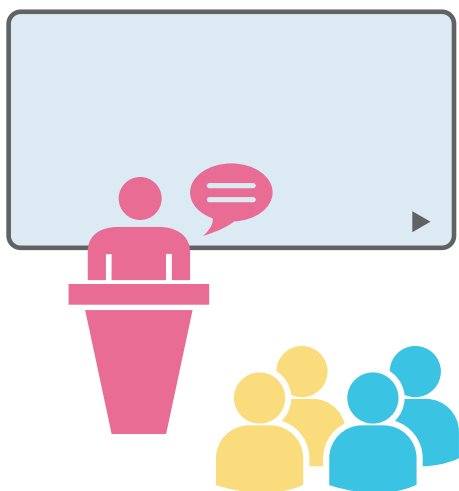
Since the Severe Acute Respiratory Syndrome (SARS) crisis, the public health landscape in Canada has changed considerably. The Institute has seized several opportunities for influencing the public health system in Canada by adapting to this dynamic context. This included responding to outbreaks such as H1N1 and Ebola with relevant research funding opportunities with a public health systems orientation. As a result of CIHR-IPPH's demonstrated leadership, the renewal and revitalization of the public health system and PPH research in Canada has occurred in lockstep, with our strategic and sustained investments in building capacity for a strong and connected public health research community. CIHR-IPPH has established strong foundations for graduate training and salary support for exceptional mid-career scientists through two rounds of

Applied Public Health Chairs in collaboration with the Public Health Agency of Canada and other partners. Through a landmark partnership with the Canadian Public Health Association, Public Health Agency of Canada (PHAC) and the Canadian Population Health Initiative, CIHR-IPPH has instigated a strong scientific presence at Canada's largest annual public health conference, which has consistently resulted in approximately 30% of those attending conferences being from the research community. This partnership has fostered a culture of evidence-informed action within the public health renewal agenda and increased responsiveness by the Institute to emerging PPH needs. The Institute has also directly engaged with the senior leadership at the eight Schools of Public Health in Canada, influenced their research and capacity building agendas in PPH and helped prepare their researchers for CIHR OOGP reforms. Together with PHAC, and the three provincial public health agencies in B.C, Quebec and Ontario, the Institute has been leading the development of a pan-Canadian public health agenda that will bring greater coherence to public health research, policy and practice efforts in Canada.



Research Community and Citizen Engagement

Responding to the needs of the public is at the heart of public health, and this orientation helps IPPH deliver on CIHR's commitment to citizen engagement. The Institute has engaged over 600 citizens through 10 *Cafés Scientifiques* and other events geared to the public and aimed at bringing evidence to bear to tackle current issues such as tobacco control, food security, and homelessness. Given the important role of the media in framing and raising awareness of public health issues, we have also hosted several events designed to build journalists' and researchers' capacities to report on public health matters. Further, the Institute has and will continue to profile and position the work of CIHR on the global stage. In the last six years, CIHR-IPPH staff has represented CIHR at over 40 international and over 100 Canadian conference or meetings to increase the visibility of the Institute and CIHR and to be well-networked and positioned for partnerships. In addition, the institute hosted over 10 workshops and symposia to advance the science and knowledge translation in its strategic research priorities - these events attracted 875 delegates from eight countries.



Leveraging and Return on Investment

CIHR-IPPH funded, with the Public Health Agency of Canada and other partners, two rounds of Applied Public Health Chairs totalling 27 based at 14 universities across Canada. Our Institute leveraged its initial investment in the 2nd Applied Public Health Chairs Program by a ratio of nearly 3:1 through partnerships with other Institutes and external collaborators and by instituting an eligibility requirement that required host institutions to ensure sustainable funding mechanisms for Chair positions after the funding ends. This strategy to partner engagement and to laying the foundation for sustainability for our priority-driven investment is a model for CIHR.

Strategic Context

Demographic shifts toward an aging population, rapid urbanization, the growing burden of chronic diseases (e.g. diabetes, obesity), widening health inequities within and between countries and the impacts of environmental degradation are but a few of the complex problems facing Canada and other nations^{5,6}. In Canada, we continue to increase spending on health care yet Canada falls behind other industrialized nations in obtaining value for its investment⁷. There are repeated calls from policy makers for cost-effective preventive solutions to guide the renewal and sustainability of our health care system; and to tackle the growing burden of chronic diseases facing Canadians, the needs of an aging population and groups facing persistent inequities such as Aboriginal peoples and immigrant communities⁸.

Such calls for population health research, policy and action have also been echoed in the UN Summit on Non-Communicable Diseases⁹ and the Rio Declaration on the Social Determinants of Health¹⁰. The 2015 United Nation's Sustainable Development Goals¹¹ are expected to put greater emphasis on health and sustainable development, as well as to advance health equity and the protection of the environment. All nations will be called upon to tackle complex issues such as inequities in accessing health and health systems, food and nutrition, energy, water and environmental sustainability – all requiring public health evidence and explicit attention to health equity (next page). To tackle these global and national problems, we need to generate high quality and timely evidence that strengthens policies, programs and actions. We also need to engage public, non-governmental and private partners in public health and other sectors as well as citizens, to contribute to a successful society and vibrant economy in the 21st century. Through CIHR-IPPH's leadership, Canada is poised to respond to calls for innovative, evidence-informed population health solutions together with international and national research funders and other partners. All of these changes and persisting health and social problems signal the need for a refresh to fit this changing context and position the CIHR-IPPH on a path of continued success into 2018.

