

# The National Emergency Strategic Stockpile's Comprehensive Management Plan

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# Executive Summary

## Comprehensive Management Plan overview

The Comprehensive Management Plan (CMP) builds on enhancements implemented by the National Emergency Strategic Stockpile (NESS) in response to the COVID-19 pandemic and other subsequent and concurrent major public health events, and provides a roadmap for transformation of the NESS program (hereafter referred to as the NESS) moving forward. The CMP defines the NESS' strategic goals and associated actions with the overall aim of enhancing pan-Canadian readiness to respond effectively and equitably to future public health emergencies and driving continuous improvement of the NESS.

Drawing from the COVID-19 pandemic context and an ever-evolving and complex emergency management landscape, the NESS committed to develop and start implementing the CMP within 1 year following the end of the pandemic (by May 5, 2024) in response to a recommendation made in OAG Audit Report 10 stating that the Public Health Agency of Canada (PHAC):

“should develop and implement a comprehensive National Emergency Strategic Stockpile management plan with clear timelines that responds to relevant federal stockpile recommendations made in previous internal audits and lessons learned from the COVID-19 pandemic.”<sup>1</sup>

The CMP includes key achievements to date and forward-looking action items with timelines that support the following four strategic goals:

1. **Establish and sustain strong program foundations**, including a clear scope for the NESS mandate, improved program governance, modern infrastructure and systems, and sustained program resources.
2. **Provide sustained leadership for collaborative action on medical countermeasure (MCM) preparedness and response**, including clearly defined Federal, Provincial and Territorial (FPT) roles and responsibilities, support for information sharing on risk assessments for MCM requirements and preparedness targets.
3. **Strengthen capacities and tools for risk-driven and evidence informed capabilities and agile response**, including enhanced scenario planning, demand modelling and supply chain risk assessment.

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<sup>1</sup> Office of the Auditor General of Canada (OAG), [Securing Personal Protective Equipment and Medical Devices](#), Report 10 of the 2021 Reports of the Auditor General of Canada, para. 10.38.

4. **Foster operational excellence**, including enhanced life cycle management practices, alternative stockpiling models, and robust quality management.

While the CMP is a NESS-centric plan in that its strategic goals and associated action items are intended to improve the management of the NESS, many priority actions identified will require collaboration with provinces, territories, other government departments and with partners across the Health Portfolio. This will include working within PHAC and with other federal, provincial and territorial partners to clarify roles and responsibilities for maintaining, and providing access to, MCMs for emergency response. Together, these efforts will alleviate confusion and the potential for duplication of efforts, and enhance governance and collaborative planning in support of overall pan-Canadian MCM preparedness.

## The NESS of the future

The NESS capitalized on significant investments made during the COVID-19 pandemic to adapt its approach, transform its capabilities and deliver ongoing FPT surge support to meet unprecedented demands.

Moving forward, the NESS will strive to sustain improvements implemented with supplemental funding over the past 3 years with a view to maintaining a posture that has a scalable base infrastructure and the necessary specialized skillsets required to respond to a range of public health emergencies.

The scope and scale of the NESS program will be influenced by future funding received and investments will continue to prioritize facilitating access to surge supports where the federal role is most critical and in the national interest in the face of an increasingly complex risk and threat environment.

## Strategic Context

As geopolitical challenges arise, climate-related disasters escalate, and global pandemics loom large, the need for a comprehensive emergency preparedness and response framework with a health security lens is more pertinent than ever. Threats and risks to Canadians are becoming increasingly complex due to the diversity of natural hazards and the growth of transnational threats arising from the consequences of terrorism, globalized disease outbreaks, climate change, critical infrastructure interdependencies and cyber-attacks.

A robust, collaborative, pan-Canadian approach is needed to build Canada's resilience in the face of an ever-evolving threat and risk landscape, described by NATO as:

" The most complex and unpredictable security environment since the end of the Cold War". <sup>2</sup>

During [emergencies and disasters](#), Canadians expect that their governments are equipped and resourced to protect them from a range of possible risks. These include intentional or accidental release of chemical, biological, radiological and nuclear (CBRN) agents (e.g., smallpox, anthrax, sarin); naturally occurring diseases (e.g., emerging or re-emerging infectious diseases, such as SARS, Zika, Ebola, COVID-19); and, natural disasters (e.g., floods, wildfires, tornadoes, earthquakes, etc.).

