



Health Canada and the Public  
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# **Lessons Learned from the Public Health Agency of Canada's COVID-19 Response (Phase One)**

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Office of Audit and Evaluation  
Health Canada and the Public Health Agency of Canada

**FINAL REPORT**  
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## Table of Contents

1. INTRODUCTION AND BACKGROUND .....	1
2. SKILLS, CAPACITY AND MOBILIZATION .....	3
3. ROLES, RESPONSIBILITIES AND ACCOUNTABILITIES FOR THE IMS, HPOC AND PROGRAM BRANCHES .....	9
4. SUPPORT TO THE CPHO .....	15
5. DATA TO SUPPORT DECISION-MAKING .....	18
6. GUIDANCE .....	21
7. CONCLUSION AND SUGGESTED ACTIONS FOR IMPROVEMENT.....	24
APPENDIX A - KEY DISTINCTIONS BETWEEN HPOC AND THE IMS.....	25
APPENDIX B – RESPONSE STRUCTURE .....	26
APPENDIX C – GUIDANCE DOCUMENTS PUBLISHED TO THE GOVERNMENT OF CANADA’S COVID-19 WEBSITE.....	27
ENDNOTES.....	30

# 1. Introduction and Background

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## 1.1 The Novel Coronavirus (COVID-19)

On December 31, 2019, the Public Health Agency of Canada (PHAC or Agency) received the first signal through the Global Public Health Intelligence Network of an illness originating in Wuhan, China, from a virus that did not match any other known virus. Events and the Agency's activities rapidly escalated from that point on, which began with quickly sharing information within PHAC as well as with partners about this new virus.

On January 1, 2020, PHAC's President shared the information she had with key staff within the Minister's Office, as well as her counterparts at the Privy Council Office, Global Affairs Canada and Public Safety Canada. The following day, the Chief Public Health Officer (CPHO) alerted all members of the Council of Chief Medical Officers of Health (CCMOH) to the report of an illness in Wuhan, China. That same day PHAC alerted the federal/provincial/territorial (FPT) Public Health Network (PHN) Communications Group about the illness, and the National Microbiology Laboratory (NML) also sent an alert to the Canadian Public Health Laboratory Network (CPHLN). Situational reporting on daily events and activities formally began on January 6, 2020 (and continue to the time of writing this report).

The virus responsible for the illness was identified on January 7, 2020 as a new type of coronavirus. The first death associated with this virus was reported in China on January 11, 2020.

As the SARS-CoV-2 virus (named COVID-19 by the World Health Organization on February 11, 2020<sup>1</sup>) is completely novel in the human population, there is no immunity nor a vaccine available to prevent the spread. Furthermore, while many people with COVID-19 have mild symptoms or are asymptomatic, others experience

severe symptoms, which in some cases has resulted in significant hospitalization or death.

As of September 08, 2020, there have been over 27 million confirmed cases of COVID-19, resulting in over 890,000 deaths, around the world.<sup>2</sup> In Canada, there have been over 130,000 confirmed cases and 9,000 deaths.<sup>3</sup> Without adequate containment and suppression strategies, the COVID-19 pandemic has the potential to overwhelm the capacity of health care systems.<sup>4, 5, 6, 7</sup>

## 1.2 COVID-19 Response Activation

PHAC actively monitored the situation starting on December 31, 2019 and initiated regular communications with F/P/T partners in early January 2020, keeping them apprised of the situation. On January 15, 2020, the federal government's Health Portfolio Operations Centre (HPOC) was officially activated to level two<sup>i</sup>, thus, heightening the active monitoring of early warning signs and to prepare for possible containment and mitigation of a possible coronavirus outbreak and triggered the Federal/Provincial/Territorial (F/P/T) Public Health Response Plan for Biological Events. A level two activation signaled that COVID-19 may impact the responsibilities of Health Portfolio (HP) program branches above their capacity and that coordination of information and response activities between HP program branches (including regions), the government of Canada, other government departments (OGDs), international partners and operations centres was required.<sup>8</sup>

On January 27, Canada's first confirmed case of COVID-19 was announced, and on January 28<sup>th</sup>, 2020, the HPOC was officially activated to a level three signifying that the impact, or potential

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<sup>i</sup> There are four levels of activation, which are outlined in section three of the report.

impact, of the COVID-19 public health event required greater use of HP program resources to support the response.<sup>9</sup> The escalation to a level three also further supported effective coordination of F/P/T preparedness and response to the emergence of COVID-19 and included the implementation of the Incident Management System (IMS).<sup>ii</sup> As the event needed a coordinated F/P/T response, a Special Advisory Committee (SAC), a council of F/P/T Chief Public Health Officers, was officially activated on January 28<sup>th</sup>, 2020.

On March 11, 2020, the World Health Organization declared the global outbreak of COVID-19 a pandemic. The public health threat posed by the COVID-19 pandemic led all levels of government to take unprecedented measures to help slow the spread of COVID-19, thereby minimizing serious illness, death and social disruption resulting from the pandemic<sup>10</sup>.

### ***Unprecedented measures***

PHAC's response to the COVID-19 pandemic is different from previous responses in terms of magnitude and impact. The response required the federal government to close Canada's borders to international traffic (with some exceptions) and for P/T governments to close schools, as well as nonessential services and businesses. Canadians were asked to isolate themselves as much as possible and were strongly encouraged to follow recommended public health measures (e.g., social distancing) in public spaces. Such widespread measures were never experienced before in Canada.

As part of the response, the federal government required non-essential staff from all departments and agencies to work from home for the near future. As office buildings closed across the country, the majority of PHAC staff moved to working from home,

adding to the complexity of the response. Nonetheless, employees within the IMS and program areas in the Agency continued to work and function in this exceptional environment.

## **1.3 Purpose and Scope**

This report presents key findings and considerations for improvement from the targeted lessons learned review conducted by the Office of Audit and Evaluation of the first seven months of PHAC's ongoing COVID-19 response. This review was requested by PHAC's President, as she saw opportunities to learn from the first seven months of the response in order to adjust her organization in anticipation of a second wave of infections. The purpose of the review was to identify best practices, challenges and areas for improvement. Findings from the review will be used to support PHAC's planning and decision-making activities as the outbreak evolves. The findings will also inform other reviews being conducted, such as the Functional and Organizational Review project.

The lessons learned review examined five broad areas of PHAC's COVID-19 pandemic response including: (1) skills, capacity and mobilization; (2) roles, responsibilities and accountabilities for the IMS, HPOC and program branches; (3) support to the CPHO; (4) data to inform decision-making; and, (5) guidance. These five areas were chosen by PHAC's senior management amongst several potential topics, as they were determined to be the most critical areas to inform organizational adjustments that could be made while the crisis continues. Other lessons learned topics will be addressed upon completion of this review.

This report devotes separate sections to each of the five broad areas above. Their order is not intended to reflect their relative

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<sup>ii</sup> During a public health event an Incident Management System is implemented to manage and coordinate the response. The acronym IMS is used by PHAC

to refer to both the Incident Management System, and Incident Management Structure supporting the system. More detail is provided in section three of the report

importance. In addition, some sections necessarily overlap in content and are not mutually exclusive.

## 1.4 Methodology

Data for this review was collected from 52 key informants from across all PHAC branches and offices. Interviews were conducted from mid-June to early August 2020, with over 90% of them completed by mid-July 2020. These interviews were supplemented by a review of program documents.

# 2. Skills, Capacity and Mobilization

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## 2.1 Background

A critical element of any response is the access to human resources to conduct the required activities. In this section, we examine whether PHAC had access to staff with the required skills, as well as enough people with those skills (i.e., capacity) to address the unprecedented scale and scope of the response, including the many complex and novel activities associated with the Agency's COVID-19 response. Furthermore, we explored the Agency's mobilization of internal staff and external resources to fill positions and provide the capacity required to support response activities.

The novelty of COVID-19 and the speed at which the situation around it evolved required PHAC to mobilize on a scale that the Agency had never experienced with previous public health events. Throughout the response, two sets of mobilization efforts occurred simultaneously in an effort to support the Agency's activities. The first was through the HPOC, which primarily focused on bringing in resources to support the IMS. The mobilization completed through the HPOC also helped staff positions in certain program functions, as well as the repatriation events at the Canadian Forces Base

## 1.5 Limitations

Key informant interviews were only conducted with PHAC employees and individuals brought into the Agency to work on the COVID-19 response. This report does not include perceptions from the Agency's external partners or stakeholders, which may enhance or change the findings presented below.

(CFB) Trenton and Cornwall. Additionally, several program branches mobilized staff within PHAC and from other government departments to ensure they had the capacity and skills necessary to fulfill their roles and responsibilities in relation to the COVID-19 response. Consequently, the review examined the skills and capacity requirements and mobilization efforts across the Agency and not specifically for the IMS.

The HPOC and Agency branches also mobilized staff across the Agency to provide their F/P/T partners with additional capacity and in certain cases individuals with specialized skills and expertise. For instance, the Centre for Communicable Diseases and Infection Control (CCDIC) deployed staff to work with Correctional Service Canada (CSC) to provide support around infection prevention and control (IPC) in federal prisons and the Centre for Emergency Preparedness and Response (CEPR) provided capacity to help mobilize Personal Protective Equipment (PPE) procurement on behalf of the provinces and territories. Moreover, PHAC provided surge capacity to the provinces and territories to support contact-tracing and surveillance efforts.