Health Equity Matters

Language does matter and our use of the term health equity within this plan is deliberate and in line with CIHR Roadmap II. Health equity means that all people can reach their full health potential and should not be disadvantaged from attaining it because of their race, ethnicity, gender, age, social class, language and minority status, socio-economic status, or other socially determined circumstance^{5,9,10}. Research from many countries including Canada highlights persistent socio-economic gradients in health status. Some of these gradients reflect unfair, yet avoidable, inequities in health status for population groups such as Aboriginal Peoples. Health inequities therefore call into question our judgements as societies and ask us to consider whether observed differences in health status are unjust, unfair, and avoidable.





Path Forward

Given the transition in Scientific Director leadership in the summer of 2016 and the demonstrated ongoing relevance of our 2009-2014 priorities, it was decided that the CIHR-IPPH strategic plan be only refreshed. In preparation for refreshing CIHR-IPPH's strategic plan for 2015-2018, the Institute took into account the recommendations from the 2011 CIHR International Review¹². The review directed all of CIHR to improve the monitoring and evaluation of its activities to produce far better evidence of impact from its investments and actions (see CIHR-IPPH's performance management and evaluation plans later in this document and in Appendix B). The review called upon CIHR to examine its open grants committee structure and peer review system to ensure it is fit for all research themes, including population and public health research. With respect to CIHR-IPPH, the panel recognized the challenges "commensurate with CIHR-IPPH's dual mandate" (i.e. institute and theme IV champion), and concluded that the institute's mandate focused on population health and health equity was still relevant. It also recommended that CIHR-IPPH consider funding larger, multi-scale and multi-year strategic initiatives in priority areas. The Institute also sought input from its Advisory Board; consulted key partners; and reflected on its past progress, investments and achievements. The objective of this strategic refresh was to chart a path forward that:

- Builds on CIHR-IPPH's track record for transformational leadership in population and public health research, particularly with respect to shifting the emphasis towards intervention and implementation research, the socio-structural determinants of health, and health equity;
- Focuses strategic funding to address critical evidence gaps in population and public health research, and evaluates the impacts of these investments;
- Demonstrates the relevance of population and public health research to the renewal and



transformation of health systems in Canada and globally;

- Responds to evolving population and public health science and international research directions in the field;
- Responds to the recommendations in the 2011 CIHR's international review;
- Aligns with CIHR policies on official language and official language minority communities as well as with considerations of sex and gender in health research^I; and,
- Aligns with CIHR Roadmap II (see Appendix A) to reflect our significant leadership in CIHR Signature and Major Initiatives.

We have developed an enhanced strategic plan for 2015-2018 that renews our mandate (subject to Governing Council approval^{II}), and refreshes our strategic research priorities. CIHR-IPPH's refreshed plan demonstrates strong alignment with CIHR's *Health ReWsearch Roadmap II: Capturing Innovation to Produce Better Health and Health Care and its Roadmap Accelerator Fund*. The plan also reflects our substantial scientific leadership in Signature Initiatives, and direct population- and public health-oriented contributions to the four Roadmap II research priorities (see Appendix A that outlines how CIHR-IPPH's refreshed strategic research priorities and related Signature Initiative investments align with CIHR's Roadmap II).

I - Consistent with the 2009 Health Portfolio policy and CIHR advice on gender and sex based analysis.

II - Should the mandate not be approved, CIHR-IPPH will continue to use its current mandate in all external communications.

CIHR-IPPH Refreshed Strategic Plan: 2015-2018

The CIHR-IPPH refreshed plan ensures that CIHR-IPPH is in step with Governing Council directions for a 'one CIHR'. The plan contributes to the overall success of CIHR by directly aligning institute priorities with *Roadmap II* (see Appendix A). It also demonstrates how the institute is delivering on CIHR Roadmap research priorities through Signature Initiatives supported through the CIHR Roadmap Accelerator Fund.

Mandate

The mandate of the Institute of Population and Public Health is to support research into the complex biological, social, cultural and environmental interactions that determine the health of individuals, communities and global populations; and to apply knowledge to improve the health of individuals and populations through strategic partnerships with population and public health stakeholders and innovative research funding programs.

Mission

To improve the health of populations and promote health equity in Canada and globally through research and its application to policies, programs, and practice in public health and other sectors.

Vision

To be a scientific leader for CIHR and the research community that catalyzes excellent research to examine the interactions among determinants of health, and the impact of public health strategies and intersectoral policies on equitable population health improvements in Canada and globally.

