

Technical Collaborations for Public Health through a Global Program Science Network



University
of Manitoba

Concept Note: Purpose, Strategy and Plan of Action

Background

The Centre for Global Public Health (CGPH) was established within the Department of Community Health Sciences in 2008 to enhance the University of Manitoba's (UM) leadership in global public health. The aim of CGPH is to generate and translate knowledge to enhance the impact of public health programs, focusing on achieving health equity, particularly for vulnerable populations, in various global contexts. Within these contexts, CGPH partners with various levels of government to identify key populations and geographies for prioritized diseases and health outcomes and implement evidence-driven public health programs. To date, programs have been successfully established to support research and program development in Africa, Asia and Eastern Europe.

The program platforms established across these regions have become key resources to support UM's academic mission by:

- ◇ Providing *technical support* to local, national and global health managers, government leaders and policy makers
- ◇ Embedding *high quality research*, including implementation research, into programs to generate, translate, and integrate knowledge to improve programs
- ◇ *Building capacity* through a range of training and mentoring activities for students and diverse public health personnel

IGPH's global work is based on a Program Science approach, which embeds research collaborations within public health programs, to identify priority areas for optimization and solutions based on evidence and best practice.

Through these activities, UM has become a recognized leader in global public health, particularly in promoting and supporting HIV prevention, empowering and enhancing the health and well-being of vulnerable populations, and improving maternal, newborn and child health. CGPH is now transitioning to the Institute for Global Public Health (IGPH). Within IGPH, four core components—Research and Knowledge

Translation, Education, Programs, and Technical Collaborations—operate with concerted effort to achieve IGPH's mission to *improve health equity in Canada and globally*.

The *Technical Collaborations* team specifically focuses on establishing sustainable, synergistic partnerships with national and local governments, academic and research institutions, civil society organizations, and other implementing partners to optimize public health programs and generate and integrate evidence that informs context-specific public health policies. Importantly, the work of the Technical Collaboration team is centred around **Program Science**.

Program Science

Program Science is an iterative, multi-phase research and program framework in which programs drive scientific inquiry.¹ As an academic leader in global public health, IGPH has taken the lead in establishing a global initiative on Program Science¹⁻⁴ as a strategy for optimizing the effective coverage of public health programs at the population-level.

A Program Science approach focuses on using adaptive responses that enable public health programs to continuously and systematically examine program processes, outputs and outcomes, explore areas that require further understanding, implement and evaluate new interventions and then use the knowledge gained to further improve and expand programs and policy. Furthermore, Program Science is inherently equity-focused as it is concerned with developing and implementing programs that prioritize service delivery and resource allocation for populations who will benefit the most. The Program Science initiative has brought together global leaders from academia, health policy, programs and funding agencies to generate evidence and translate knowledge about *how best to design, implement, and evaluate public health programs*.

DEFINING PROGRAM SCIENCE

The systematic application of theoretical and empirical scientific knowledge to improve the design, implementation and evaluation of public health programs.

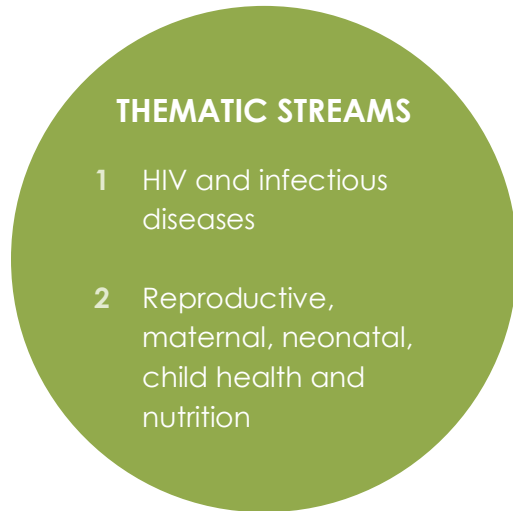
As we transition to IGPH, we have the opportunity to build upon our well-established program platforms and greatly enhance UM's impact in global public health through establishing a **Global Program Science Network**. This work will form the core of the Technical Collaborations component within IGPH.

The Global Program Science Network leverages academic, program and policy expertise to bring together **Program Science Partners** and support **Program Science Hubs**, enabling innovation and knowledge sharing across diverse global contexts. Together, the Program Science Hubs, Program Science Partnerships, and the Global

Program Science Network bridge the gap between programs and science to address existing and emerging public health challenges.