In Canada, emergency management for events that pose a risk to public health is a shared responsibility among local, provincial/territorial, and federal governments. Emergencies are managed first at the local level. If assistance is needed at the local level, it can be requested from the province or territory, who can in turn request assistance from the federal government.

Under the [Emergency Management Act](#), the Minister of Health is responsible for identifying the "risks that are within, or related to, his or her area of responsibility — including those related to critical infrastructure — and to [...] (a) prepare emergency management plans in respect of those risks; (b) maintain, test and implement those plans; and (c) conduct exercises and training in relation to those plans". Moreover, according to [PHAC's core responsibility 3: health security](#), PHAC is "responsible for maintaining Canada's NESS while partnering with departments and agencies across Canada to ensure

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<sup>2</sup> [NATO: READY FOR THE FUTURE. Adapting the Alliance \(2018-2019\)](#), p. 1.



emergency management and health security capacity are enhanced and maintained in the face of future public health emergencies.”

The Health Portfolio (PHAC and Health Canada) is responsible for Emergency Support Function (ESF) #5: Public Health and Essential Human Services as outlined in the [Federal Emergency Response Plan](#) which charges the Health Portfolio with the responsibility to “respond to a request from a province/territory for assistance during an emergency which could impact the health of their populations; or from other government departments (particularly those with a duty of care for specific populations such as those departments that make up the Federal Healthcare Partnership)”. This ESF “recognizes that, during an emergency, the Federal Government works with provincial and territorial governments, First Nations and Inuit health authorities, non-governmental organizations, and private health resources in Canada and internationally as required, depending on the nature of the emergency and the request for assistance.” More information on the role of Health Canada can be found in [Health Protection and Promotion](#) section of the Departmental Plan.

The COVID-19 pandemic highlighted the critical role of public health interventions in emergency management and emphasized synergies between health, security and emergency preparedness, driving investments in public health infrastructure and capabilities. It also underscored the interconnectedness between public health threats and the need for integrated, collaborative approaches to preparedness, response, and recovery, exposing vulnerabilities in the global supply of medical equipment, personal protective equipment (PPE), and other essential goods. Shortages and disruptions in the supply chain highlighted the importance of diversification and resilient supply chain management practices.

From an asset perspective, PTs are primarily responsible for the provision of medical and other goods necessary to support health care and reasonable preparedness for most common emergencies. However, consistent with the principles of the *Emergency Management Act* and various federal and FPT emergency management plans, the federal government, through the NESS, plays a critical ‘surge capacity’ role, supporting public health emergency management by facilitating access to critical goods when PT capacities are exhausted. This work considers health equity to reduce inequalities and increase access to opportunities and conditions that lead to better health for all.

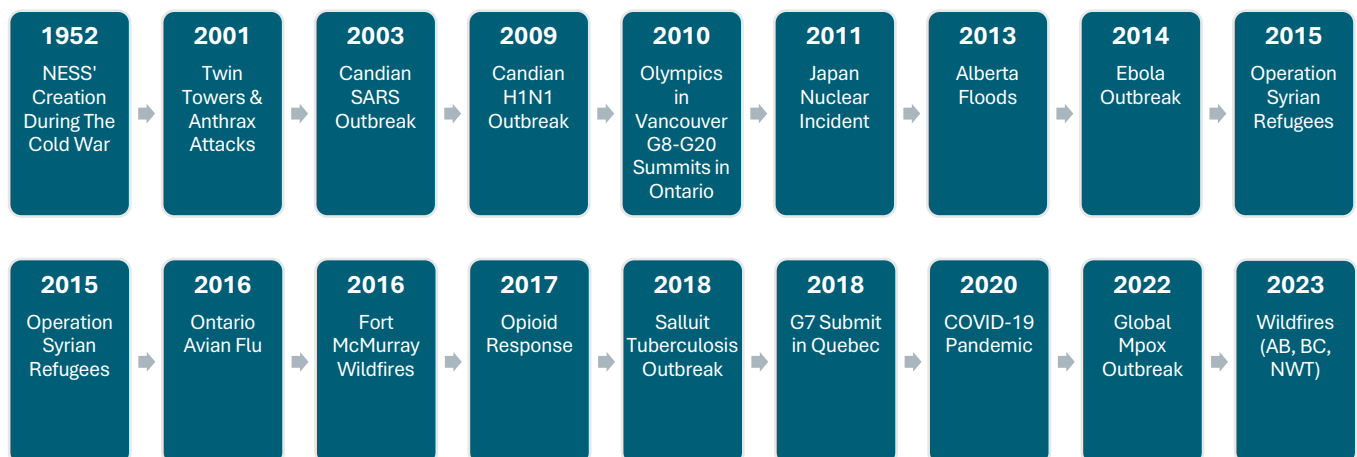
More broadly, facilitating access to critical MCMs is a responsibility that includes branches within both Health Canada and PHAC, most notably the Infectious Disease and Vaccination Programs Branch (IDVPB) and the National Microbiology Laboratory Branch (NMLB) within PHAC. Collaboration and partnership across the Health Portfolio, and with Government of Canada partners, is critical to support a unified approach to facilitating access to MCMs, respecting established roles and responsibilities across the MCM

