Building Public Health Systems for the Future

CIHR Institute of Population and Public Health
Dialogue background paper
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NOTE

Canada's health research funding agency, the Canadian Institutes of Health Research (CIHR), is comprised of 13 focused institutes. One of the institutes, the Institute of Population and Public Health (IPPH), is undertaking conversations with the public health community. This paper is designed to inspire a detailed discussion on what Canadian public health systems of the future could look like. It does not represent the views of CIHR, IPPH, the Government of Canada, its partners or collaborators. The questions are meant to elicit opinions and dialogue that will be helpful for a range of public health stakeholders.

I. BACKGROUND

The current COVID-19 pandemic has brought public health to the forefront in Canada and around the world. Public health decisions, leaders, practitioners and research are in the spotlight, along with the ability of public health systems to deliver on its core functions including population health assessment, surveillance, disease and injury prevention, health promotion and health protection.[^1]

Over the past three decades, Canada has faced repeated periods of public health emergency including but not limited to the Walkerton water contamination, the severe acute respiratory syndrome (SARS) epidemic, re-emergence of vaccine-preventable diseases, the opioid crisis, and now, the COVID-19 pandemic. These emergencies have exposed weaknesses in the public health system and resulted in calls for reform and rejuvenation. Most notably, the Learning from SARS: Renewal of Public Health in Canada – Report of the National Advisory Committee on SARS and Public Health (the Naylor Report) released after the highly-criticized response to SARS in 2003, identified key actions urgently needed to strengthen public health systems and prompted significant reforms at the federal and provincial levels.[2]

In the near two decades since the Naylor Report, public health leaders have warned against further hollowing out and weakening of public health systems, noting that many of the report's recommendations were not acted on – or when they were, progress has since been undone. The COVID-19 pandemic has put existing public health systems under pressure and made obvious persistent financing, governance, workforce and information system shortcomings. The unequal impacts of COVID-19 and exacerbated health inequities that are resulting from the pandemic and its knock-on social and economic effects have also made clear that Canada's public health systems have not successfully delivered on their commitment to health equity.[3] The structural shortcomings in the public health systems have allowed health disparities to go unmeasured, have struggled to genuinely include voices of the most marginalized, and have supported the development and implementation of public health programs and systems that do not fully address structural drivers of health such as racism, colonialization, classism and ableism.

With unprecedented public and political attention on the public health system, there is a new opportunity to articulate the need for fundamental investment and retooling in public health. Over the coming year, Canadians will expect improvements to our public health systems that address current challenges and prepare for those ahead. **To fully seize this opportunity, CIHR's Institute of Population & Public Health is undertaking a broad national dialogue with the public health community, to identify unified priorities and accompanying strategies to build robust and responsive public health systems fully prepared to address current challenges and future threats.**

[^]The core functions of the public health system include population health assessment, surveillance, disease and injury prevention, health promotion and health protection. These core functions are delivered as services and programs through systems across Federal, Provincial, Territorial, Indigenous and local governments. The functions and the accompanying systems that deliver them are what we understand to be the public health system. While some public health services are delivered through Canada's public funded healthcare system, public health systems are considered distinct and do not include the medical or biomedical systems.

There are several open-invitation events scheduled for Spring 2021, interested participants can register on the IPPH website. In addition to participating in dialogue events, written feedback that directly address the five questions outlined in section 4 of this document, not exceeding 2 pages, will also be accepted if sent to ipph-ispp@cihr-irsc.gc.ca before June 1, 2021. IPPH is working closely with other public health colleagues including the Public Health Agency of Canada, the Urban Public Health Network, and the Canadian Public Health Association to ensure these sessions benefit a range of public health actors and can inform a number of important outputs.

II. PUBLIC HEALTH SYSTEM CHALLENGES

Assessments of public health systems in Canada by advocates for strengthened public health systems, as well as assessments that follow acute public health crises, have repeatedly identified four core challenges:

A) FINANCING THE PUBLIC HEALTH SYSTEM

Canada's public health systems remain inadequately funded. Despite increases in healthcare spending since the release of the Naylor Report, public health continues to make up only a small portion of that spending. Depending on the jurisdiction and definition of public health used, investments in public health account for between 1.6% to 5.6% of total provincial health spending.[4] In addition to the fundamental challenge of insufficient funding, systems also grapple with:

A gap in data on public health spending. Although there have been attempts at quantifying aggregate investment on public health in Canada, differing methods of reporting and definitions of public health across jurisdictions limit statistical authorities and researchers to crude estimates.[5]

Budget cuts and under-resourcing. In recent years jurisdictions across Canada have experienced disinvestment and further cuts to public health spending at provincial/territorial and municipal levels.[6, 7] For example, in 2019 the Government of Ontario announced a planned restructuring of public health and significant reduction of municipal funding for public health.[8] Similarly, in 2015 Quebec's regional public health budgets were cut by 33% and in recent years public health funding has grown more slowly than other health programs.[9] Other provinces, including British Columbia and Nova Scotia, have experienced flatlining of public health spending even as the total health system budget increases.[10, 11]

A knowledge gap on how to best finance public health. Currently, there is a critical knowledge gap around the best models for financing public health systems and their various components in Canada.[12] Research examining, evaluating and comparing public health funding models in Canada is limited and the incomplete and incomparable information on public health expenditures, programs and human resource capacity identified in the point above further hampers evaluation of public health system reorganization taking place.