Values

CIHR-IPPH's values are in line with CIHR's organizational values of excellence, scientific integrity and ethics, collaboration, innovation and public interest^{III}.

- Excellence – commitment to transformative and innovative population and public research that leads to meaningful health and health equity impacts.
- Continuous learning and impact - commitment to reciprocal and mutual learning across disciplines, sectors, jurisdictions and countries and purposeful impact assessment of our institute's investments and influence.
- Collaboration – novel and mutually respectful partnerships with public, private, community and non-governmental sectors, and research funders within and outside of Canada that extend our reach and mobilize resources in our field.
- Leadership and stewardship – champion population and public health research to strategically position Canadian researchers internationally, and mobilize resources for population and public health research.
- Transparency in our decision-making processes
- Accountability to our stakeholders.

Key Institute Functions

The Institute renews its commitment to the key Institute functions that were outlined in its [2009-2014 Strategic Plan](#). These functions outline the roles that CIHR-IPPH exercises to achieve organizational excellence and within the broader array of internal and external organizational structures aimed at improving health:

- Breakthrough (foster emergence of new ideas, innovative methods and research)
- Incubation (nurture new development in ideas and methods and their application)
- Sustainability (e.g. support for population and public health researchers to be competitive in the open competition)
- Scale-up (e.g. increased focus on implementation science including research on the effective scale up of interventions in equitable ways)
- Stewardship (ensure that population and public health and global health perspectives are embedded within and outside of CIHR)

III - For more information about CIHR's values, please see: <http://www.cihr-irsc.gc.ca/e/41722.html>.

CIHR-IPPH's Strategic Research Priorities

CIHR-IPPH's refreshed strategic research priorities are in step with the evolving population and public health landscape, international directions, and partner interests within and outside of Canada. Our three strategic research priorities are:

- Coherent intersectoral action for population health improvements
- Scalable population health solutions
- Equitable population health impacts

Strategic Research Priority 1: Coherent Intersectoral Action for Population Health Improvements

Repeated calls in the literature for effective and coherent intersectoral strategies clearly signal that the causes and levers for health and well-being lie well beyond any one sector. By intersectoral, we mean the inclusion of several sectors in addition to the health sector. These sectors include, but are not limited to education, housing, environment, agriculture, transportation and so on. Many strategies (e.g. regulations, policies, programs) and approaches implemented by public, not-for-profit and private actors in these sectors interact in ways that fail to optimize health gains and promote health equity. Systems need to be better oriented towards the primary

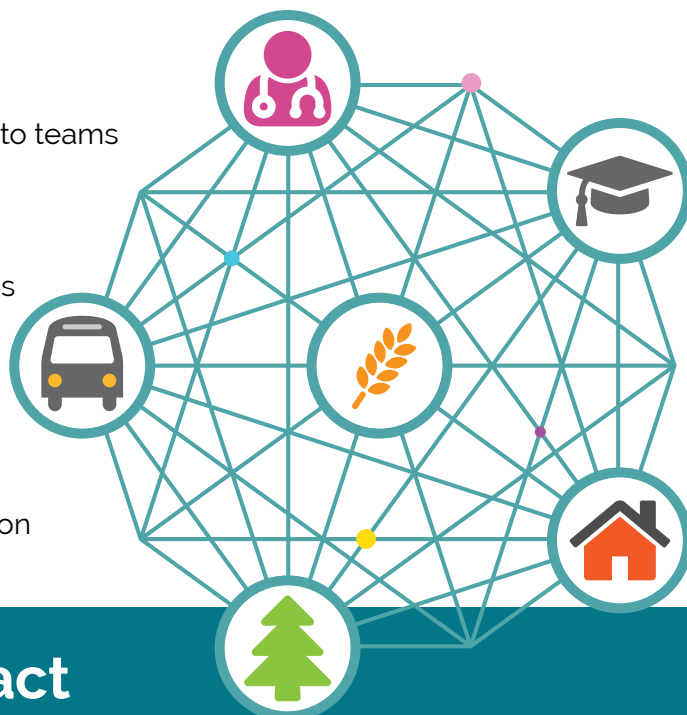
prevention of disease and the promotion of health through intersectoral action^{3,4,13}. Improved coherence in intersectoral action that involves the "joining up" of strategies taken by different sectors is expected to contribute to such population health improvements². But there are important knowledge gaps about intersectoral action. For example, what vertical and horizontal intersectoral action results in dynamic system alignment³? How can vertical approaches to tackle a problem, which involve strategies implemented through layers of the socio-ecological or political system, be optimized? How can horizontal approaches to strengthen the coherence of strategies and approaches across sectors at the same system level be improved for better health outcomes? Research that focuses on both vertical and horizontal strategies is needed to contribute knowledge on how best to strengthen system-level responses to tackle complex public health challenges. Ongoing initiatives related to this research priority include our leadership of the Environments and Health Signature Initiative (EHSI) and our scientific champion role in global health initiatives.