## 2.2 What worked well?

### Quick mobilization of staff early in the response

Skills and expertise exist across the Agency and the staff mobilized were motivated, dedicated, responsive and hardworking, even when facing long hours and complex tasks that needed to be turned around within short timelines. The same can be said for staff from other government departments who were mobilized into PHAC to help with the response. The great work that has been achieved to date is largely credited to significant efforts, dedication and professionalism of the individuals involved with the Agency's COVID-19 response.

Agency staff were mobilized early on in the response. Staff were eager to help and their managers were supportive of releasing them to work on the response. Tools such as the All Event Response Operations (AERO) database and lists of volunteers generated by the Human Resources Services Directorate were used in the beginning to identify individuals with specific skills (e.g., epidemiologists) who were available to support the response. However, these sources were quickly exhausted, and the IMS and program branches continued to require capacity including individuals with specific skills to support their activities.

The ability and extent to which HPOC was able to mobilize the quarantine sites at CFB Trenton and Cornwall was also considered a strength of the response. Efforts to examine lessons learned during and after each repatriation event supported ongoing improvements.

### Establishment of partnerships

Senior managers within and outside the IMS perceived the establishment of partnerships and a high level of collaboration with provinces, territories and other government departments as key factors that supported several mobilization activities including procurement of PPE and setting up the quarantine sites.

Collaboration with a wide range of partners was also used to leverage expertise, data and other resources.

In certain cases, the Agency was able to implement alternative solutions to address gaps in skills and capacity. For instance, there was a limited number of quarantine officers within the Agency and it is a difficult position to staff quickly because it requires specific education and training. Therefore, the Agency trained and sent staff to act as screening officers in key airports. The screening officers helped triage incoming travellers to identify who required a health assessment by a quarantine officer, thereby, allowing quarantine officers to focus on the tasks for which they are uniquely qualified.

### Corporate services mobilized for support

The quick mobilization of staff into the response was strongly supported with the implementation of the Response Staffing and Surge Capacity team to help with staffing in the IMS and program branches, as well as the establishment of processes to expedite the movement of staff within the Agency and the hiring of staff from outside the Agency (e.g., security clearance). While management was able to quickly bring people into the response, the mobilized staff often could only remain for short periods (e.g., a few months or less) leaving the IMS or program branches with continued gaps in capacity and/or skills and the onerous task of repeatedly orienting and training new people. Consequently, work to staff positions has been continuous.

In general, staff within the IMS and programs have the tools they need to do their work and IT has done a good job ensuring that staff were able to work remotely. Moreover, an IT help desk was implemented in the HPOC to provide direct support to the IMS including the rapid intake of new employees. In addition to supporting the IMS, it was noted that IT provided key assistance to the groups working on PPE and were quite responsive to the rest of the Agency staff working from home.

Staff responsible for supporting procurement activities were quite responsive at the beginning of the response. However, it was noted that over time they were unable to keep up with the contracting requirements as the volume continued to increase, particularly around the quarantine facilities.

## 2.3 Challenges

### Limited capacity

While Agency staff were mobilized to work on the COVID-19 response, it quickly became evident that the Agency did not have the breadth and depth of human resources required to support an emergency response of this never-seen-before magnitude, complexity and duration. As a result, PHAC had to reach out to OGDs for additional staff to help support the response.

Staff who have been mobilized, particularly those in key roles, have been working long hours, often six or seven days a week since January 2020, and will not be able to sustain this level of effort until the end of the response. Consequently, one of the main concerns identified throughout the review is the loss of staff through burnout or to other government departments, which some managers have noted they are starting to see at this stage in the response. Management does not want to risk the health of their staff and are concerned that they will lose staff, which will leave them with even fewer resources for both current and future COVID-19 activities, as well as normal functions as they resume.

The novel nature of COVID-19 and the global spread resulted in an unprecedented demand for an increased number of staff with specific skills throughout the Agency. While the Agency was able to mobilize quickly in the initial stages of the response, longer-term mobilization efforts have been challenged by an inability to find available staff to fill capacity gaps and in particular, available staff with the required skills and expertise.

### Gaps in critical skills

#### *Public health and medical expertise*

Management noted multiple capacity and skills gaps across the Agency. Primarily, most noted limited public health expertise, including epidemiologists, psychologists, behavioural scientists and physicians at senior levels. The latter group is of particular importance for any type of response coordinated through PHAC. To put this into context, 60% of the senior managers/executives at the U.S. Centres for Disease Control and Prevention (CDC) reporting to the Principal Deputy Director (i.e., the CDC's second in command) are medical doctors.<sup>11</sup> In addition to this gap in expertise, there are also concerns that several experts within the Agency will be retiring in the next few years and, without succession planning, this gap will continue to increase. Without this capacity, the Agency runs the risk of losing credibility in providing advice and guidance to multiple partners and stakeholders, as well as guiding the response internally. Furthermore, this places considerable strain on those few senior staff who do have this expertise.

#### *Emergency management*

There is also a lack of emergency response management expertise and capacity within the Agency, particularly among leaders in program branches and the IMS. This is a challenge for PHAC as these skills are critical to supporting a well-managed and organized response.

#### *Communications*

PHAC is missing sufficient skills and capacity regarding risk communications (specifically communicating uncertainty) to support the Agency's messaging around COVID-19. This lack of capacity is partially attributed to the unprecedented nature of the COVID-19 response, including the volume of required communications, plus the pace needed to produce messages. Some key informants further noted that communication products

supporting the Agency's messages on COVID-19 did not reflect a public health perspective (disease prevention, health promotion and quality of life).

While a communications unit dedicated to the COVID-19 response was eventually created, additional capacity within the unit is required to support the continued pandemic response, particularly on behalf of the Agency.

The Office of Audit and Evaluation is conducting a separate lessons learned exercise around the Agency's communication activities as part of its COVID-19 response. A report outlining the successes and challenges of these activities will be available in October 2020.

### *Operations*

There were significant capacity gaps across the Agency with respect to specific operational requirements including specialized resources such as quarantine officers, PPE specialists, nurses, environmental health officers, and project managers. The lack of operational capacity affected several areas of the Agency's COVID-19 response, especially its border presence, which was also affected by a lack of infrastructure support. Prior to the pandemic, PHAC provided remote services from Ottawa to all points of entry at Canadian borders 24 hours a day, seven days a week. However, the implementation of numerous Emergency Orders under the *Quarantine Act* and corresponding border measures requiring travellers to quarantine or self-isolate upon arrival in Canada and the establishment of regional quarantine facilities infrastructure and processes required the Agency to significantly ramp up its front-line operations with required infrastructure supports at key points of entry.

The Agency stretched its available resources as far as possible including training and deploying existing staff. Additionally, staff, including senior management (President, VPs and DGs), with strong operational knowledge and experience were required to work long hours and take on additional responsibilities to address

the capacity gap and support the pandemic response. Since the beginning of the response, the Agency made significant efforts to increase its operational capacity through extensive and rapid HR processes, including hiring staff from OGDs. However, because of the unique requirements of certain positions (e.g., quarantine officers, environmental health officers) it was challenging to identify those with the required qualifications for immediate deployment. While the Agency offers the required training, it can take several months before new staff are fully qualified.

In an effort to mitigate some of the Agency's challenges regarding operational capacity the President reached out to partners, to recruit senior executives with significant operational experience with other government emergency responses to join PHAC's COVID-19 response.

### *Policy and planning*

Several key informants attribute challenges regarding the Agency's policy and planning activities throughout the COVID-19 response to a lack of capacity within the Office of Strategic Policy and Planning (OSPP) and their heavy involvement in the IMS. The OSPP was a small policy shop before the pandemic, without senior policy executives above the EX-03 level, and did not have the capacity to address the significant increase in the volume of requests from Cabinet and parliamentarians regarding the COVID-19 response. For example, from January to August 2020, the policy unit was expected to prepare for over 140 parliamentary and cabinet briefings<sup>12</sup>, which is unprecedented for this unit. The lack of policy capacity to complete this work put pressure on senior executives including the President and CPHO, who did not have the necessary support to prepare for these appearances, which by extension, made it difficult for them to adequately support the Minister of Health. To address capacity gaps, the OSPP brought in additional staff; however, the workload continues to be heavy, and more staff are required to manage the ongoing influx of requests.



The Agency's lack of strategic planning capacity has had a significant impact on other activities, as this capacity allows the Agency to move from a reactive to a proactive state. Strategic planning allows the Agency to determine priority activities and the human resources, materials and operations required to undertake these activities. In the Agency, it is unclear whose role it is to lead the Agency's strategic planning around COVID-19 and the prioritization of COVID-19 (and potentially non-COVID-19 related) activities.