B) INSUFFICIENT PUBLIC HEALTH CAPACITY

Public health capacity is crucial to ensure the system can respond to persisting and emergent public health challenges. The ability for public health systems to prepare for and respond to health emergencies is limited by weakened:

Surge capacity. Reviews of public health systems have repeatedly identified a lack of — and regional variability in — clinical and public health surge capacity. Without a sufficient number of skilled professionals and robust systems in place, public health systems are not able to effectively respond to public health emergencies. In recent years, cuts to public health investments and reorganization in a number of provinces may have further weakened existing capacity.[13]

Links between public health science and practice. Since the Naylor Report, the number of undergraduate and master's level training programs in public health has proliferated and National Collaborating Centres for Public Health and the Applied Public Health Chairs program have helped to institutionalize public health system and academic collaborations. There is, however, a continued need to build and renew public health science training and leadership capacity in Canada and strengthen links between public health science and practice.[14]

Ability to forecast public health human resources need. Plans to build a public health workforce for the future are hampered by incomplete information on the present public health workforce and little comprehensive, cross-jurisdictional scoping of future needs. Certain workforce development and strengthening strategies have been discontinued and there is a call to revisit the public health core competencies that have remained unchanged since 2008.

C) ERODING PUBLIC HEALTH GOVERNANCE AND LEADERSHIP

A complex set of legislation, regulations, and supporting documents define public health governance in Canada. The COVID-19 crisis has highlighted the patchwork of federal, provincial/territorial, local and Indigenous public health responsibilities and spotlighted where ill-defined and overlapping accountability creates confusion and often leaves the most marginalized to navigate the labyrinth of public health services themselves. Specifically, governance of the Canadian public health system is characterized by:

Disruptive system reorganizations. In recent years a number of provinces and territories have undertaken health system reorganization measures. These changes have resulted in amalgamations of regional health authorities and elimination of public health leadership positions. In some cases, reorganization has created new barriers to information sharing and resulted in public health functions being led by professionals without public health training and distributed public health programs and responsibilities across branches and portfolios. Concerns have been raised that reorganization and redistribution of public health responsibilities has led to a deprioritization and inconsistency in how core health equity is to program and policy decisions.[15]

Debate on the role and scope of public health. Differences in how public health is defined and measured across jurisdictions in Canada makes measurement and comparison of public health systems performance challenging. Recently, concerns have arisen about the implications of integrating of public health and primary care. While some have highlighted the advantages of a strengthened relationship between the two fields, others have expressed concern that a rapprochement could result in a deprioritizing of public health approaches and a focus on individual, rather than population-level solutions.[16, 17]

The contested role of the Chief Medical Officers. The role of Canada's Chief Medical

Officers of Health (CMOH), positions that were generally strengthened in response to Naylor Report recommendations, varies between provinces and territories. The COVID-19 pandemic has resurfaced concerns about the independence of CMOHs and their ability to publicly advocate for population and public health.[18, 19]

Service and program inconsistencies across and within the provinces and territories. Inconsistencies among public health services,[20] programs and delivery across the country threaten to undermine the impact of public health activities. COVID-19 has highlighted this fractured system, demonstrated by the differential federal, provincial and territorial approaches to lockdowns, vaccinations, and communications which have affected the public's trust in science and government. A lack of public trust can prove unfavourable to effect positive change in health behaviours.

D) DIGITAL AND TECHNOLOGICAL CAPABILITY OF THE PUBLIC HEALTH SYSTEM

Data infrastructure challenges identified as impediments to the SARS response in 2003 continue to hinder routine and emergency public health work across the country. With few shared databases, little capacity for analysis, and disorganized agreements for data sharing between different levels of government,[21] the system deficiencies impact the flow of information to the public and public health decision-makers. An overhaul of public health data infrastructure must address:

Fractured data systems for health surveillance. Little progress has been made to address Naylor Report recommendations to address inadequacies in infectious disease surveillance, not to mention chronic diseases. A lack of appropriate and consistent information systems to support public health surveillance makes it difficult to develop timely and tailored responses to public health threats that cross provincial borders. In the absence of a truly national data system, there is no consistent measure of fundamental COVID-19 information such as cases, deaths, population variables, and vaccinations distribution.