Objectives

- Better understand the obstacles and opportunities for intersectoral strategies to achieve population health and health equity impacts across different contexts.
- Increase the development and application of theories, methods and measures to examine dimensions of intersectoral prevention strategies and how these operate as a dynamic and functional system.
- Mobilize partners in sectors within and outside of health to support research on coherent intersectoral action for more equitable population health outcomes.

Within three years, CIHR-IPPH will have:

- Increased the amount of CIHR funding going to teams examining the population health impacts of intersectoral strategies^{IV}.
- Established and mobilized formal partnerships with government departments and organizations from sectors other than health for generating and using research on intersectoral action.
- Identified impact case studies from research on promising approaches to intersectoral action.



Leading Indicator of Impact

In 2013-14, CIHR-IPPH hosted a national partner forum with other Institutes to bring together scientists and decision-makers from a range of sectors to discuss and shape the Environments and Health Signature Initiative. This event built on over 100 individual and organizational consultations undertaken by our Institute in the previous year. Important direction on priority-setting was obtained through these engagement processes, resulting in the selection of three complementary nexus areas (agri-food, urban form and resource development). We also consulted with international partners including the EU Commission, International Development Research Centre (IDRC), NIH-Fogarty International Center, and are actively pursuing mechanisms to link CIHR investments with those planned by these organizations in environments and health. Federal and provincial fora mobilized interest and readiness from government and non-governmental organizations from over 10 sectors *outside of health* – a first for CIHR. Input has directly informed funding opportunities and strengthened potential alignments with investments being made by private, not-for-profit and public actors.

IV - Mobilized teams to investigate the impacts of intersectoral strategies.

Strategic Research Priority 2: Scalable Population Health Solutions

Population health intervention research is one of the hallmarks of CIHR-IPPH. Population health interventions are policies, programs and resource distribution approaches that exert their impact

by changing the underlying conditions of risk and reducing health inequities while improving the overall health of the population^{14,15}. These interventions are often complex and operate within and outside of the health sector. Examples include, housing policies to reduce homelessness with the potential to promote mental health and well-being, and social assistance policies and their impacts on reducing household food insecurity. This priority also builds on CIHR-IPPH's leadership in advancing implementation research — research about what interventions work, for whom, under



Leading Indicator of Impact

Through CIHR-IPPH's scientific leadership and investments, a strong population health intervention and implementation science "footprint" is now evident in: three Signature Initiatives (CBPHC, Pathways and EHSI), the SPOR network on Primary and Integrated Health Care Innovations, two global initiatives (GACD and GHRI), as well as in our CIHR-IPPH Programmatic Health Equity grants and Applied Public Health Chairs. CIHR-IPPH, through its involvement in Signature Initiatives, the HIV/AIDS Initiative, GACD and IMCHA Program, has oriented funding opportunities and major CIHR initiatives toward implementation science and research on the equitable scalability of population health solutions. For each of these initiatives, this "footprint" is reflected in core goals and objectives; in the design of outreach and partnership activities; in descriptions of funding opportunities for which we have led or co-led development of objectives, funding requirements and evaluation criteria; and, in scientific meetings with funded researchers.

what contextual conditions, and the extent to which they are scalable in equitable ways^{16, 17}. Through this strategic priority, we shine the light on critical theoretical, methodological and other knowledge gaps related to population health interventions such as the costs¹⁸ of interventions and their scale-up; and contextual influences on population health interventions, and socio-structural and environmental conditions^{14,15,19,20,21}. Ongoing initiatives related to this research priority include the Applied Public Health Chairs Program, a recurring funding program in population health intervention research, our co-leadership of the Community-Based Primary Health Care Signature Initiative, the pan-Canadian SPOR Network in Primary and Integrated Health Care Innovations, the Pathways to Health Equity for Aboriginal Peoples Signature Initiative and global health initiatives (e.g. Innovating for Maternal and Child Health in Africa (IMCHA) program^V, and the Global Alliance for Chronic Diseases (GACD)).

Objectives

- Better understand the processes of implementation, scale-up, and equitable health impacts of population health interventions.
- Increase the development and application of theories, methods and measures of contextual influences on population health interventions.
- Facilitate mechanisms that support the use of knowledge about population health interventions in policy and practice settings.
- Influence new directions in population health intervention research taken by other funding organizations in Canada and internationally.