### *Regulations*

The COVID-19 pandemic has resulted in a situation where PHAC has been required to implement over 20 Emergency Orders under the *Quarantine Act* within a six-month period. This is an unprecedented number of Emergency Orders for the Agency, and staff have never before had to engage in quarantine-related activities on this scale. In comparison, the last time the Agency implemented Emergency Orders under the *Quarantine Act* was to reduce the risk of exposure to Ebola, which involved four orders over a 13-month period.<sup>13</sup> The necessity for this volume of Emergency Orders, and the speed at which they had to be implemented placed significant pressures on the team responsible, who had limited expertise and capacity, as well as senior executives, including the President. While efforts were made to bring in additional staff, these efforts were challenged by the inability to hire indeterminate staff, as potential candidates were unable or unwilling to accept a term position.

### **Prioritization of activities as the response advances and normal activities resume**

The longer-term mobilization challenges encountered by HPOC and program branches are generally attributed to a lack of clear prioritization across the Agency regarding COVID-19 related activities and which non-COVID-19 related activities should pause, slow down or continue during the response. While it was evident that COVID-19 was PHAC's primary activity over the first half of the year, as time advances, more managers will no longer be able

to release their staff to support the response as they have their own COVID-19 and non-COVID-19 program activities and deliverables to accomplish.

### **Challenges with mobilizing a long-term response**

Most positions associated with the response are staffed for a short time (i.e., a few weeks to a few months). This may create difficulties attracting and mobilizing staff and individuals with the required expertise to join the response. Individuals may be reluctant to leave their substantive position (within or outside of government) for a short-term position, and managers may be reluctant to release staff as they often cannot backfill positions for such short periods. It was noted that staffing challenges are exacerbated by the inability to offer individuals indeterminate positions, particular those from outside of government, due to the limited availability of long-term funding. In certain cases, the lack of long-term funding also inhibits the ability to hire staff for specific positions that require significant training.

In certain cases, staff may be reluctant to accept long-term mobilizations for fear of burnout due to the associated long work-hours and fast-paced work, which could further enhance the capacity gaps noted earlier.

## 2.4 Suggested Improvements

While skills exist within the Agency in a variety of areas, the capacity required to address the vast number and range of COVID-19 activities far exceeds the current capacity of the Agency. In particular, capacity gaps in key areas of the response (e.g., policy, communications and operations) placed tremendous pressure on existing staff, as well as the President and CPHO, who had to lead on files without the required departmental support. Mobilizing staff to respond to current and future needs will remain a challenge.

During this lessons learned process, the President also established a Functional and Organizational Alignment Project, comprised of current and retired senior public service executives to define high-level organizational structure options to bolster and strengthen key activities and address gaps to effectively manage the ongoing COVID-19 response and evolve to PHAC of the future.

Considering that project, and the challenges outlined above, the Agency should focus on the following areas of improvement:

- Increase the Agency's capacity and, as much as possible, at senior levels, to address observed gaps in:
  - Public health and medical expertise;
  - Risk communications;
  - Emergency management;
  - Operations, including specialized expertise and infrastructure supports;
  - Policy and planning; and
  - Expertise in developing Regulations.

Addressing these challenges would be aided by an HR strategic mobilization plan for the ongoing COVID response, and may help guide future emergency responses. Such a plan should outline a flexible HR model and processes to support consistent and timely staffing efforts across the Agency. Additionally, the Agency should continue leveraging the supports available from the Human Resources Services Directorate (e.g., the Response Staffing and Surge Capacity

Team), as they have proven to be essential during this and previous pandemic responses<sup>14</sup>. Reaching outside of the Agency for additional resources (including public health skills) will continue to be required.

- Increasing the ability to hire indeterminate staff, particularly when they are able to fill a critical skills gap, should help attract a greater number of individuals to join the response and provide the Agency with a stable complement of staff to support its efforts (recognizing the difficulties of staffing with a lack of available long-term funding).
- Increase the length of time of the assignments in the IMS may help encourage individuals to join the response and allow managers to support assignment opportunities as it could increase their ability to backfill positions. This would enable continuity and increased coverage within the IMS, thus allowing staff to work fewer hours and take time off when needed. A reduction in the number of hours per shift, particularly for key positions, is important to help reduce the possibility of burnout. However, this requires an increased contingency of staff (particularly senior level staff who have the emergency management and/or public health expertise to fully contribute to the response).
- Create or clearly identify a group responsible for strategic COVID-19 planning including the prioritization and communication of critical activities in the near and mid-term future for the Agency as a whole. This would allow management to plan, allocate and find resources where required. This group should not be directly involved in response activities, but should be clearly linked to help determine immediate and mid-term priorities. While a natural spot for this group is within the IMS, as part of the planning function, other groups could also lead this work (such as within Strategic Policy) and be supported by the IMS. Recognizing that multiple groups are doing components of strategic planning, this group should draw from work of others, such as SAC or the emerging science group, to the extent possible. In the end, strategic planning would allow

each individual function to understand the operational and human resource requirements to conduct their work, particularly if resurgence occurs (such as the PPE required in the Fall), which would link to the overall Agency response.

- For the future, the Agency needs to enhance the roster of pre-identified staff and individuals from other organizations with specific skills (e.g., epidemiology; infection, prevention and control; policy; risk communications; among others) who are able to mobilize when there is a response. This will help reduce the possibility of burnout and could be done in

collaboration with a diverse range of partners (including other government departments, private organizations, non-governmental organizations, academia, etc.)

- Finally, the Agency should require and provide staff at all levels across the Agency with emergency management training so they are better prepared to participate in any public health event response.

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## 3. Roles, Responsibilities and Accountabilities for the IMS, HPOC and Program Branches

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### 3.1 Why an IMS?

When an emergency occurs, federal institutions, in accordance with the *Federal Policy on Emergency Management* (2009) are responsible for establishing an internal structure to provide governance for departmental emergency management activities that is consistent and interoperable with government-wide emergency management governance structures. To fulfill this requirement, PHAC and Health Canada (referred to as Health Portfolio - HP) have adhered to the principles of the Incident Command System (ICS) to create their IMS. In so doing, PHAC and Health Canada have adopted an internationally recognized standardized emergency management framework for **organizing and directing** emergency responses that promotes clear lines of authority and a scalable emergency management structure.

The IMS is a management tool that facilitates the organization and coordination of a response by **specifying who does what, where and when** in a coordinated and systematic way. The system aims at ensuring that the most pressing needs are met, and that precious resources are used without duplication or waste. The IMS framework promotes the implementation of a pre-designed hierarchical structure, organized around key functions,

to manage, direct and coordinate the response. The acronym IMS stands for both the system that manages the response (Incident Management System), and the organisational structure that is put in place (Incident Management Structure).

#### Organization and Activation

When a public health event occurs, the HPOC, which is a permanent command and control platform within PHAC, will adopt an IMS when activation level requires it in accordance with a mobilization protocol. There are four levels of activation, 1-Routine, 2-Heightened, 3-Escalated and 4-Emergency; the IMS is usually activated when a situation reaches level 3 or 4. Refer to Appendix A for an illustration of the key difference between HPOC and IMS.

While HPOC supports the coordination and logistic functions within an IMS, the structure also draws on expertise and resources from program branches within PHAC, who become part of the operational arm of the IMS to ensure the effective delivery of the public health/technical aspects of a response. Appendix B illustrates the interconnectivity between the IMS, HPOC and program branches in the current COVID-19 response.

The IMS is modular, and can be expanded or contracted as needed. The IMS is responsible for maintaining contacts and communications across the health portfolio and with stakeholders

throughout all stages of the event. When activated, the IMS will generally include the functions and key roles presented in Table 1.

Table 1: Functions and Key Roles of an IMS

Function	Role
Event Manager	Overall management and coordination of response efforts and activities of the IMS
Executive Liaison	Ensure coherent and coordinated information flow between the IMS and the Executive Group
Management Staff: <ul style="list-style-type: none"> <li>• Liaison Officers</li> <li>• Communications</li> <li>• Strategic/FPT/International Policy</li> <li>• Legal</li> <li>• Ethics</li> <li>• Research</li> </ul>	<p>Specialist advice, liaison and internal/external communication in support of response efforts</p> <p>The Event Manager appoints liaison Officers as necessary. The Liaison Officers are responsible for maintaining contact with, and accurate information flow and coordination between, the IMS, other relevant groups within the Agency as well as external Departments/Agencies</p>
Operations	Ensure effective delivery of the public health/technical aspects of a response
Planning	Facilitate short and long term planning and maintain situational awareness
Coordination and Logistics	Ensure optimal functionality of the HPOC and IMS in support of response efforts
Corporate Services	<p>Ensure that, during a response, normal accountabilities are maintained and augmented where necessary to address the specific requirements of the event. Areas of responsibility include:</p> <ul style="list-style-type: none"> <li>• Human resourcing</li> <li>• Compensation</li> <li>• Financial management</li> <li>• Contracting</li> <li>• Employee needs (Occupational Health and Safety and Employee Assistance Services)</li> </ul>

Supported by  
program areas  
operating in IMS

Supported  
by HPOC

**Source:** Adapted from Health Portfolio Operations Centre (HPOC) Essentials<sup>15</sup>, and orientation document, and HPOC vs IMS<sup>16</sup>, a presentation by PHAC's Health Security Infrastructure Branch

## 3.2 What worked well?

### **Advancing an unprecedented number of files within a short period of time**

The amount of work that has been accomplished by PHAC since January 2020 is unprecedented. Activities varied widely, such as overseeing repatriation of travelers and quarantine sites, amending key legislative frameworks, issuing multiple guidance documents, developing and delivering mass media campaigns, responding to the concerns raised by Canadians via multiple functions, as well as producing daily epidemiological reports, to only name a few. All branches in the Agency contributed to the response either as a subject matter expert or by having their staff mobilized to support the IMS.