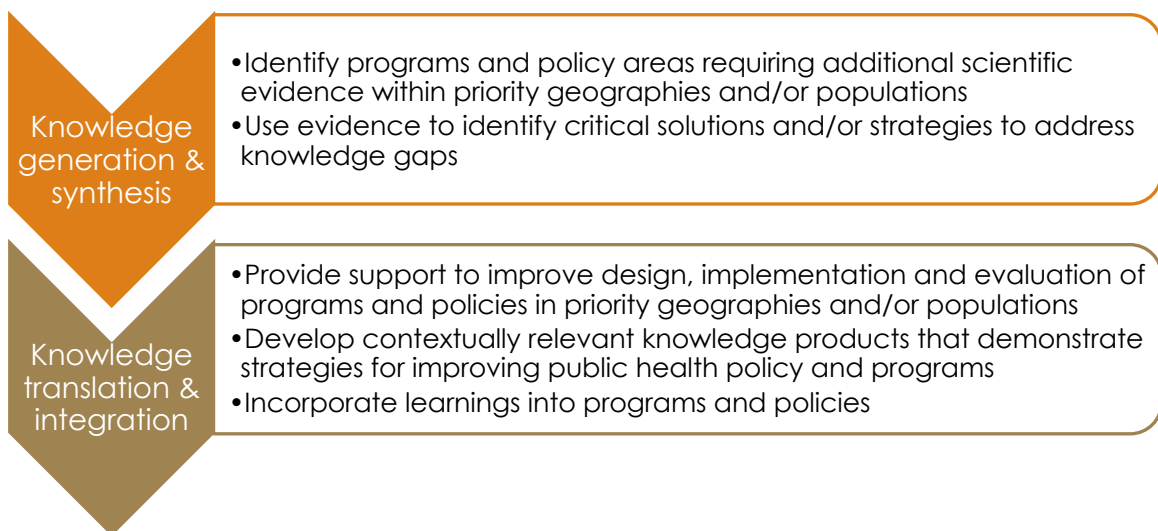
Global Program Science Network

The establishment of the Global Program Science Network (the Network) is based upon global partnerships among national and state/provincial-level government representatives, members of local and international academic and research



institutions, health and development partners and civil society organizations working within partner countries. Overall coordination and central administration of the Network will be managed through IGPH (via the Technical Collaboration team). Network membership will include academics and programming and policy leaders who contribute international expertise to two distinct *thematic streams*. Members of the Network will convene on a regular basis to discuss and advance the objectives and goals of the Network in a systematic manner.

Two primary goals of the Network include *knowledge generation and synthesis* and *knowledge translation and integration*. The Network will provide unique opportunities for knowledge exchange and cross-learning. Novel approaches, research findings and interventions will be shared across socio-cultural and epidemiological contexts and used to inform context-specific approaches to address local needs.



Within each thematic stream, the Network will focus on identifying programs and policy areas within target geographies and/or populations, in which clear inequities in health

outcomes and effective service coverage exist and gaps in knowledge persist. This knowledge generation and synthesis is conducted through a combination of comprehensive reviews of locally available, pertinent information and local appraisals to better understand and characterize heterogeneity in epidemiologic patterns of disease and distributions of health outcomes. Through this process, the Network will also establish whether additional evidence is needed and, if so, work to develop collaborative operations research, guided by identified priorities.

The Network's knowledge translation and integration work will facilitate the uptake and application of newly synthesized evidence to improve the design, implementation and evaluation of innovative, data-driven programs that are specifically tailored to the unique needs and context within priority geographies and among priority populations. Furthermore, the Network will play a significant role in advocating for the adoption of evidence-informed policies that support high-quality programs to address prioritized health needs. The Network will also strive towards continuous translation of local and national experiences into knowledge products that further enhance global public health policy and programs and identifies and addresses critical knowledge gaps.

To achieve these goals, the Network will comprise various program- or country-specific Program Science Partners and will operate within Program Science Hubs that are strategically situated across priority geographies.