Within three years, CIHR-IPPH will have:

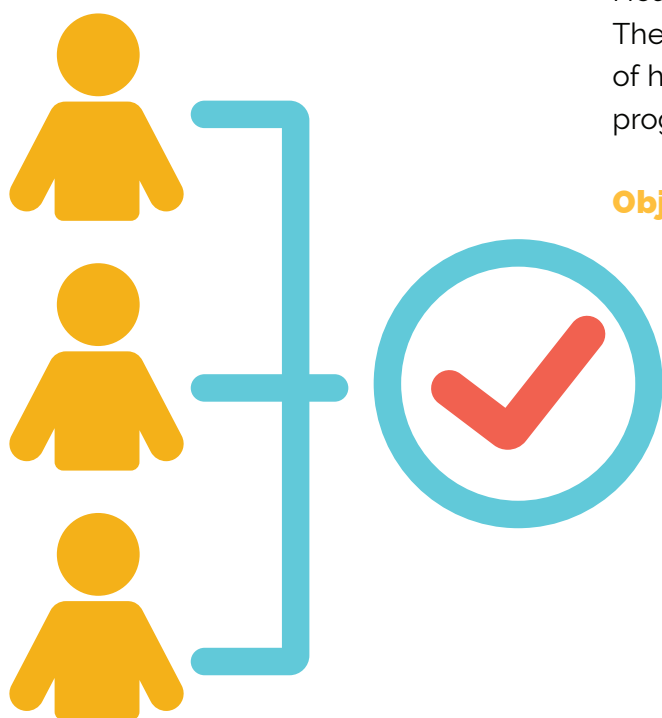
- Increased capacity for implementation science - its conduct, funding and use;
- Identified, strengthened and/or tested promising or effective multi-faceted, adaptable and scalable interventions.
- Enhanced Canada's contribution to the global knowledge base on population health interventions through continuous learning and international collaborations.
- Created sustainable relationships between its 14 funded Applied Public Health Chairs and the Public Health Agency of Canada and Canada's three provincial public health agencies to maximize opportunities for research to influence public health policy and practice.
- Convened an International Summit to consolidate findings from CIHR-funded research on population health interventions and identify promising avenues for further catalyzing leading edge research in this field.

V - IMCHA is a partnership of IDRC, DFATD and IDRC, which was formerly referred to as the Global Health Research Initiative.

Strategic Research

Priority 3: Equitable Population Health Impacts

CIHR-IPPH will continue to focus investments on health equity to advance knowledge about what factors produce unfair, yet avoidable, inequities in health status, and encourage research that also attends to the differential effects of population health interventions and their potential unintended consequences^{22,23}. Given our substantial investments in this area, we will also actively harvest integrated learning from teams in whom we have invested. This priority also addresses the ethical foundations for and ethical implications of population health interventions²⁴. CIHR-IPPH is consolidating knowledge about health equity pathways to encourage its application by organizations in Canada and internationally. In addition to harnessing the learnings from current investments such as the Health Equity Programmatic Grants, CIHR-IPPH will deliver on this priority through its co-leadership in the Pathways to Health Equity for Aboriginal Peoples Signature Initiative. The initiative aims to develop a better understanding of how to implement and scale up interventions and programs that address Aboriginal health inequities.



Objectives

- Increase the development, yield and application of novel theories, methods and measures to understand what enhances equities or reduces inequities in population health.
- Improve the ethical integration of health equity considerations in research on population health interventions and intersectoral action.
- Enhance the application of knowledge about health equity pathways by research and policy organizations in Canada and internationally.



Leading Indicator of Impact

CIHR-IPPH, through its funding of 11 Programmatic Grants to Tackle Health and Health Equity (\$21M from 2011-2016), has catalyzed multi-year programs of research that have, collectively, in 3 years, generated over 140 publications related to health equity and population health interventions. Further, for every \$1 CIHR invested in this funding program, the teams have yielded an additional \$2.74 in research grants. Other impacts of this investment were documented in a mid-term evaluation of the program conducted in 2014. Results were included in Canada's report on the Rio Political Declaration on the Social Determinants of Health, which was featured at the World Health Assembly in May 2015. See [Appendix C](#) for more details.

Within three years, CIHR-IPPH will have:

- Provided ongoing expert scientific co-leadership for the Pathways to Health Equity for Aboriginal Peoples Signature initiative.
- Completed a summative evaluation of the Programmatic Grants to Tackle Health and Health Equity to consolidate learning and impacts of this investment and study how research outputs identified at mid-term have informed policy and practice.
- Worked with partners within and outside of Canada to mobilize knowledge on how to improve population health and health equity through evidence-based programs and policies.

CIHR-IPPH's Scientific Leadership Role: Research, Knowledge Translation, and Population Health Ethics

High quality and innovative population and public health research generates knowledge for the public good. This knowledge will contribute to changes in the daily living and working conditions that improve the health and wellbeing of communities now and in the future. Since its inception, CIHR-IPPH has played a transformative role in advancing cutting edge research that deepens our understanding of what determines and promotes health, both in Canada and globally. Internally, CIHR-IPPH provides scientific leadership across CIHR to shift the focus of health research upstream and to ensure that primary prevention (one of CIHR's Roadmap Priorities) is on the agenda of all CIHR Institutes and partners. As the table in Appendix A outlines, our strategic research priorities are well-aligned with CIHR's Roadmap Priorities.

We also embed learning from CIHR-IPPH investments in other CIHR initiatives. For example, we act as CIHR's global health champion by leading and advising on initiatives that foster reciprocal learning between Canada and low- and middle-income countries and help catalyze scientific innovations in the field of implementation science. We facilitate the integration of global health principles within CIHR funding programs, policies and peer review

processes, identify opportunities for alignment with national and global partners, and lead and co-invest with partners such as the International Development Research Centre in implementation science to address chronic diseases, maternal and child health and health systems globally. We also facilitate the explicit integration of **population health ethics, implementation science** and citizen engagement approaches in Signature and other initiatives.