continuum and aligning with the pillars outlined in [Canada's Biomanufacturing and Life Science Strategies](#).

## Background

Since its creation in 1952 as a stockpile of essential medical countermeasures in response to the Cold War, the NESS has evolved to address a broader range of public health threats in an ever-shifting threat and risk landscape. In fact, the NESS has supported most major events in recent history, from natural disasters and climate-related incidents to major political and sporting events and emerging or re-emerging infectious diseases. As a critical source of MCMs and other public health assets that support public health emergency management, the NESS maintains a strategic focus on MCMs for which the federal role is clear and where federal intervention is necessary, tailoring its capabilities to an ever-evolving context and shifting risk landscape.

Historical timeline of events supported by the NESS:



COVID-19 reshaped the emergency management landscape by emphasizing the importance of pandemic preparedness, public health, supply chain resilience and data-driven decision-making. Over the course of the pandemic, PHAC expanded rapidly to respond and to meet increased demands of the Canadian health care system to support mass-vaccination campaigns for Canadians. This meant pivoting to a federal bulk procurement and distribution model for MCMs (vaccines, therapeutics, personal protective equipment, biomedical devices, etc.) to respond to requirements for support from PTs.

According to the findings of the [2021 Office of the Auditor General \(OAG\) Audit Report 10 – Securing Personal Protective Equipment and Medical Devices](#), overall, PHAC, HC and

Public Services and Procurement Canada (PSPC) helped to meet the needs of provincial/territorial governments for medical devices during the pandemic.

However, as a result of long-standing funding gaps and unaddressed problems with the systems and practices in place to manage the NESS, PHAC was not as prepared as it could have been to meet the response demands of the PTs for routine MCMs in a global competitive market (such as PPE and biomedical equipment) needed to manage the spread of COVID-19. This is mostly because, with limited ongoing funding, the NESS prioritized investment in niche MCMs for high-consequence, low probability events ahead of routine assets that were thought to be more readily available in the market.

Therefore, the OAG recommended that PHAC:

“should develop and implement a comprehensive National Emergency Strategic Stockpile management plan with clear timelines that responds to relevant federal stockpile recommendations made in previous internal audits and lessons learned from the COVID-19 pandemic.”<sup>3</sup>

PHAC committed to completing the CMP within 1 year following the end of the pandemic (by May 5, 2024) to define the strategic goals that will guide NESS’ future approach. The CMP provides a roadmap for the systematic and scalable transformation of the NESS with a view to building upon gains made with temporary funding to improve the management of the NESS and maintain an appropriate readiness posture in the face of an ever-evolving threat and risk landscape. The CMP considers:

- lessons learned and key findings from prior audits and evaluations;
- stakeholder views, including PTs and other federal departments involved in emergency response;
- enabling authorities, obligations, and emergency management planning instruments and frameworks; and,
- strategic focus of key international counterparts.

The CMP aligns with overarching branch and Agency goals and considers MCM accountabilities across the Health Portfolio, including opportunities to leverage existing

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<sup>3</sup> OAG, [Securing Personal Protective Equipment and Medical Devices](#), Report 10 of the 2021 Reports of the Auditor General of Canada, para. 10.38.

modelling and risk assessment capabilities, procurement and inventory management systems and supply chain monitoring to advance Agency-wide strategic objectives.

## NESS mission & mandate

The NESS fosters improved pan-Canadian MCM preparedness and response for public health emergencies, in collaboration with partners, by:

- facilitating access to MCM surge capacity when provincial/territorial capacities are exhausted or not immediately available; and
- acting as the sole provider of niche drug MCMs for CBRN events.