Program Science Partners

Based on previous and ongoing work within IGPH, existing and potential collaborations with country-level Program Science Partners will be fostered and identified in India, Kenya, Nigeria, and Pakistan. The identification of Program Science Partners for future collaboration will also be explored in Ukraine and Peru. Within the Network, an

DEFINING PROGRAM SCIENCE PARTNERSHIPS

Technical collaborations that follow a Program Science approach, ensuring that research is embedded as a core element of public health programs, such that research priorities and questions are inherently tied to program operations, and the evidence generated can be readily incorporated to improve program design and implementation.

important role of the Technical Collaborations team is to help advance, strengthen and catalyze existing partnerships within IGPH, identify opportunities to develop new partnerships, to support ongoing research and program work in various contexts and create opportunities for Program Science Partners to gather together and share relevant knowledge, experiences and expertise.

Identifying Program Science Partners in different regions with different epidemiologic- and sociocultural contexts will provide unique opportunities to learn from diverse settings, facilitate identification of commonalities and differences within public health programs in different contexts and enable knowledge sharing and exchange, including south-to-south collaborations. Specifically, bringing these Partners—including national- and state-/provincial-level governments; non-governmental and community-led organizations; and academic and research institutes—together will lead to the establishment of networks through which scientific and experiential knowledge can be effectively deployed to inform and transform public health policy, program implementation and optimization.

We have identified *three categories of Program Science Partners* that can meaningfully contribute to the Network's aim to generate, synthesize and share program- and policy-relevant evidence, knowledge and experience focusing on reducing health inequities at the population-level.

National, State and/or Provincial Government Partners

Government authorities play a key role in ensuring that relevant research agendas are integrated into government-administered public health programs, and scientific knowledge is being

appropriately used to inform policy. Acknowledging the need for evidence to optimize programs and policies ensures that implementers base their programs on available science and further push toward demanding evidence in areas where there is scope for answering programmatic questions through embedded research. As Program Science Partners, government representatives will be able to hold relevant stakeholders accountable for developing programs and policy based on the highest-quality evidence available.

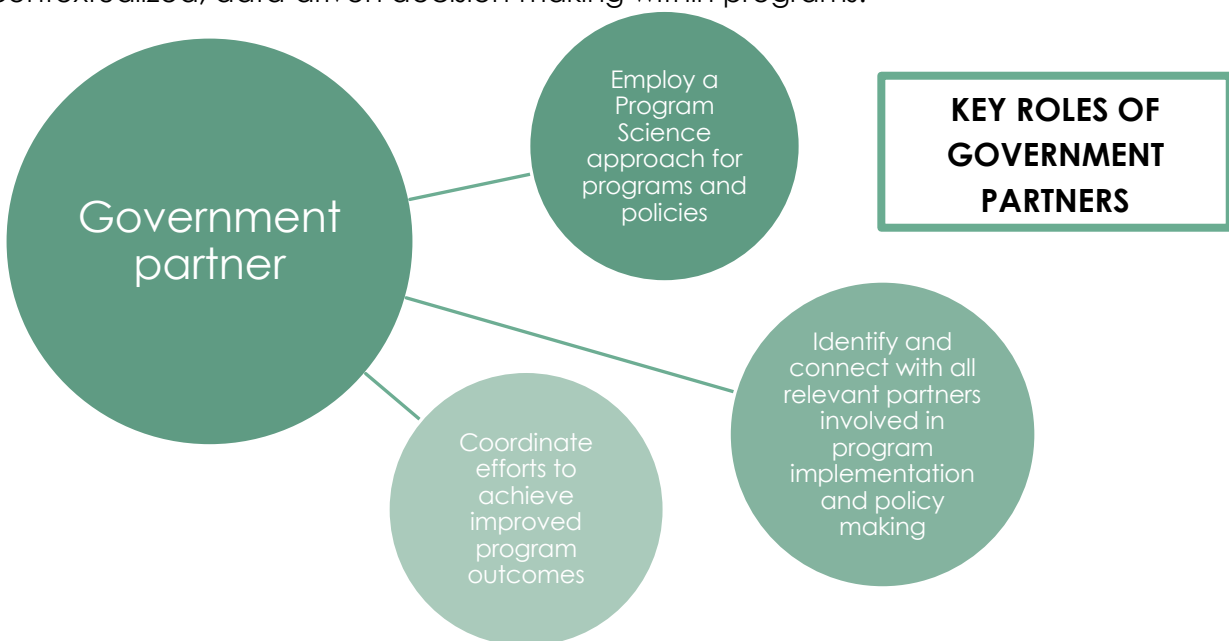
As Program Science Partners, governments are connected to global networks of academic and research institutes and program implementers, which can support the development of stronger data infrastructure within government programs and support the implementation of contextualized, data-driven decision-making.