Externally, CIHR-IPPH is an effective ambassador for the population and public health research community by funding the best science, setting research agendas to address critical evidence gaps, building capacity in the field to conduct research and **translate findings**, and driving theoretical and methodological innovation. We are a preferred partner in population and public health in Canada and internationally. Examples include our close collaboration with the Public Health Agency of Canada (e.g. Applied Public Health Chairs Program, Pathways, member of the Canadian Council on Social Determinants of Health) and our role on national advisory committees including those led by the Canadian Institute for Health information and Statistics Canada. Internationally, we have been working with the UK National Institute for Health Research, which involved the commissioning of background papers to explore the relationship between context and population health interventions, the European Public Health Association to foster exchanges between Canadian and European students, and the EU Commission on aligning our research initiatives to maximize synergies and catalyze collaborations between researchers (GACD, Environments and Health, and Ebola).

We are committed to continuing efforts to prepare the Theme IV and global health research communities for success in the open reforms. We

have and will continue to conduct extensive outreach to Canadian schools of public health to achieve this aim. We will also engage champions in universities with IHSPR and the Institute of Gender and Health (IGH) to support researchers across the career trajectory to prepare winning applications within the new Foundation and Project schemes.



Objectives

- Lead implementation science initiatives that foster reciprocal learning among scientists, decision-making partners and research funding councils working in Canada and low- and middle-income countries.
- Foster the integration of global health principles, population health ethics and citizen engagement approaches in Signature and other major Initiatives.
- Increase Theme IV and global health researcher application pressure to the foundation and project schemes in the CIHR open reforms.



Within three years, CIHR-IPPH will:

- Support CIHR in achieving its mandate by continuing to act as a champion for Theme IV and global health research within the organization
- Monitor the success of Theme IV researchers within the new Foundation and Project schemes within the open reforms, making adjustments to outreach as needed
- Monitor the extent to which scientific, research funding and knowledge translation innovations in implementation science are catalyzed through reciprocal learning between researchers, decision-making partners and research funding councils in Canada and LMICs.

Performance Measurement and Evaluation

CIHR, like other research funding organizations, needs to demonstrate the value-added of its research investments, the return on those investments, and impact. High quality reporting is a critical input to these ends. CIHR is committed to collecting and disseminating information on the outputs and impacts of the research it funds. This information is an important part of CIHR accountability within the Federal Government and to Canadians. CIHR has developed a comprehensive performance measurement regime that provides a framework for measuring the impact of health research, and monitoring and reporting on CIHR activities. From this regime and existing performance measurement requirements for Institutes and Signature and Major Initiatives CIHR-IPPH will annually monitor indicators in addition to those mentioned above for each strategic priority. IPPH will also participate in a CIHR-led process to examine its impact as an Institute through an assessment as part of the revised performance measurement and evaluation structure for Institutes as recommended by CIHR Governing Council.

In addition to those indicators routinely captured by CIHR and those named in relation to each priority, CIHR-IPPH has developed complementary performance measurement indicators for Signature and Major Initiatives to capture impacts at several levels.

Impacts of Funded Research

CIHR-CIHR-IPPH uses measures from the CIHR Research Reporting System to ensure collection of consistent output data across funded research grants and awards and enhances this tool with targeted data collection from grantees to assess the extent to which grantees are meeting the priority-driven objectives of its funding opportunities.

Impacts of Funding Opportunities

CIHR- IPPH will continue to prioritize evaluations of its funding opportunities based on consideration of the following criteria:

- Size of the funding opportunity (size total investment and size of grants);
- Duration of the funding opportunity (multi-year nature of funding opportunities);
- Innovation (unique or innovative nature of a specific funding opportunity); and,
- Partner or other interests (partners' interests in having evaluative information provided and/or learning or decisions that can be informed within CIHR, CIHR-IPPH, or partner organizations from the evaluation findings).



Impacts at the Institute Level

In addition to the impacts of the research it supports, CIHR-IPPH routinely examines its scientific leadership and influence role, and convening functions. An example of this indicator is the nature and effectiveness of leadership championing role to enable CIHR to achieve its transformative mandate within CIHR and/or amongst other Canadian and International research funders (fulfillment of Theme IV and global health champion roles).

Conclusion

The need to tackle the fundamental causes of disease and disability at a population level without leaving anyone behind is well recognized. As the 2011 CIHR International Review Expert Panel concluded, CIHR-IPPH's mandate is challenging as it "involves not just running one institute but championing population and public health research across CIHR and also championing global health initiatives." This dual role requires sustained strategic thinking about how best to harness the strengths of population and public health research to improve population health and reduce health inequities across the life course. To this end, the panel recommended that CIHR-IPPH focus on fewer, higher-level initiatives including Intervention research in particular, which is a long-term enterprise. They also recommended that the institute focus on high-quality policy relevant research and champion fields such as implementation science. We have and continue to do just that - through strategic alignment of our priorities with CIHR Roadmap Directions and our partners, our scaled up investments and scientific leadership in Signature and Global Health Initiatives and the Strategy on Patient-Oriented Research. CIHR-IPPH will continue to stay the course and contribute to evidence-informed public health solutions that improve health and well-being in Canada and globally.

