

Creating a School of Population and Global Health at McGill

Most major advances in the health of populations over history have resulted from public health interventions. Public health saves lives millions at a time through sanitation, vaccination, legislation and other interventions.

Countries now face new threats including SARS, H1N1, Ebola, Zika, obesity and occupational and environmental hazards. Pandemics and problems such as climate change emphasize the need to think beyond national borders, and incorporate inter-disciplinary approaches. Persistent health inequities continue to exist across socioeconomic groups, chronic diseases are on the rise worldwide, mental illnesses are increasingly recognized as important public health problems and violence affects numerous communities. Contemporary public health challenges are complex, global and interrelated; they call for contributions from multiple sectors of society and from many disciplines. McGill has unique strengths in Population and Global Health to address these challenges.

A committee mandated by the Faculty of Medicine and regrouping faculty members from over 20 Departments across McGill University met for a year and submitted a report in April 2016 which recommends **the creation of a School of Population and Global Health (SPGH) at McGill.**

Vision:

An interdisciplinary School within the Faculty of Medicine that fosters high-impact research and education and that partners with communities and organizations to improve the health and well-being of populations locally and worldwide.

Mission

- Train public and population health researchers, practitioners and decision makers
- Conduct high impact research
- Engage in knowledge translation and exchange to improve the health of populations

How will the School be created?

Six (6) Faculty of Medicine Units will come together to create the new School:

- Department of Epidemiology, Biostatistics and Occupational Health
- Institute for Health and Social Policy
- Department of Social Studies of Medicine
- AIDS Centre
- McGill Global Health Programs
- Biomedical Ethics Unit

Together these units represent:

- > 50 TTT faculty
- > 150 other faculty
- > 200 graduate students
- > 200,000 publications in past 25 years

Researchers from across McGill with an interest in Population and Global Health will be invited to become associate-members. The SPGH will play a role of Facilitator and Convenor in Population and Global Health for the entire University.

What will the School do?

Objective 1: Train leaders in public, population and global health research, policy and practice.

Existing Programs:	New Programs to be developed:
<ul style="list-style-type: none"> • MSc Epi • MSc Biostats • PhD Epi • PhD Biostats • Masters in Bioethics • MSc Public Health (MScPH) • MSc (Applied) Occupational Health 	<ul style="list-style-type: none"> • Interdisciplinary PhD in Public and Population Health (PPH) • Professional Doctorate in Public Health (DrPH) • Graduate Options in Global Health and Pharmacoepidemiology • PhD in Occupational & Environmental Health • Undergraduate Program PPH • Undergraduate Minor PPH

Objective 2: Generate cutting-edge, high-impact knowledge through interdisciplinary research and scholarly activities.

Research priorities	Selected examples of ongoing ground-breaking research
<i>Reduce health disparities, within Canada and globally</i>	<ul style="list-style-type: none"> • Assessing the causal effects of socioeconomic factors on health • Real-world evaluation of health and social policies in Canada and globally • Reducing the burden of communicable diseases in First-Nations and low-income countries
<i>Improve the health and wellbeing of individuals and populations through the life cycle</i>	<ul style="list-style-type: none"> • Canadian Longitudinal Study on Aging • The impact of social systems and social networks on health and wellbeing • Long-term impact of breast feeding on health • Epidemiology and prevention of cervical cancer and human papillomavirus-associated diseases • Natural history of the development of obesity and its metabolic complications in children

<p><i>Create efficient health systems (curative and preventive)</i></p>	<ul style="list-style-type: none"> • Evaluation of the unintended long-term health effects of prescription drug use • Impact on costs and health services use of novel primary care delivery models • Impact of computer-based decision-support, personal health record portals and self-management tools on health and health services use
<p><i>Build healthy and sustainable environments and communities</i></p>	<ul style="list-style-type: none"> • Health and climate impact of indoor biomass burning • Health impact of exposures to pesticides and toxic chemicals in children • Novel measures of air pollution and chemicals exposure • Long-term health impacts of forest fires • Impact of the built environment and urban form on sustainability and human health • Housing and health impacts in the Canadian Arctic
<p><i>Develop novel methods for population health and clinical research</i></p>	<ul style="list-style-type: none"> • Prognostic models and ROC analysis • Bayesian methods for study design and diagnostic testing • Dynamic treatment regimes • Causal inference • Longitudinal design and analysis • Flexible models for survival analysis

Create innovative research and scholarship hubs, for example:

1) **Centre for Innovation in Digital Health Data**

- harness computational and epidemiological methods to analyze Big Data generated by the ubiquitous devices and information systems of modern life
- bring together researchers from multiple disciplines (e.g., computer science, epidemiology, health geography, engineering, genetics, environmental health, biostatistics, etc.) with industrial partners
- provide precise feedback to patients, health professionals, health system managers and policy makers on social, behavioral and environmental risks, their interactions, and their impact on health and wellbeing
- cutting edge computing technology with access to massive data resources in an open environment
- multidisciplinary innovations to develop and apply advanced methods for analysis of complex, multi-level, high-dimensional data