As the size and complexity of the response increased exponentially, PHAC was able to achieve an enhanced mobilization effort, as over 600 staffing actions were undertaken over a very short period of time in support of the IMS and repatriation efforts. In particular, the President leveraged her experience and networks to identify and recruit a number of senior executives, including public service retirees, in an effort to add more depth and breadth of experience to the response. These highly experienced senior executives helped advance specific files, such as stockpiling PPE procurement, viewed as a particular challenge early in the response. The President also initiated the establishment of a corporate strategy to drive staffing actions and get capacity to deliver on Agency functions in support of the COVID-19 response.

### **Fostering collaborations front and center**

PHAC has leveraged and strengthened collaborations with P/Ts, other federal departments, industry partners, Indigenous organizations, and a wide range of stakeholders in the human

and animal health communities through both formal and informal networks.

Collaboration and coordination between PHAC and P/T partners is a key strength of this response. The various PHAC directorates report that they are maintaining positive working relationships with P/T counterparts, which is vital to timely public health reporting (i.e., ensuring data flows) and to mounting a successful pandemic response. For example, such collaboration contributed to the IMS being able to rapidly access and process information provided by P/T partners, in order to create a cohesive national picture of the outbreak, despite variances in data submission formats.

Collaboration at the Special Advisory Committee (SAC) table is also a strength. The SAC, which has a mandate to provide advice to the F/P/T Conference of Deputy Ministers of Health pertaining to the coordination of public health policy and technical content on matters related to response to a significant public health event, was mobilized early in the response. As noted by several key informants who were implicated in various past responses, the current SAC is functioning as intended, and probably better than in previous events.

Collaboration with OGDs is also seen as an area of success by many. Examples of this can be seen in the collaboration between PHAC and the Canada Border Services Agency (CBSA) at the border, with Agriculture and Agri-Food Canada (AAFC) on the agricultural and food processing sectors, as well as with CSC on the guidance on IPC and control in federal correctional institutions.

## 3.3 Challenges

### **Clear line of authority within the IMS and program branches**

An important part of the IMS structure is the establishment of clear lines of authority, to ensure work is done effectively and efficiently. As the IMS also relies on the expertise within program



branches to support its operational function, knowing how the structure works and how to work within the structure is essential for program branches. While some areas within PHAC understand these principles very well, many within the Agency, including those at a senior level, had never before participated in a public health response, nor had been trained in emergency management. This lack of knowledge/experience led to some confusion related to roles and responsibilities early on in the response.

As the size of the response increased exponentially in a relatively short time (from January to April 2020), the IMS itself was faced with several challenges in finding and mobilizing key staff. While the IMS is led by an acting Vice President, mobilizing senior level staff (e.g., EX-03 level) within the IMS for long periods of time has been difficult. This has often left the structure without the needed breadth and depth of experience to lead complex files.

Furthermore, the short rotation period of staff (two weeks) within the IMS appeared to create challenges in terms of continuity and advancement of files<sup>iii</sup>. All of this impacted the efficiency and effectiveness of the response, which in turn left the President at times without timely key information she needed to oversee and administer PHAC's activities and response. This situation prompted tasking of some urgent key files outside of the IMS in an effort to obtain results when they were needed for decision-making.

While program branches outside of the IMS were able to produce the needed information in a timely way, the disconnect it created with the IMS, which was not always aware of work being done, impacted the overall cohesiveness of the Agency's response. This resulted in various areas of PHAC working on similar files in siloes, leaving the Agency at risk of potential duplication of information or conflicting information.

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<sup>iii</sup> Note that to alleviate issues related to short rotation period (two weeks), IMS has already introduced longer period for key positions to help promote continuity, and advancement of files in a timelier way.

On the other hand, considering the size and complexity of the COVID-19 response, it would be unrealistic to expect all tasks related to the response to be executed within the IMS. For example, some very specialized files, such as those linked to amendments to the *Quarantine Act*, have to be led by the experts within the program area and overseen by the accountable individuals within the branch. Still, the IMS must be kept informed of all activities, in order to understand the links between them which would lead to an integrated response.

All those engaged, including the IMS, program branches and corporate functions, the President and the CPHO, should have a clear understanding of who is leading which file, and who is supporting the lead in their work. Clear lines of authority are essential to a well-functioning emergency response. Not knowing who is leading on files was mentioned by many as a challenge in the response. If the IMS was functioning, all tasking would be done through this structure, with a clear line of accountability. In lieu of this, confusion has arisen with respect to the responsibility of certain files.

Currently, there is no official repository of issue leads and those who would provide support to the leads. As part of the lessons learned exercise, we created a list of leads and supports for particular files. As we consulted with program branches, some noted that they had built their own lists, due to the confusion in the process. At the end of this inquiry, everyone generally agreed on who were the leads for various files, as well as those supporting, but determining the lead initially was a complex and inefficient process.

Similar to the issues management situation noted above, the approval process for products or information sharing was confusing to many, including senior managers within PHAC. They expressed confusion regarding the correct person (President or

the CPHO, or both) to notify/inform or to request approval. Understanding the approval process would enhance a timely and appropriate response.

### **Strategic Planning and Governance**

HPEG is intended to provide strategic direction to the response. Its purpose is to:

- set policy, provide strategic direction and determine short-term and long-term response priorities and objectives;
- provide priorities and oversight for the response effort through the Event Manager (EM) and HPOC;
- review response activities to ensure progress against priorities;
- provide the forum for ongoing information exchange, discussion and decision-making; and
- provide executive leadership for management of issues and priorities.

Many key respondents at multiple levels noted, supported by the real-time audit review, that this committee was not achieving this function. The audit noted that the 'HPEG was a forum to share information and inform decisions, which is part of what it is intended to do. However, the response priorities, objectives and direction that HPEG was intended to provide was not being developed and passed to HPOC. HPEG meetings were primarily updates and there was no linkage to wider priorities or future objectives. In addition, the existing emergency management plans did not provide comprehensive enough tools (meeting agenda, analysis frameworks etc.) to assist with HPEG functioning, leaving the response with no clear strategic direction. These findings are supported by interview data.

### **PHAC's role and responsibilities: Living with COVID-19**

Several key informants expressed a need for PHAC to reflect on its mandate, role and responsibilities within the broader context of

the COVID-19 response. Given the nature and speed at which the COVID-19 response developed, PHAC often had no choice but to take on some responsibilities that were not traditional public health roles, such as the manufacturing of reagents for testing purposes.

As PHAC will be leading and fully committed to the COVID response for the foreseeable future, pressure to advance non-COVID PHAC activities will increase. As such, thinking about governance to support the President and the CPHO in the advancement of all files under their respective responsibilities, will be critical to ensure that decisions regarding non-COVID-19 PHAC activities continue to advance in the event of a second wave. For instance, opioids remain a critical public health issue, AMR is still moving, food outbreak response will be required, zoonotic diseases remain an ever present threat and maternal and child health continues to require attention.

Furthermore, program branches and the IMS are experiencing a decline/gap in available resources to assume critical positions due to operational requirements, program priorities, summer vacations and employee fatigue. Reduced capacity has been discussed in the previous section, which noted the implications for the IMS structure, as well as program area response.

## **3.4 Suggested Improvements**

The magnitude of the COVID-19 response is unprecedented. Within this context, PHAC, through its IMS, was able to mobilize staff rapidly and adapt its structure to address operational needs through the creation of new IMS sections or expansion of existing ones. For instance, as this new virus had no known treatment options, a Medical Countermeasure section was created to ensure that the Agency undertook the proper actions related to the acquisition of biologics, drugs and devices that would support treatment. Furthermore, the level of collaboration achieved by PHAC and its P/T partners, is also a key success of the response

(although this finding will have to be substantiated by further work to obtain the perspective of partners during this response).

Still, the number of files PHAC had to manage quickly exceeded capacity within the IMS. This resulted in PHAC's President relying on expertise outside of the IMS to ensure the advancement of COVID-19 files. As such, all PHAC branches were engaged as the response evolved. Several key informants across the Agency noted that as some COVID-19 response files were led by branches and others by the IMS, there was limited clarity regarding roles, responsibilities and accountabilities, as many of the files interconnected with one another. Thus, despite great achievements by the IMS and program branches, there are opportunities to clarify roles and responsibilities around who is leading which activities, within the response.

While the IMS is a standard for emergency response, the way it works is not well understood by Agency staff implicated in the response. Although great commitment and efforts are shown by everyone within the IMS and program branches, it has been noted by key informants that there are a number of key positions within the IMS that are lacking the senior level expertise and authority to advance issues at the pace needed by this current crisis. In addition, it was also noted that awareness of IMS players regarding existing expertise that lies within program branches could be improved to facilitate more informed, timely actions and more efficient use of existing staff.