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Appendix A: Alignment of Institute Strategic Research Priorities With CIHR Roadmap Priorities and CIHR Signature and Major Initiatives

The following table outlines how CIHR-IPPH's refreshed strategic research priorities and related Signature Initiative investments align with CIHR's Roadmap II Directions.

Roadmap Priority	Roadmap Priority	Alignment with Refreshed CIHR-IPPH Strategic Research Priorities	Alignment with CIHR Signature and Major Initiatives Led, Co-Led or Involving CIHR-IPPH
Enhanced patient experiences and outcomes through health innovation	Accelerating the discovery, development, evaluation and integration of health innovations into practice so that patients can receive the right treatments at the right time.	<ul style="list-style-type: none"> Population health solutions 	<ul style="list-style-type: none"> Community-Based Primary Health Care (CBPHC) SPOR Network in Primary & Integrated Health Care Innovations
Health and wellness for Aboriginal peoples	Supporting the health and wellness goals of Aboriginal peoples through shared research leadership and the establishment of culturally-sensitive policies and interventions.	<ul style="list-style-type: none"> Health equity Population health solutions 	<ul style="list-style-type: none"> Pathways to Health Equity for Aboriginal Peoples Global Alliance for Chronic Diseases (GACD)
A healthier future through preventive action	A proactive approach to understanding and addressing the causes of ill health, and supporting physical and mental wellness at the individual, population and system levels.	<ul style="list-style-type: none"> All CIHR-IPPH research priorities (coherent intersectoral action for population health improvements, scalable population health solutions, equitable population health impacts). 	<ul style="list-style-type: none"> Environments and Health Global health initiatives (IMCHA, GACD) Healthy Life Trajectories Initiative (HeLTI) HIV/AIDS Initiative
Improved quality of life for persons living with chronic conditions	Understanding multiple, co-existing chronic conditions and supporting integrated solutions that enable Canadians to continue to participate actively in society.	<ul style="list-style-type: none"> Population health solutions 	<ul style="list-style-type: none"> CBPHC GACD Canadian Longitudinal Study on Aging (CLSA)

Appendix B: Sample Performance Measurement and Evaluation Indicators

Canadian Academy of Health Sciences Impact Category	Indicators of Funded Research Impact (Research Grant/Award Level and Roll-up to Funding Opportunity Level)	Indicators of Institute-level Impact
Advancing knowledge	<ul style="list-style-type: none"> • # of related articles published acknowledging CIHR funding (CIHR Research Reporting System) • % grants reporting new method, theory or replication of findings (CIHR Research Reporting System) 	<ul style="list-style-type: none"> • Increased # of publications and citations in CIHR-IPPH strategic research priorities
Capacity building	<ul style="list-style-type: none"> • # of trainees associated with the funded grant or award (CIHR Research Reporting System) • Increased # and breadth of PHIR training opportunities made available through funded research 	<ul style="list-style-type: none"> • # and proportion of CIHR open grants funding awarded to Theme IV researchers (mandate area) (including early career investigators in Foundation scheme) through the 3 year transition period of implementing OOGP reforms • # and amount of open and strategic grants and awards obtained in strategic research priorities • # of funding opportunities led or co-led by CIHR-IPPH • amount and percent increase to CIHR-IPPH funding mechanisms through leveraged partnership dollars • New and novel partnership arrangements with organizations outside of the health sector to advance Institute priorities
Informing decision-making	<ul style="list-style-type: none"> • # citations by other authors, both from Canada and from other countries • % grants reporting having an impact on stakeholders (CIHR Research Reporting System) 	<ul style="list-style-type: none"> • Increased adoption or adaptation of CIHR-IPPH funding opportunities and/or peer review approaches by other Institutes, CIHR, and/or external organizations to meet the needs of Theme IV researchers • # and nature of Institute-level knowledge translation activities funded by the Institute • Demonstrated responsiveness to public health system evidence needs through creation of funding opportunities, facilitation of knowledge translation events, and knowledge brokering • Applicant and competition partnerships for research involve health and non-health sectors • Impact case studies of adapting & scaling up interventions move beyond the traditional health & research communities