Partnerships with government authorities are geography-specific and can exist at the national-, state-/provincial- or local-level. These partners may include representatives from various levels of government who, together, bring diverse skillsets and knowledge to address health inequities that have been identified as priority areas in the region. Partnerships with governments may touch upon any of the Network's thematic streams and can extend across all domains of public health systems. Focus areas within these

partnerships will be defined according to context-specific public health issues that are prioritized within the geographic region.

Through the Network, we will collaborate with Government Partners to adopt a Program Science approach by actively embedding research within programs and policies and integrating mechanisms for knowledge sharing, exchange and translation, thus facilitating the uptake of relevant evidence into policies and programs. The roles and responsibilities of the government within these partnerships are outlined below.

Through these partnerships, government programs stand to gain through a continuous collaboration between program implementers and academic institutions, which will facilitate the establishment of stronger data infrastructure to support appropriately contextualized, data-driven decision-making within programs.



Local Non-Governmental- and Community-Led Organization Partners

Local non-governmental organizations (NGO) and community-led organizations, including those in the development sector, play a key role in filling programmatic gaps that are often not adequately addressed through efforts by government health departments. These Program Science Partners operate as frontline implementers with context-specific expertise in reaching key- and priority populations. As such, they are typically at the forefront of innovation for programs and interventions, focusing on addressing

As Program Science partners, implementing organizations receive support and guidance to integrate research elements into their program, translate evidence into action, and focus on scaling up and improving coverage

gaps and inequities in programmatic operations to work toward equitable health outcomes among those access services.

As Program Science Partners within the Network, NGOs and community-led organizations will benefit from these partnerships by receiving support and guidance for integrating research elements into their program and subsequently translating evidence into action by using new knowledge to inform program operations, focusing on scaling up implementation and improving service coverage.

Academic and Research Institution Partners

Within the Network, Academic Partners facilitate knowledge exchange and learning across academic and other research institutions in the global north and south. These partnerships aim to establish technical and methodological expertise within the Network that facilitate the integration of Program Science principles within ongoing work in priority geographies.

Through active, continuous engagement and dialogue with local governments, Academic Partners will create research agendas that address questions prioritized by

As Program Science Partners, Academic and Research Institutes gain the opportunity to engage with and mentor a global network of high calibre trainees, develop academic courses on global public health programming, and support program managers and policy makers in learning about program-focused research

public health programs, facilitate large-scale data sharing, introduce diverse areas of expertise and leverage specialized knowledge and methodologies to bring effective interventions to scale.

Academic Partners will benefit from engaging with high calibre graduate and

postdoctoral students within the Network, while trainees within partnering institutions will be provided with unique opportunities to directly engage with program managers, policy makers, and other relevant stakeholders in global health and to become actively involved in the field implementation of public health programs. As Program Science Partners within the Network, academic and research institutes will be provided with unique opportunities for institutional strengthening, with support from other partners. Through their collaborative partnerships through the Network, Academic Partners will also be well-positioned to support the development and instruction of academic courses focused on (global) public health programming.

Program Science Hubs

Program Science Hubs will act as the effective centres for Network activities, which are centred around improving population-level health outcomes and health equity for vulnerable populations through optimizing public health programs and policy. Specifically, Hubs will facilitate the operationalization of novel interventions, embedded research and other knowledge generation activities identified through the Program Science Partnerships and the Network, more broadly.

In certain contexts, Hubs will also function as learning grounds and demonstration sites to provide training on how to better understand complex public health issues, and how programming and policies can be implemented to address them.

The Hubs will work closely with national or state/provincial government offices, importantly contributing to the sustainability of the Network and its Partnerships. IGPH will contribute technical expertise to partners and other implementing organizations and may also seek external grant funding to support the initiative. Local partners—including health & development partners, academic institutions and civil society organizations—will be invited to participate in Hub activities to fill knowledge gaps and contribute specialized technical expertise.

PROGRAM SCIENCE HUBS FUNCTION TO...

- 1 Act as an effective centre for activities within the Network's thematic streams
- 2 Provide physical infrastructure and administrative support for the operationalization of Network activities
- 3 Create space, in the form of learning sites, to share and translate knowledge developed through work within the thematic streams
- 4 Establish and maintain reciprocal relationships with local stakeholders and Program Science Partnerships

References

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