Based on this information, the following improvements are proposed:

- Roles, responsibilities and accountabilities within IMS and program branches as they relate to the response should be clarified and clearly communicated to everyone within the organization who is involved in the response. This will support identification of authority as it relates to the various response files and support an integrated PHAC response.
  - PHAC should also ensure to clearly communicate to its F/P/T partners what PHAC's role is (in peak time versus peace time).
- Ensure that key leadership positions in charge of the response are staffed with the necessary knowledge, expertise and experience needed.
- Identify processes to enhance HPEG's function, which would support senior management in advancing a strategic direction to the response. For example, HPEG could continue to focus its agenda on response updates, while a small targeted subcommittee(s) could be created to set-up strategic planning and priority setting that would be brought forward to HPEG for decision.
  - Consideration should be given to mandatory training of HPEG members on the IMS. Such training should also be made available to all staff within PHAC.
- As this response will continue for the foreseeable future, and PHAC will become increasingly under pressure to move its non-COVID-19 files, governance options should be looked at to support the President and CPHO in their respective roles.

## 4. Support to the CPHO

### 4.1 Background

The CPHO continues to be the public face of the Agency's COVID-19 response, and there was interest in identifying the strengths and potential improvements to support her work. It should be clear that this specific focus on the CPHO should not take away from the leadership, dedication and hard work also displayed by PHAC's senior officials, in particular the President and Vice-Presidents, as well as staff having worked on the Agency's COVID-19 response. As support to the CPHO was identified as a specific topic for this review, we have necessarily focused here and not on other senior leadership.

The *Public Health Agency of Canada Act*<sup>17</sup> details the role of both the President and the CPHO. As per section 5.2, the President is

the "Chief Executive Officer of the Agency and has the rank and status of a deputy head of a department". Thus, the President is responsible for running the department's operations. As for the CPHO, section 7(1) of the Act notes that she is "the lead health professional of the Government of Canada in relation to public health." The CPHO is responsible for the provision of public health advice, communicating this advice, and consulting on issues related to public health.

The role and responsibilities of the CPHO are outlined in the *Public Health Agency of Canada Act*, and formalized for emergency situations. In particular, during emergency situations, the provision of public health advice and the communication function of the CPHO's role becomes significantly heightened and more complex, as outlined in the image below.

Responsibilities of the Chief Public Health Officer			
Federal Lead on Public Health	Speaking to Canadians	In an Emergency	Legislative Delegation/ Accountability
<ul style="list-style-type: none"> <li>• Providing advice to the Minister of Health and President of the Public Health Agency of Canada on health issues;</li> <li>• Working with other governments, jurisdictions, agencies, organizations, and countries on health matters;</li> <li>• Providing an annual report to the Minister on the state of public health in Canada for tabling in Parliament; and</li> <li>• Speaking to Canadians, health professionals, stakeholders, and the public about issues affecting the population's health.</li> </ul>	<ul style="list-style-type: none"> <li>• Speaks to Canadians, health professionals, stakeholders, and the public about issues affecting the population's health. This is done directly through conferences and meetings, as well as through the media and the Public Health Agency of Canada's web site.</li> <li>• Is required by law to report annually to the Government of Canada on the state of public health in our country.</li> <li>• Can report on any public health issue, as needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Briefing and advising Canada's Minister of Health, the President of the Public Health Agency and others as appropriate;</li> <li>• Working with counterparts in other departments, jurisdictions, and countries, as well as with experts and elected officials, to communicate with Canadians about how to protect themselves and their families;</li> <li>• Personally delivering public health information to Canadians via media appearances, public statements, updates to the Public Health Agency web site, and columns and public advertisements in daily and community newspapers;</li> <li>• Providing direction to Public Health Agency staff, including medical professionals, scientists, and epidemiologists, as they plan and respond to the emergency;</li> <li>• Leading daily national teleconferences as appropriate with federal government scientists and experts to share information and plan outbreak responses; and</li> <li>• Coordinating with jurisdictions through regular teleconferences with Canada's provincial and territorial Chief Medical Officers of Health and others.</li> </ul>	<ul style="list-style-type: none"> <li>• Accountable/ or has delegated responsibilities for public health provisions of the: <ul style="list-style-type: none"> <li>➢ Public Health Agency of Canada Act,</li> <li>➢ Quarantine Act,</li> <li>➢ Human Pathogens and Toxins Act,</li> <li>➢ Department of Health Act.</li> </ul> </li> </ul>

Source: The Role of the Chief Public Health Officer, retrieved from: <https://www.canada.ca/en/public-health/corporate/organizational-structure/canada-chief-public-health-officer/role-chief-public-health-officer.html>

## 4.2 What worked well?

### The face of the response

The CPHO has been the face of the federal response, through her participation in over 110 media events (press and technical briefings, media scrums/interviews) as well as various public awareness campaigns. Evidence, obtained through public opinion research results, clearly suggests that communications efforts have been successful, as nine in ten Canadians agree that the Government of Canada is doing well both in protecting the health of Canadians (90%) and providing information to Canadians on how to prevent the spread of COVID-19 (89%). Furthermore, the Minister of Health and the CPHO/Deputy CPHO's media availabilities have resulted in mainly balanced to positive coverage during the response. The support provided by the DCPHO in this area has been observed by many as an asset to the Agency.

The CPHO twitter feed is also an indication of Dr. Tam's presence during this response. In February, 2020, she had 18,500 followers. As of September 8, 2020, the number of followers had grown substantially (to 216,300) – with the majority of this growth taking place in the first few months of the response for Canada (March and April). Her twitter feed focusses on the relevant messages for the time period – earlier messages focussed on symptoms and flattening the curve, while later messages outlined lessening public health measures, mental health and kindness.

The CPHO was also the technical lead at various cabinet meetings, as well as F/P/T forums. These meetings occurred multiple times during the week, including weekends, and the CPHO had to be prepared to talk on a wide variety of issues, from border control and the Quarantine Act, to IPC for particular groups to current data trends. From this, it is evident that the CPHO's personal experience in infectious disease and emergency management has been critical during the response to date.

### Enhancing the CPHO office

The support and collaboration provided to the CPHO by her Deputy CPHO and the President of PHAC are cited by key informants interviewed as one of the key successes of the response. They have been standing constantly behind one another, supporting each other and sharing the pressure together.

Recognizing the unprecedented level of activities required by the CPHO to address the response, her office has been enhanced in a few ways:

- expert analysts to review data for trends;
- a senior medical advisor to support her in analysing and learning from the fast evolving science behind this new virus;
- a communications team dedicated to provide her with material for her multiple media and parliamentary committee appearances;
- an additional employee was assigned to her office to answer phone communications, and a 1-800 number was also created to direct Canadians wanting to discuss the response; and
- while not in her office, a data lead was recently assigned to the IMS to coordinate the various pieces across the response, aiming to better identify various data trends.

### Inspiring dedication to the COVID-19 response

Through her resilience and hard work, the CPHO constantly rallies PHAC employees at all levels, as well as her closest partners to stand behind her, displaying the same inspired level of dedication. Throughout the response, we are seeing examples of high degrees of interest, commitment and loyalty towards the CPHO, from all PHAC branches. PHAC employees recognised



her dedication and constant professionalism despite the amount of pressure she had sustained since January<sup>iv</sup>.

## 4.3 Challenges

### Provision of expertise, advice and material

Unfortunately, while the CPHO benefited early on, and continues to benefit from the support of her Deputy CPHO and the President, other support fell short of what was required, considering her engagement on the technical, political and communications side of the response (as noted above). The senior medical expertise needed to support her navigating the rapidly changing science of this new virus was slow to be put in place, and most likely is still insufficient to provide the support required.

Additionally, her office noted that she often received information in the wrong format, with inaccuracies, or in an inappropriate 'voice' needed to convey information to a particular audience. The modelling information, critical to the public face of the response, and the foundation for strategic planning, was mentioned as being problematic in its initial stages, because of the lack of a coordinated or strategic approach to the work.

To bridge the gap and ensure that the CPHO was getting the information needed to help her fulfil her mandate, roles and responsibilities, she (and her office) had to take on additional work to integrate information from across the Agency in the development of CPHO-specific products.

This was often a vicious circle. The more she adapted the work herself to suit her communication style and the technical information required for the situation, the less time she had to

provide feedback on what she needed. It is widely known that the CPHO worked seven days a week, and up to 20 hours a day, to prepare for the following day. This is problematic and unsustainable on multiple levels, and was enhanced by the other considerable pressures on her office (like the need for enhanced security).

### Connection to the IMS and program branches work and activities

Furthermore, as the response was evolving at an exponential rate, it was noted that the IMS and program branches were not always aware of their responsibilities for briefing the CPHO, who often was not provided with key information on various files associated with the COVID-19 response, despite her being the public face of the Agency. Thus, occasionally, she was unaware of key developments, which enhanced her own reputational risk when attending her various media appearances, cabinet discussions, and testimonies to the various parliamentary committees.