Data governance. Challenges of collecting consistent data are further complicated by questions related to who will own, control and benefit from available data. A lack of coherent data governance systems not only stands in the way of interoperable and comparable data across jurisdictions it also undermines trust between patients, populations, and communities and those who use the data.[22] Furthermore, full support and implementation of the First Nations Principles of OCAP® — ownership, control, access, possession — in public health research and practice remains inconsistent and incomplete.[23]

Slow uptake of new technologies. The availability of new technologies and 'big data' create the potential for new insights into complex genetic, environmental, behavioural, socio-political systems for real-time decision making. Specifically, data science tools including artificial intelligence (AI) methods can help identify emerging threats, provide more detailed and up-to-date understanding of population disease and risk factor distributions, and can forecast disease incidence. Despite the potential of these new technologies, challenges with data access and stewardship, poor access to advanced computing technology, a shortage of trained public health professionals and interdisciplinary partnerships mean they are not widely used or taken advantage of.[24]

III. PUBLIC HEALTH SYSTEMS BUILT FOR FUTURE CHALLENGES

The challenges faced by public health systems in Canada are not new. From reviewing known challenges and past recommendations, it is clear that there are many opportunities for change across the four areas mentioned above: **financing, capacity, governance, new technologies and data,** plus an imperative fifth area which impacts everything else – **equity.** Our future systems must be built to adapt and respond rapidly to a range of public health issues, capitalize on new tools and technologies and – most fundamentally – to identify and address structural and systemic barriers that produce and maintain health disparities.

A) A robust and long-term **financing** strategy is required to correct the underinvestment in and systematic divestment from public health. Public health systems must be funded so that they can fully fulfil core functions while adapting to face challenges of the future.

B) Public health is well placed to tackle the rise of pervasive and emerging health threats but nimble and responsive public health systems require appropriate **capacity.** Developing a prepared workforce will require fulsome workforce planning and a renewal of public health core competencies to reflect the demand for professionals who can work across sectors and comprehensively advance health equity commitments. Canada's public health systems should integrate known best practices to build a system that is able to adapt, scale, and target solutions based on the populations most in need.

C) Currently hallmarked by fractured governance, Canada's public health systems must transform their **governance and leadership structures.** Defined and coherent roles, responsibilities across Federal, Provincial, and Territorial governments as well as respect for the right of Indigenous communities to self-govern will provide a clear foundation from which to build. This strong foundation will allow for improved coordination, streamlined communication and more equitable delivery of public health services for all those in Canada.

D) Canada's public health systems need to capitalize on the full potential of **new technologies and data** through modernization. Data science and big data approaches including AI – when used responsibly – could maximize the power of Canada's disaggregated data resources. Technologies such as Machine Learning, and natural language processing (NLP) could allow us to take advantage of the full range of available data that may in turn lead to more effective and equitable interventions. A data-driven system could quickly respond to an array of threats at the local or global level.

E) Finally, any implemented solutions to the financing, workforce, governance, and technology challenges outlined above must **advance health equity** by identifying and rectifying the ways existing public health structures perpetuate inequities and fail to fully address upstream determinants of health including racism, settler colonialism, classism and ableism. A public health system built for future challenges must grapple and take action to address with historical and present-day ways in which the system itself contributes to inequities.

IV. DIALOGUE

The COVID-19 pandemic has exposed cracks in Canada's public health systems. The renewed public and political attention on public health provides an opportunity to present and pursue an ambitious agenda for strengthening public health systems in Canada. We must critically consider how public health systems built for the future can centre health equity, voices and needs from the margin; lead intersectoral action to protect and promote health; and respond coherently to new and emerging health challenges.

A broad national dialogue with the public health community can help to identify unified priorities and accompanying strategies to inform how we collectively build future public health systems.

The prescription for renewal today is not too different from those stated over the last 20 years. What is less clear is how to implement these necessary changes. With this dialogue our goal is to ensure we're not asking the same questions in another 20 years, but are instead looking back on a period of public health innovation and growth. The five questions we have identified below are designed to help us better understand and clarify opportunities for action, and ultimately inspire reform of Canada's public health systems.

A) Precarious funding and changing budgets leave public health unstable and unprepared because there is not enough money for all the services public health needs to provide. **What could Canada's public health systems deliver with a doubling of their budgets and what structures are needed to avoid cycles of panic and neglect in public health budgeting?**

B) The ability to pivot between persistent and emerging threats is essential but even more important will be Canada's capacity to manage threats simultaneously. **What kind of public health science workforce planning is needed to ensure Canada's public health systems have the necessary scientific and surge capacities when and where they are needed?**

C) The uncoordinated nature of Canada's current system is fiscally wasteful, harmful to the health of Canadians and can serve as a disincentive to practitioners to continue in the field. Proper governance can organize multiple public health systems efficiently and effectively bringing clarity to confusion. **Could a *Canada Public Health Act* bring the needed coherence to public health governance in Canada?**

D) Multiple health data resources and systems exist in Canada but operate independently, while uncoordinated systems result in duplicative efforts and missed opportunities for partnership. **How can we overcome barriers to using new data sources and technologies in order to modernize public health?**

E) As it stands, public health systems do not account for the diversity of the Canadian population or adequately address societal inequities. **How can Canada's public health systems become actively anti-racist and decolonizing to help deconstruct the intersecting structures that create and maintain health inequities?**

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CONTACT

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