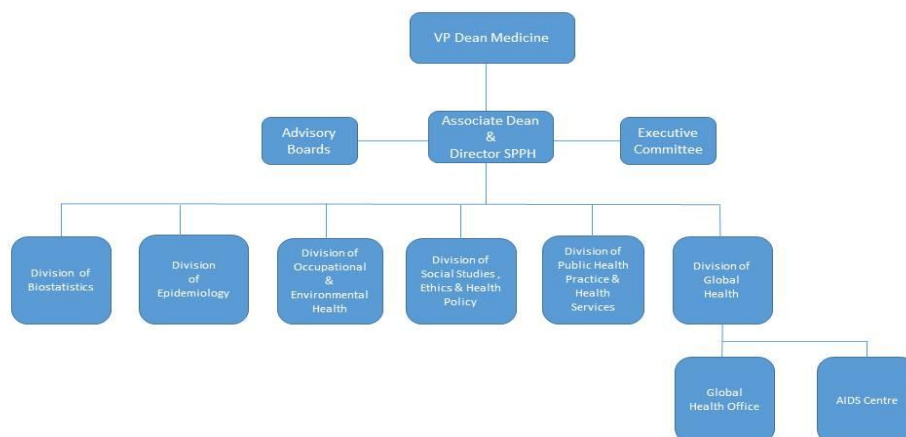
- space to design creative software to push information back to patients, consumers and other users and to conduct experimental studies to assess the impact of novel interventions.
 - ethical exploration of cutting-edge strategies for population health and health services research
- 2) **Centre for the Study of Emerging Global and Local Infectious Diseases**
- researchers from the current AIDS Centre, Global Health Programs, public health surveillance, interventions and evaluation experts
 - novel interdisciplinary research on emerging communicable diseases threats worldwide (Zika, Ebola, H1N1, Dengue, Chikungunya, etc)
 - surveillance of nosocomial infections and study of antimicrobial resistance in Quebec and Canada
 - basic, clinical, translational and population research to understand the causes and mechanisms of disease, the spread of epidemics, the impact of policies and interventions to control and prevent outbreaks and the societal consequences of emerging threats
- 3) **Interdisciplinary Centre for Environmental Sustainability and Human Health**
- Study the complex interrelationships between human activities, the environment and population health at the local and global levels
 - develop sustainable and creative solutions to reduce the human footprint on the air, soil, water, food supply and climate systems
 - from fundamental to applied interdisciplinary research and to policy development and evaluation
 - partnership with policy makers, public health practitioners and civil society
 - tackle some of the great environmental challenges of our time such as climate change; ambient and household air pollution; food, soil and water contamination; waste management; land and energy use; and the built environment
- 4) **Health-Care Systems Reform Observatory**
- research on how changes in policies, including health-care organization, funding and delivery impact health outcomes, in Quebec, Canada, and internationally
 - rapid-response research to improve understanding of the ways in which health system reforms and health policies can impact health outcomes and reduce health inequalities
 - policy implications of the research through social, legal and political processes which filter and refined evidence is to give rise to usable policies
 - incubator of policy innovations at municipal, provincial, federal and global levels
- 5) **Meta-Research Initiative**
- study the integrity and accessibility of evidence regarding medical and public health interventions
 - explore research and reporting practices that threaten validity of inferences
 - researchers from various disciplinary background including ethics, sociology, history, epidemiology and others will form the core of this Initiative

Objective 3: Partner with communities and civil society to enhance the health and wellbeing of populations

- actively pursue the application of knowledge into evidence-based decision-making
- develop, implement and evaluate interventions to improve the health of communities both locally and internationally.
- communities as living laboratories where innovative interventions can be developed and tested, and outcomes assessed with partner organizations in all sectors of society.
- create communities of practice and research where practitioners, public health scientists, students and populations come together to solve real life problems.
- Prioritize First Nation’s communities, recent immigrants and refugee populations, ethnic and racial minorities, low income neighbourhoods and communities in Low and Middle Income Countries.
- Partner with local (Montreal Public Health Department, Cree Board of Health, Public Health Institute of Quebec), national (Public Health Agency of Canada) and international (WHO, UNAIDS, World Bank, UNICEF, etc) organizations.

Organizational Chart

School of
Population and
Global Health



Impacting health and wellbeing in Canada and worldwide

The SPGH will enhance McGill’s reach and impact in population and global health and will create opportunities for novel research and educational programs. The required expertise exists within McGill’s units for the creation of a world-class School which will attract leading scholars and top students interested in public health and global health. The School will make substantial contributions to the health and wellbeing of populations in Quebec, Canada and globally through its ground breaking research and scholarship, its multidisciplinary training programs for future researchers, practitioners and decision-makers and its knowledge dissemination and partnerships with local and global communities.