## 4.4 Suggested Improvements

The CPHO has been instrumental to the success of the response to date by providing information to Canadians on how to prevent the spread of COVID-19. Her dedication and commitment continuously inspired employees engaged in the response to give their best. Areas of improvement focus on enhancing the support to her (and, by extension, the Deputy CPHO), without duplicating branch functions (or developing new capacity that should be in branches), so they can continue to provide the technical and consistent public health guidance to partners, stakeholders and Canadians:

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<sup>iv</sup> It is extremely important to note that the CPHO was not the only person who would have inspired dedication throughout the response, as inspiration would have come from many people in the Agency, from the dedication and hard work

of senior management to those working tirelessly during the response on various activities throughout the Agency. However, the dedication inspired by the CPHO was a consistent theme in key informant interviews, during this particular topic of discussion.

- Consider a CPHO-support tiger team during the course of the response, which would encompass:
  - a strong contingent of senior medical advisors who could ensure consistency with available evidence and consistency with previous messages;
  - specialized communication support (including risk communications) to foster the development of materials in her 'voice';
  - a strong link with policy areas to help prepare for cabinet briefings'; and
  - additional and timely administrative or program support to her office to help with oversight consistency of language (editing and translation), communication, and

correspondence – which may be needed outside of regular business hours.

- Explore how to further engage the DCPHO. For example, providing him with an observer status at Cabinet meetings and other fora to enhance situational awareness and the ability to step in and act for the CPHO if required.
- Enhance products submitted to the CPHO via the IMS and/or programs branches by ensuring they are accurate, timely and reflect the situation or story that is appropriate for the CPHO at the time. The tiger team, noted above, may help with this process.

## 5. Data to Support Decision-Making

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### 5.1 Background

The concept of data as it pertains to supporting decision-making related to the Agency's COVID-19 response is complex. Throughout the review, it became evident that the definition of data varied based on the individual's role and responsibilities within the context of the response.

Moreover, there are numerous types of data produced, collected and analyzed throughout the Agency including, but not limited to: surveillance and modelling data; border measures; compliance and enforcement; PPE distribution; temporary foreign workers; medical countermeasures; quarantine facilities; and, guidance. Some data are also collected from the Agency's partners including provinces, territories and OGDs.

### 5.2 What worked well?

#### Enhanced coordination of surveillance

Surveillance is a key data-related function at the Agency, particularly during the COVID-19 response. Some of the surveillance teams were noted as having strong relationships with the HPOC, which supported their ability to work within the IMS including rotating staff and addressing ad hoc requests in a timely manner. Recently, the different epidemiology teams conducting surveillance (e.g., Centre for Immunization and Respiratory Infectious Diseases (CIRID), CCDIC, and the National Microbiology Laboratory) were brought together as further coordination was required for each of their individual products (i.e., bringing together pieces of the puzzle). Integrating the work of these different teams should reduce confusion and potential duplication of work. It should also help the Agency illustrate and understand the larger epidemiological story regarding COVID-19 in Canada.

## **Data products for briefing purposes**

The Agency is producing several data products (e.g., daily epidemiological summary and report, modelling updates, quick facts) shared with senior management and key players involved in the response to keep them apprised of activities and to support decision-making. These products or the findings within them are also regularly shared with Agency partners. There is a general perception that the Agency is quite successful at developing these products in a timely manner, particularly when it has to compile and analyze data provided by provincial and territorial partners (i.e., thirteen unique datasets). Additionally, the requirement to develop products quickly during the response has facilitated opportunities for innovation and trying new techniques such as the use of data visualization.

## **Surveillance through a collaborative approach**

The Agency has made significant efforts to develop strong working relationships with the provinces, territories and other government departments with respect to the collection and sharing of data. This has facilitated access to key sources of data that the Agency does not have the resources or the mandate to collect (e.g., traveller data provided by CBSA). Additionally, the Agency and its partners have taken substantial strides to establish new data sources and systems that previously did not exist, while leveraging and integrating existing systems. Ongoing collaboration and information-sharing among these partners is critical to continue to monitor and effectively stem the COVID-19 epidemic in Canada. In addition to working with their external partners, Agency staff are also drawing on data available within other branches and international jurisdictions.

The Agency is also looking at opportunities to rapidly address critical data gaps regarding key populations of interest. In particular, it is exploring options to better understand the impact of COVID-19 among health care workers, racialized and ethnic communities as well as Indigenous communities across Canada,

to ensure that services, programs, and policies can quickly be targeted to intervene where needed.

## **5.3 Challenges**

### **Developing a coordinated approach for data collection and reporting**

While the various surveillance teams were recently brought together, the majority of data-related activities continue to be dispersed across the Agency and there is no clear understanding of how they link together. Without this coordination, the many groups that play an important role in collecting or presenting data continue to develop individual products, which limits an overarching data story regarding the Agency's COVID-19 response.

There are also concerns that the lack of coordination between the different data groups could lead to duplication of efforts and data requests to external partners. The lack of a cohesive and integrated approach for data collection and reporting is attributed to several factors, including the absence of a single data lead who can bring together the different data groups, as well as the need for a coordinated data strategy for the COVID-19 response.

The use of modelling data is a good example of lack of coordination. There is no senior lead responsible for modelling, although various groups are implicated, including the Infectious Disease Prevention and Control (IDPC), HPOC and Communications. Due to its complicated nature and the need for timely information, it can be chaotic to update, which impacts deadlines from the Minister's Office and Privy Council Office (PCO).

### **Understanding the purpose of data**

The Agency's ability to tell its data story is also hindered by the lack of clarity regarding how the various data collected and/or provided would be used within the context of the COVID-19

response. For instance, in certain cases, individuals who were specifically involved in the provision of data did not know if and how that data were used for decision-making. Consequently, there are concerns that data are being collected and/or analyzed without a clear sense of its purpose and that the Agency may not always be collecting and/or analyzing the right data.

### **Data and IT capacity**

As mentioned earlier, there is a shortage of public health expertise, including epidemiologists and analysts responsible for modelling data, as well as individuals to clean the data and conduct quality control. Data are critical, as key players involved in the COVID-19 response rely on data to inform their decisions, including the analysis of data.

It was also noted that the Agency lacks the capacity to manage all of the data it is generating and receiving, and to build the required data collection tools and databases. More specifically, some key informants noted that the Agency's existing databases are not sufficiently agile to respond to the operational scale of the response and there are multiple systems generating information, but they are not integrated, as noted in previous audits and evaluations.

Some key informants also noted that there is insufficient IT project management expertise within PHAC, which negatively impacted the efficiency and timelines for certain projects. These perspectives are supported by recent audits of IT systems development and of surveillance.<sup>18, 19</sup>

As noted in literature discussing the COVID-19 pandemic response of various countries, proper harnessing of digital technology has the potential to facilitate a pandemic strategy and

response in ways that are difficult to achieve manually.<sup>20</sup> A few key informants indicated that, due to PHAC's limited IT capacity, programs often have the tendency to fall back on manual data collection instead of exploring how IT can support these activities. Manual data collection at the borders was provided as an example. To move from manual data collection to a digital solution at the border, senior management at PHAC had to solicit IT support from CBSA to build the ArriveCan application which was launched in April 2020.

### **Accessing data from partners**

As noted above, the Agency has made significant efforts to develop strong working relationships with external partners to facilitate access to data and when those relationships work they work well. However, challenges getting data from the provinces and territories continue to occur and there are times when the Agency does not have access to critical information required for key decisions. For instance, there is still a need for enhanced data sharing between the provinces, territories and the Agency to inform stockpiling and procurement decisions so that there is a clear understanding of PPE availability and need throughout Canada, including what PPE the provinces and territories had already purchased.<sup>v</sup>

## **5.4 Suggested Improvements**

Data have been critical for understanding the multi-faceted and complex nature of COVID-19, and should be available in a timely and coordinated fashion to enhance decision making, for both internal and external purposes. To support access and data usage, PHAC must be able to rely on IT systems and capacity that supports the efficient gathering and use of data. While advancements in data availability have been made, there are still

annexes that specify the details of what/how data will be shared. Until these annexes are complete, the agreement cannot be implemented. The annex development process has taken a long time and is projected to take another few years before completion.

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<sup>v</sup> Data sharing with partners was the driver behind development of the Multi-Lateral Information Sharing Agreement (MLISA). While this agreement was signed by all P/Ts a few years ago, work is still ongoing to develop the

areas for improvement, which focus on enhancing a strategic and coordinated approach to data:

- Develop a coordinated data strategy for the Agency's COVID-19 response that clearly identifies the Agency's data lead, and articulates the purpose of the various data collected and/or analyzed across the Agency. This strategy should include who is responsible for these data and how they fit within the broader data story. For instance, identifying the lead responsible for coordinating the various surveillance, modelling and associated data activities that help tell the Agency's data story. The implementation of a coordinated strategy will support a cohesive and integrated approach to data across the Agency and will reduce the likelihood of duplicating activities as well as collecting and/or analyzing irrelevant data. This strategy should also communicate the different data available and may facilitate coordination and collaboration between Agency branches and functions.
- In order to be able to meet the demands for data to support decision-making, the Agency must also enhance its IT capacity to better support programs in answering the numerous requests for data in relation to the COVID-19 response. The Agency also requires additional capacity to manage all of the data it is generating and receiving, and to build the required digital data collection tools and IT databases.
- Continue building and managing relationships with provincial and territorial partners, as well as other government departments to facilitate the collection and sharing of information as the COVID-19 response continues and evolves. It was also suggested that the Agency lead by example and ensure that they continue to readily share their data with partners in an effort to encourage them to do the same.