## NESS strategy

The NESS has developed four strategic goals that will guide NESS' approach going forward. Drawing from lessons learned and from the shifting threat and risk landscape, this strategy is a step forward in facilitating improved pan-Canadian readiness to respond to future emergencies.

## Strategic focus

The NESS, in response to requests for assistance from PTs, facilitates access to a range of MCMs required to safeguard public health by providing the means to protect against and prevent infectious diseases and other health consequences of an intentional, accidental, or naturally occurring public health threat.

MCMs can include:

- **Drug and biologic products** which include pharmaceuticals, vaccines, antivirals, antimicrobials, antidotes, antitoxins; and
- **Devices** such as diagnostics and testing equipment, ventilators, personal protective equipment (PPE), vaccine ancillary supplies and other medical products.

The focus of NESS prior to the COVID-19 pandemic was specifically on niche MCMs (e.g. drugs) to support response to high-consequence / low-probability CBRN threats. Moving forward, the NESS will review the scope and scale of its investment across a broader range of MCMs with a view for better alignment with an evolving threat and risk environment. With future ongoing funding for MCMs, the NESS will continue to prioritize strategic investment where PHAC's public health role is clear, and where federal intervention is most critical required to address risks. This can translate to situations where:

- The potential public health impact is high (e.g., CBRN, infectious outbreak with pandemic potential);
- PT self-sufficiency is not practical (e.g., MCMs can only be sold to national governments);
- Domestic supply does not exist or is limited due to a lack of biomanufacturing capabilities in Canada;
- There are significant supply chain risks or vulnerabilities (e.g. key PPE commodities for which no domestic capacity exists); and
- The facilitation of pan-Canadian MCM access requires coordination, complex storage/logistics, and large buying power.

For strategic investment in MCMs outside of these conditions, NESS will take into consideration; available funding, the appropriateness of supplies to respond to a diverse number of potential emergencies or events (including natural hazards), and consideration of shifts in external capabilities and relative ease of access through other mechanisms. In particular, investments in the area of routine / readily available MCMs (e.g., PPE, therapeutics, vaccine ancillary supplies) and essential social service supplies (i.e., cots, mattresses, blankets, sheets, pillows, towels, generators) will be tied to future funding received by the NESS and will have a direct impact on future readiness and capacity to surge to support emergency response for these assets.

## Strategic goals

The NESS has identified four interconnected mutually reinforcing goals and associated objectives and action items that together help strengthen NESS management processes and pan-Canadian MCM preparedness for future public health emergencies. Efforts to achieve these goals will serve to address findings from previous audits and evaluations ([Annex D](#)), including lessons learned from the COVID-19 pandemic and recommendations on federal stockpiling.

## Key findings from prior audits and evaluations mapped to CMP strategic goals

### Strong program foundations

- › Lack of effectiveness of PHAC's governance and oversight of the NESS.
- › Lack of strategic plan and operational business plan.
- › Aging physical infrastructure for NESS managed warehouses.
- › Outdated information management systems for the NESS.
- › NESS should maintain up-to-date Business Continuity Planning (BCP) and physical security risk assessments of warehouse locations, as well as corresponding action plans for risk mitigation
- › Review NESS role in the international space.

### Leadership for collaborative action

- › Outdated memorandum of understanding (MoU) with PTs and the NESS.
- › Lack of consistent communication for awareness and understanding to PTs and other stakeholders on NESS holdings.

### Risk-driven capabilities & agile response

- › Lack of emergency preparedness and response mandate to certain stakeholder groups.
- › Continue to develop surge capacity models for NESS assets.
- › Modernize NESS holdings based on risk assessment and causality scenarios for CBRN events.
- › Retain some, but not all, of the current NESS asset mix. Focus on an appropriate public health role when planning for and determining the future strategic mix of assets rather than on a more general social services role in responding to events.
- › Review NESS role in the international space.

### Operational excellence

- › Lack of federal stockpile management with a focus on effective materiel management.
- › Lack of information needed to govern, oversee and manage assets due to missing, outdated or incomplete data.
- › Lack of oversight of third-party contracts for warehousing and logistics services.
- › Secure arrangements for transportation and distribution of supplies during an emergency.
- › NESS improved how it assessed needs and purchased, allocated, and distributed equipment.

## **Goal I: Establish and sustain strong program foundations**

Establishing and sustaining strong program foundations means strengthening and maintaining NESS' authorities, processes, infrastructure and systems, data and analytics, and the associated skilled workforce, required to operate the NESS.

