

Review of the Federal Approach to Pandemic Science Advice and Research Coordination

Backgrounder

Context

As federal departments and agencies consider lessons learned from the COVID-19 pandemic to date and prepare for future health emergencies, there is a need to reflect on the approach to scientific advice and research coordination.

As part of its evolving response to the pandemic, the Government of Canada sought scientific evidence and facilitated research outcomes through a range of mechanisms. These included governance bodies, expert advisory committees, mission focused networks, research initiatives, knowledge synthesis and evidence gathering bodies, intramural research, surveillance initiatives and data sharing activities.

Health Canada, in collaboration with the Public Health Agency of Canada, the Canadian Institutes of Health Research, the Office of the Chief Science Advisor and other federal departments and agencies, has launched a review of the approach that will draw from related assessments and be informed by additional analysis and stakeholder consultations.

This document summarizes themes from initial consultations, for feedback from additional stakeholders, including during further panel consultations across the country in the fall of 2023.

Purpose and process

The goal of the review is to take stock of domestic and international learnings and best practices and provide recommendations to support Canada's readiness for and response to future pandemics and other health emergencies.

The review is being led by an expert panel, chaired by Sir Mark Walport, former UK Chief Science Advisor and former Chief Executive of UK Research and Innovation (UKRI). Other panel members are Dr. Éric Cohen, Dr. Bev Holmes, Dr. Tom Marrie, Dr. Shannon McDonald, Dr. Allison McGeer and Dr. Fahad Razak. The panel is supported by a secretariat at Health Canada.

The panel will collect a diversity of views from a broad range of stakeholders across the country and provide a report to the Deputy Minister of Health in the first quarter of 2024.

What the panel has heard thus far

During August and September 2023, the panel held initial roundtables with more than one hundred stakeholders. Below is a summary of these stakeholders' views on the effectiveness of the approach to the pandemic and suggestions for the path forward. These discussions were conducted under the Chatham House Rule and thus no comments are attributed.

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A) Overall preparedness and governance

- **A need for greater preparedness for the next health emergency**
 - Most stakeholders have commented that Canada's pre-pandemic systems and protocols relating to science advice and research coordination, including governance mechanisms for overall strategy and priority setting, were not sufficiently robust to respond to an emergency of the scale of the COVID-19 pandemic;
 - despite best efforts by government departments and agencies, researchers and other stakeholders, the situation led to a need to put in place ad-hoc approaches to gather the required data, coordinate, fund and synthesize research, create advisory structures and address other gaps; and
 - this resulted in delays in obtaining evidence, modelling and synthesis to inform policy decisions at all levels of government; and an inability to conduct timely and adequate observational studies and clinical trials for critical medical countermeasures.
- **A need to put in place key infrastructure and protocols now to prepare for the next emergency**
 - Stakeholders have noted a need for ongoing assessment of future health risks, and improved health data sharing platforms and protocols, surveillance networks and data sharing agreements;
 - the importance of more robust infrastructure for pragmatic and rapid clinical trials and observational studies, seeking in advance the required ethical approvals for expected areas of research, and establishing emergency processes for working with industry at a rapid pace; and
 - identifying the critical research infrastructure that needs to remain operational during an emergency.

▪ The importance of central leadership and coordination of research priorities

- Stakeholders have highlighted the need for a dedicated federal body to lead on the above and work in coordination with stakeholders (including provinces and territories, research community, health system, industry, etc.) to establish data and research needs;
- a standing federal expert advisory table to inform priority areas for research and provide advice on health matters in inter-emergency periods; and
- regular table-top and real-life exercises to test and refine protocols and processes, assess readiness and make required adjustments.

B) Research coordination and data sharing

▪ Challenges in response to the COVID-19 pandemic

- Stakeholders have observed that the federal government took early action to make additional research funding available, but that research was not adequately prioritized and directed to focus on the most important gaps, minimize competition among projects and facilitate data sharing;
- federal and provincial/territorial-funded research was not sufficiently coordinated, resulting in duplication and missed opportunities;
- many networks formed during the pandemic to improve surveillance and research coordination are winding down due to a lack of sustained funding, risking that Canada will revert to the poor pre-pandemic state of readiness and not be sufficiently prepared for the next emergency.