## 6. Guidance

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### 6.1 Background

Jurisdictional responsibility for producing technical guidance in a pandemic event is shared between the F/P/T governments.<sup>21</sup> Based on a review of publicly available COVID-19 guidance for industry, many key topics are addressed at the F/P/T levels. These include long-term care facilities, correctional facilities, child and youth settings, death care services, guidance for health care settings, and testing/surveillance.

The definition of guidance can vary, and within this response, PHAC was responsible for the production of various technical documents (as can be found [here](#)). Furthermore, various groups within PHAC were also responsible for providing IPC and other types of advice to partners and stakeholders, which

allowed them to fulfill their own respective functions. This section discusses both aspects of guidance provision.

### 6.2 What worked well?

#### FPT collaboration

Critical guidance products were reviewed through various F/P/T Committees – such as through the Technical Advisory Committee and the Special Advisory Committee (SAC), which allowed for fulsome discussions and coordinated messages within guidance products.



## Number and variety of products

As of June 30, 2020, the Federal government's COVID-19 website hosted 34 industry or sector-specific technical guidance documents (i.e., guidance not targeted to the general public). Of these, 29 were created by PHAC (including documents prepared by PHAC in collaboration with partners). The webpage refers to guidance from the Canadian Centre for Occupational Health and Safety (CCOHS), and links to specific guidance from Health Canada, the Bank of Canada, and Transport Canada. Appendix C provides a summary of federally-produced and publicly-available technical guidance included in this review.

## Speciality advice was provided

PHAC provided advice to other jurisdictions and organizations to support the development of their guidance, particularly around IPC. Across the Agency, expertise was drawn upon for a variety of different purposes, including but not limited to:

- IPC advice provided to multiple departments, including on-site advice to CSC for outbreak response.
- Sector-specific guidance to address and manage issues arising among essential workers in the agricultural sector, leveraging existing food safety experience, clear understanding of roles and responsibilities, and relationships in the field.
- Sex and gender-based analysis (SGBA) advice was provided to ensure that these important considerations were applied to various activities.
- Providing public health advice on conveyances (e.g., guidelines for truckers and testing, ferries and improving the structure of airports to avoid mass gatherings).
- Public health laboratory advice.
- Public health advice at the borders.

## Review of guidance products

While limited information is available on this activity, PHAC was also responsible for reviewing the guidance developed by others. When considering the capacity required to support guidance development within the Agency, it is evident that the demands associated with the review of guidance developed by others should also be taken into account.

## 6.3 Challenges

### Guidance in light of emerging science

Advice and guidance is one of the most difficult and challenging areas during the response to an emerging disease. This is not a new phenomenon, considering communicating evolving science to Canadians arose during the H1N1 response. For example, in February 2020 PHAC did not recommend masks for people without COVID-19 symptoms. In April, PHAC published its first statement indicating that individuals “can choose to wear non-medical masks (NMMs) as an additional way to protect others” though did not explicitly recommend the measure. Even though the explanation of emerging science on the issue was valid, and should be expected as new information emerged, there was still confusion expressed by the media and the public on this issue. Despite the confusion, public health messaging around masks has had an impact on Canadians' behaviours as a rapidly growing proportion of Canadians are wearing a protective mask in public (from 22% in March to 76% at the end of June), likely bolstered with some jurisdictions mandating this practice.

During H1N1, PHAC determined that a risk communications strategy could support communicating uncertainty. Key informants noted, however, that there has been little risk communications support during this response.

### **Guidance was not always timely**

Some guidance has been late and partners (such as P/Ts) posted their own guidance prior to PHAC. Often mentioned was the guidance for IPC within long-term healthcare settings, which was particularly problematic early on in the response. PHAC, for example, published its guidance on April 9, 2020, while Alberta posted theirs in March 2020. It should be noted, however, that PHAC's draft guidance was used as a source of information with partners and stakeholders in the development of their own products, reducing the impact of this factor.

### **The guidance approval process was not always clear**

Multiple guidance processes occurred simultaneously across the Agency and there were occasions where the approval process created problems. Recognizing this, an approval process was developed within the IMS and appears to have resolved these types of issues.

There is an ongoing concern that the reviews of certain parties within the approval process may not be warranted, considering they do not have the technical or public health expertise in a particular area, while potentially adding to the time associated with publishing the guidance. However, the impact of these components of the approval process on the overall quality and duration of guidance development, has not been demonstrated at this point, as limited data exist. Still, PHAC could look more closely at the nature of the guidance it produces and, if it consists of highly technical guidance (such as guidance for laboratories), explore if streamlining of the approval process can be done.

### **Guidance on the web**

Updating guidance, such as the guidance on wearing masks, presented other logistical challenges. Updating technical guidance required updating corresponding information on other parts of the Canada.ca website; the same information must be updated to ensure consistency. This also had to be accomplished quickly, putting additional strain on various teams for this purpose.

## **6.4 Suggestions for Improvement**

The variety of products produced and advice provided demonstrates the sheer scale of this activity. But, similar to issues raised in past events, PHAC's strategic approach to its role in the development of guidance should be enhanced:

- Recognizing that no external perceptions on PHAC's performance in this area were gathered, the review still identified a clear need for a strategic approach for guidance development. This strategic approach would help clarify where PHAC takes the lead, endorses other guidance or let others develop guidance without PHAC's input.
- This may be resolved within the new guidance working group, which aims to address the priorities for guidance, as well as the roles and responsibilities for undertaking guidance development.
- As advice and guidance is a time-consuming activity that is undertaken by those who are working on other areas in the response, capacity building (which could include working with other experts, i.e., the National Collaborating Centres) to support guidance development is required

## 7. Conclusion and Suggested Actions for Improvement

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The public health threat posed by the COVID-19 pandemic led all levels of government to take unprecedented measures to help slow the spread of COVID-19 and thereby minimise serious illness, death and social disruption resulting from the pandemic. Events happened extremely quickly, and activities to address the virus were vast and complex. PHAC, as the technical lead for the response, has been stretched beyond capacity, conducting activities that were not always traditional public health roles and at a pace that was difficult to envision prior to December 2019.

The amount of work accomplished by PHAC since the beginning of the pandemic response is unprecedented. Agency staff, and staff mobilized from OGDs were motivated, dedicated, responsive and hardworking, even when facing long hours and complex tasks that needed to be turned around within short timelines. The great work that has been achieved to date is largely credited to the significant efforts, dedication and professionalism of these individuals involved with the Agency's COVID-19 response.

This lessons learned exercise concentrated on five broad areas of interest, for which key successes and suggestions for improvements were identified. There are numerous areas of success specific to the COVID-19 response: the commitment of PHAC staff in advancing an unprecedented number of diverse files within incredibly tight timelines; the level of collaboration with partners; and the leadership demonstrated by the President, CPHO and senior executives.

On the other hand, some of the challenges observed throughout the response are recurrent issues previously identified during the response to Ebola in 2014 and to H1N1 in 2009. Some of these ongoing challenges include confusion regarding the role and responsibilities of the IMS and program branches, difficulty implementing a strategic direction for the response and the prioritization of activities, and providing the President and the CPHO with timely expert advice.

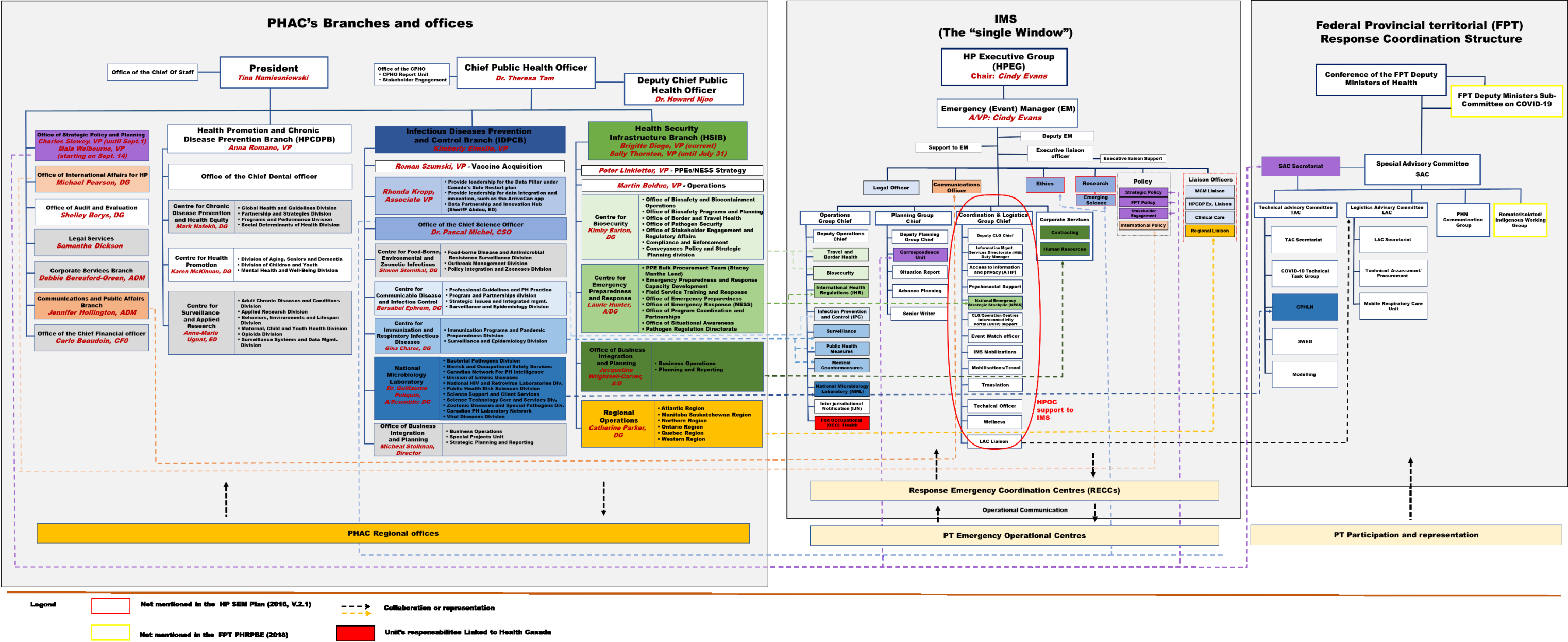
While several suggestions for improvements are identified for each of the five areas examined, some issues appeared to cross-cut many of the areas, demonstrating their relevance in advancing the Agency's response in the event of a resurgence of cases. Thus, we would recommend that the following be prioritized to help aid any future response:

- Implement a CPHO tiger team to support the CPHO in her various roles and responsibilities related to the COVID-19 response.
- Create or clearly identify a group responsible for strategic COVID-19 planning, who could concentrate on the prioritization of critical activities in the near and mid-term future for the Agency as a whole.
- Increase the Agency's capacity, and as much as possible, at senior levels, to address observed gaps in:
  - Public health and medical expertise;
  - Emergency management;
  - Risk communication;
  - Operations, including specialized expertise and infrastructure supports;
  - Policy and planning;
  - Expertise in developing Regulations; and
  - Data and IT capacity.
- Determine the role of the IMS and staff it appropriately so it can assume fully this role and associated responsibilities/accountabilities. If appropriate with the IMS defined role, task out activities to branches through the IMS structure to reduce confusion and enhance efficiency and cohesion of the response.
- Develop the processes to enhance the strategic direction of HPEG, so it becomes a decision-making and information sharing body.

## Appendix A - Key distinctions between HPOC and the IMS.

HPOC	IMS
Permanent, 24/7 command and control platform for PHAC and Health Canada	Temporary organizational structure activated to support a response - IMS is an all-hazards tool used to respond to an event for which organisational activities will exceed normal operations
An on-going program area with a regular staff complement	Time-limited; staffed with non-permanent, functional and technical experts (i.e., "surge" personnel)
Responsible for carrying out the principles of emergency preparedness and emergency management functions at an operational level	A standard, internationally recognized model based on specific roles and responsibilities
Structured around activities: single window, mobilisations, response planning, information management, stakeholder coordination/engagement	Structured around functional areas: operations; planning; logistics; and, finance/administration
During an activation, responsible for supporting the coordination and logistics of the IMS, and for continuing its "single window" role (for non-event issues)	During an activation, uses the HPOC "platform" including IM/IT, infrastructure, personnel deployment processes, and information management

Appendix B – Response Structure





## Appendix C – Guidance Documents Published on the Government of Canada's COVID-19 website (as of July 22, 2020)

Title of Document	Themes	Target Audience	Author Organization	Date Published	Date Modified
Interim national surveillance guidelines for human infection with COVID-19	Surveillance and Reporting	For Health Care Professionals	PHAC	Not Listed	February 10, 2020
Archived: Public health guidance for schools (K-12) and childcare programs (COVID-19)	Schools	For Child and Youth Settings	PHAC	Feb 28, 2020	Not Listed (Archived)
Bank of Canada asks retailers to continue accepting cash	Cash Handling	For Business	Bank of Canada	March 18, 2020	May 28, 2020
Interim national case definition: Coronavirus disease (COVID-19)	Surveillance and Reporting	For Health Care Professionals	PHAC	Not Listed	April 2, 2020
Interim guidance: Clinical management of patients with moderate to severe COVID-19	Clinical Management	Health Sector Preparation	PHAC	April 2, 2020	Not Listed
Letter to faith community leaders from Canada's Chief Public Health Officer	Faith-Based Services	Faith Community Leaders	CPHO	April 3, 2020	Not Listed
Interim guidance for long-term care homes	Long Term Care Facilities	For Health Care Professionals	PHAC	Not Listed	Apr 8, 2020
Public health management of cases and contacts associated with COVID-19	Contact Management	For Health Care Professionals	PHAC	Not Listed	April 10, 2020
COVID-19: Summary of assumptions	General Scientific Information	For Health Care Professionals	PHAC	Not Listed	April 13, 2020
Technical brief: Masking and face shields for full duration of shifts in acute healthcare settings	PPE	For Health Care Professionals	PHAC COVID-19 Clinical Issues Task Group	Apr 15, 2020	May 14, 2020*
National laboratory testing indication guidance for COVID-19	Testing	For Health Care Professionals	PHAC	April 16, 2020	May 27, 2020*
COVID-19 pandemic guidance for the health care sector	Health Care Settings	Health Sector Preparation	PHAC	Not Listed	April 22, 2020*
Interim guidance for home care settings	Health Care Settings	For Health Care Professionals	PHAC	Not Listed	Apr 24, 2020
Requirements for serological antibody tests submitted under the COVID-19 interim order	Testing	Health Sector Preparation	Health Canada	April 24, 2020	April 28, 2020

Interim guidance: Management of mass fatalities during the COVID-19 pandemic	Death and Funeral Care	Death Care Services	PHAC and Funeral Service Association of Canada	Not Listed	April 25, 2020*
Animals and COVID-19 Guidance		For Industry and Communities	PHAC	May 9, 2020	July 22, 2020
Second interim guidance for acute healthcare settings	Health Care Settings	For Health Care Professionals	PHAC	Apr 30, 2020	May 19, 2020*
COVID-19 and people with disabilities in Canada	Public and Social Services	For Communities	PHAC	Not Listed	May 7, 2020
Interim guidance on continuity of immunization programs during the COVID-19 pandemic	Clinical Care Guidelines	For Health Care Professionals	PHAC	Not Listed	May 13, 2020
Interim guidance for outpatient and ambulatory care settings	Health Care Settings	For Health Care Professionals	PHAC	Not Listed	May 23, 2020
Guidance for a strategic approach to lifting restrictive public health measures	Re-opening	For Communities	PHAC	Not Listed	May 30, 2020
Community-based measures to mitigate the spread of COVID-19 in Canada	Public Health Measures	For Communities	PHAC	Not Listed	May 30, 2020
A framework for risk assessment and mitigation in community settings during the COVID-19 pandemic	Risk Assessment	For Communities	PHAC	Not Listed	May 30, 2020
Advice for essential retailers during COVID-19 pandemic	Retail	For Business	PHAC	Not Listed	May 30, 2020*
Risk mitigation tool for child and youth settings operating during the COVID-19 pandemic	Child and Youth	For Child and Youth Settings	PHAC	Not Listed	Jun 1, 2020
Risk mitigation tool for outdoor recreation spaces and activities operating during the COVID-19 pandemic	Recreation	For Communities	PHAC	Not Listed	Jun 3, 2020
Workplace guidance for sector employers and employees		For Industry	AAFC		June 5, 2020
Public health ethics framework: A guide for use in response to the COVID-19 pandemic in Canada	Ethics	Ethics	PHAC	Not Listed	Jun 5, 2020
Risk mitigation tool for workplaces/businesses operating during the COVID-19 pandemic	General Occupational Health and Safety	For Business	PHAC	Not Listed	June 12, 2020*
Guidance material for air operators managing travellers during the check-in procedure for flights departing from an aerodrome in Canada	Transportation	For Industry	Transport Canada	Not Listed	June 18, 2020*

Lessons Learned from PHAC's COVID-19 Response  
September 2020

Risk mitigation tool for gatherings and events operating during the COVID-19 pandemic	Gatherings	For Communities	PHAC	Not Listed	Jun 19, 2020
Interim guidance: Death care services and handling of dead bodies during the COVID-19 pandemic	Death and Funeral Care	Death Care Services	PHAC and Funeral Service Association of Canada	Not Listed	June 29, 2020*
Guidance for providers of services for people experiencing homelessness (in the context of COVID-19)	Public and Social Services	For Communities	PHAC	Jun 29, 2020	Not Listed
Canadian Centre for Occupational Health and Safety - COVID-19 resources and guidance for businesses	General Occupational Health and Safety	For Business	CCOHS	Not Listed	June 30, 2020*
About guidance creation	N/A	About guidance creation	PHAC	N/A	N/A
* When guidance documents did not specifically indicate the date of their most recent update, the latest date that the web page was modified is given.					

## Endnotes

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