Canadian Academy of Health Sciences Impact Category	Indicators of Funded Research Impact (Research Grant/Award Level and Roll-up to Funding Opportunity Level)	Indicators of Institute-level Impact
Health and health system impacts	<ul style="list-style-type: none"> • % grants reporting having an impact on health and the health system (CIHR Research Reporting System) 	<ul style="list-style-type: none"> • Media mentions of CIHR funded research in IPPH strategic research priority areas • Presence of IPPH-funded research in CIHR publications and public outreach resources • IPPH is seen as a "go to" Institute in Canada and globally to advance population and public health research agendas Increased engagement of non-health sectors in CIHR-IPPH-led activities and initiatives • Demonstrated leadership and influence in shaping broader PPH (research and KT) environments in Canada and internationally • Connectivity of and collaboration between the Institute and leading domestic and international organizations within population and public health or other sectors aiming to improve health or health equity

Appendix C: Impact Case Study of Programmatic Research to Tackle Health and Health Equity

On August 30, 2011, Minister of Health the Honourable Leona Aglukkaq, announced that 11 new research programs will benefit from more than \$21 million investment (\$4.2M/year for five years) from CIHR-IPPH and four partner CIHR Institutes, the Public Health Agency of Canada (PHAC) and the Heart and Stroke Foundation. The objectives of this funding were to support:

- programmatic research that contributes new knowledge to improve health and health equity at a population level;
- interdisciplinary collaborations that involve researchers and knowledge-users in public health and other sectors in Canada and if appropriate, also with other countries; and,
- effective knowledge translation approaches that enhance the integration and use of new and existing knowledge to inform decision-making in public health and other sectors.

A mid-term evaluation of this initiative conducted in 2014 revealed that all teams were on track toward achieving objectives. Table 1 provides an overview of outputs since 2011. In addition to their scientific productivity, which is higher than the average productivity of a team holding a Pillar 4 open operating grant, teams also generated policy- and practice-relevant outputs and directly contributed to dialogue with policy-makers and practitioners within and outside of the public health sector. For every \$1 CIHR invested in this funding program, the teams have yielded **an additional** \$2.74 in research grants, suggesting a substantial return-on-investment and providing evidence of the high quality of research conducted by funded teams.

Category of Impact	Type of Output	Total Number (Average, Range) Across 11 Funded Teams Since July 2011
Advancing Knowledge	Journal Articles, published	139 (12.64, 0-62)
	Reports/Technical Reports	20 (1.82, 0-7)
	Conference Presentations	156 (14.18, 0-44)
Capacity Building	Post-doctoral fellows	27 (1.23, 0-8)
	Doctoral students	54 (2.45, 0-15)
	Master's students	49 (2.23, 0-10)
	Additional research dollars leveraged through grants	\$28.84M (\$2.62M, \$0-\$20.56M)
Informing Decision Making	Policy Briefs	14 (1.27, 0-12)
	Guidelines for Policy/Practice	4 (0.36, 0-3)
	Invited Presentations to Policy/Practice Audiences	137 (12.45, 0-40)
	Print, Broadcast, and Internet Mentions in Canadian Media	140 (4.24, 0-101)

Researchers funded through this initiative are achieving **health and economic** impacts by studying large-scale intersectoral policy interventions and their influence on health, health equity and social outcomes of Canadians. The importance of this investment has been signalled in Canada's report to the World Health Assembly. The examples below are illustrative of the nature of impacts being realized by teams.

PROOF: Identifying Policy Interventions to Reduce Household Food Insecurity (PI: Valerie Tarasuk, University of Toronto)

Does a guaranteed annual income through Canada's public pension schemes impact food security?

Research conducted by PROOF co-Investigators, Herb Emery and Lynn McIntyre, drew on data from multiple years of Canadian Community Health Survey data, and demonstrated that the current Canadian seniors' pension program (Guaranteed Income Supplement/Old Age Security) lowers the risk of food insecurity in those over age 65 compared with those 60-65 years of age. Their first paper, published in *Preventive Medicine* (December 2013), has been downloaded over 350 times in the short period since publication. This work fills an essential gap in existing economics and public health research by bringing together experts from these different disciplines to study the impacts of income transfers on food security and to understand what interventions are feasible and likely to be effective. This research directly informs public policy debate about different approaches to respond to food insecurity in Canada and other countries with similar pension schemes. This work was short-listed for an International Award for best scientific paper at the American Public Health Association conference.

PATHS: Pathways to Health and Social Equity for Children (PI: Marni Brownell, University of Manitoba)

Are there long-term benefits to full-day kindergarten?

Investments in early child development interventions, including early education, have yielded the strongest evidence for improving health and social outcomes in later years. Research conducted by Pat Martens and colleagues used multiple linked population-based datasets to compare the long-term benefits of full-day kindergarten (FDK) to half-day kindergarten. Their findings found no obvious long-term academic benefit of universally implemented FDK but some benefits of those programs targeted to low income areas for a subset of outcomes by grade, subject, and sex. The results challenged the evidence that FDK contributes to long-term academic performance at the population-level and, in Manitoba, these results contributed to the province's Department of Education's decision not to follow Ontario and British Columbia in implementing FDK universally. Moreover, at the national level, these findings are important to consider in the debate as to the value of FDK compared to other investments in early child development. Research that aims to determine what universal programs improve early child development is a key to understanding how we can improve longer-term health status for all children regardless of income.



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