- **A need for a more strategic and coordinated national approach to health emergency research funding**
- Stakeholders have called for processes to bring researchers together to co-develop projects and networks of sufficient scale and share information;
- greater coordination of federal, provincial/territorial and indigenous (FPTI) health research, including through the establishment of a standing body of FPTI health research organizations, and greater use of funding matching mechanisms to drive alignment;
- adopting a “one health” approach that integrates human, animal, and environmental considerations,
- sustained funding (10+ years) for larger pan-Canadian pandemic research areas and networks, including surveillance mechanisms (e.g. wastewater) to ensure a state of readiness and reduce the need for funding competitions during an emergency;
- a greater focus on examining the effectiveness of interventions aimed at addressing social determinants of health and reducing the disproportionate risk that health emergencies pose to vulnerable populations; and
- efforts to promote a Canadian research culture of faster, “less-perfect” and coordinated research in emergency situations.
- **The importance of more effective health data sharing for the benefit of all Canadians**
- Stakeholders have noted that the lack of connectivity in Canada’s health data infrastructure reduced the ability to run fast and large-scale studies, limiting our research competitiveness compared to other countries and impairing our ability to rapidly understand our own population needs and set data-informed policy;

- the importance of addressing the recommendations from previous reports relating to health data sharing, and further efforts to operationalize a pan-Canadian approach to health data sharing, including to address gaps in information relating to vulnerable populations; and
- a need for all levels of government and relevant stakeholders to fully consider and communicate the harms to Canadians that are resulting from the poor flow of information.

C) Science advice

- **Fragmentation of science advice processes and related coordination challenges**
- Many stakeholders have observed that in response to the pandemic, the federal government went to great lengths to seek science and expert advice, including through many new ad-hoc advisory bodies, some of which were formed very quickly, whereas some were established later.
- Some interviewees have noted that the various science advice processes led by Health Canada, other federal departments and agencies, the Chief Public Health Officer (CPHO) and the Chief Science Advisor (CSA) resulted in multiple streams of advice and a need to introduce additional ad-hoc coordination mechanisms;
- international collaboration channels were balkanized; and
- some provinces and stakeholders introduced additional mechanisms and networks, resulting in further fragmentation and duplication.

- **Varying effectiveness of science advisory bodies**
 - Stakeholders have noted that federally-established science advisory bodies provided essential advice and informed critical decisions including on the procurement of vaccines;
 - the effectiveness of the various federal advice and coordination structures varied depending on their access to information, membership, how advice was delivered and whether that advice related to matters within the jurisdiction of the federal government or other levels of government;
 - federal science advisory mechanisms did not adequately include expertise relating to social determinants of health and vulnerable populations including the elderly, lower-income Canadians, homeless and Indigenous peoples; and
 - inconsistent approaches to the communication of scientific evidence and its uncertainty contributed to confusion and reduced public confidence and trust in government.

- **A need for a centralized emergency science advice table**
 - Stakeholders see a need for a ready federal advisory table with broad expertise that can be deployed immediately in response to an emergency;
 - a structure of working groups formed as required to support the main table, rather than separate horizontal bodies, and the ongoing maintenance of extramural, intramural and industry expert databases to allow for their rapid formation;
 - adequate representation of experts in the area of health equity and social sciences (including behavioural sciences), and
 - the public release of expert advice and its uncertainty in a timely manner (within days of it being provided to government), so that other levels of government and all stakeholders can benefit.

Discussion questions

The panel would appreciate hearing your views on questions including the following:

1. **What are your thoughts on the stakeholder views and suggestions that the panel has heard thus far, as summarized above?**

2. **Do you have other observations?**
 - What is your overall impression of how research was coordinated and synthesized to respond to the pandemic?
 - What are your views on the approach taken to obtaining science advice?
 - What went well and what would you like to have seen differently?

3. **What are your recommendations for Canada’s approach to science advice and research coordination to improve our preparedness for and response to health emergencies?**

To encourage frank and honest input from all participants, all views and information provided to this review will be treated as confidential and not attributed in the final report.

Contact

For more information or to provide written views to the panel, please contact the secretariat at sciencereview-revuescientifique@hc-sc.gc.ca