The NESS has made great strides in this area over the past three years, including securing long-term funding for niche MCMs, establishing additional policy and legal authorities to distribute assets, and developing and launching a modern Warehouse Management System (WMS) among other achievements.

Beyond these achievements, the recent growth of the NESS has been instrumental in fostering the development of a robust, diverse and multi-disciplinary team comprised of a variety of specialties, including nurses, logisticians, pharmacists, technologists, etc. This core human resource capacity and functions that were developed during COVID will continue to be required for the safe and effective management of all NESS assets and to support transformational work outlined in the CMP.

Going forward, strategic investments in base capabilities and programming will also be made relative to available funding and will have an impact on the NESS readiness posture and capacity to surge to support emergency response.

### **Key objectives to reach goal I:**

- Clarify and communicate strategic focus and scope of mandate for the NESS to partners and stakeholders;
- Secure authorities and funding aligned with program delivery expectations;
- Improve program risk management and performance management practices;
- Strengthen and maintain core human resource capabilities needed to support program delivery; and
- Maintain modern infrastructure to support program delivery and address critical infrastructure risks

## **Goal II: Provide sustained leadership for collaborative action on MCM preparedness and response**

The second goal is to provide sustained leadership for collaborative action on MCM preparedness and response. This includes reaching a shared understanding of the respective FPT accountabilities with regards to investment in preparedness, which could include FPT cost-sharing /cost-recovery options.

In 2023, the NESS held bilateral meetings with PTs to discuss lessons learned, aspirations and expectations for future collaboration. In addition to highlighting the need to clarify FPT roles, responsibilities and accountabilities, PTs also expressed a desire for federal leadership to facilitate a collective understanding of the threat and risk landscape, including supply chain considerations, to support better public health emergency readiness in Canada.

### **Key objectives to reach goal II:**

- Clarify FPT roles and responsibilities for MCM preparedness and response, including FPT cost-sharing;
- Strengthen FPT relationships to support ongoing FPT information sharing on associated MCM requirements, preparedness targets, capabilities and needs;
- Foster ongoing relationships with key partners and stakeholders; and
- Facilitate national approaches to support Government of Canada objectives for domestic self-sufficiency for priority MCMs

### **Goal III: Strengthen capacities and tools for risk-driven & evidence-informed capabilities and agile response**

The third goal aims to strengthen NESS' capacity to make risk-driven and evidence-informed decisions and remain agile in the face of an ever-changing environment and risk landscape.

The NESS intends to develop a data strategy that outlines both the data requirements and data sources / mechanisms to support NESS decision making including the development of national targets. This work would leverage improved FPT information sharing on asset holdings, science assessments, risk assessment, modelling and scenario-planning to inform national targets for key MCMs.

This work would also benefit from strong and well-coordinated governance for identifying public health risks and priorities. To this end, the NESS is collaborating across the Health Portfolio and with security and intelligence partners to identify and assess threats and potential supply chain issues and to leverage their expertise in scenario planning and modelling to develop interim supply targets.

Considering that data serves as the cornerstone of informed decision-making, the NESS will work with PHAC partners to advance commitments and actions under the FPT health data plan and is working to align efforts with the commitment of collecting and sharing public health data to support pan-Canadian preparedness and response to public health events. This includes collectively clarify data requirements and aligning strategic



approaches with other branch engagement frameworks and the [Pan-Canadian Public Health Network](#) priorities to maintain an integrated, consistent approach.

### **Key objectives to reach goal III:**

- Increase understanding of potential public health consequences and national MCM requirements for priority threats informed by science assessment;
- Identify and assess inherent and emerging supply chain risks associated with priority MCMs;
- Define estimated national MCM requirements for priority threat categories;
- Strengthen, where necessary, and maintain risk informed and data driven targets for priority MCMs to be maintained by the NESS;
- Strengthen concept of operations to support timely and effective use and administration of priority MCMs deployed in response to an emergency or an event; and
- Improve contingency planning to enable rapid scaling of critical operational capabilities and infrastructure for meet needs for enhanced MCM surge capacity during a significant emergency

### **Goal IV: foster operational excellence**

The fourth goal aims to continually foster operational excellence by stabilizing the horizontal, enabling functions that support the overall management, safety and effectiveness of NESS assets through their lifecycle.

Improvements to current processes include exploring ways to reduce the burden of lifecycle management, including through alternate supply arrangements beyond the traditional stockpiling route, where feasible. This includes considering that all types of assets have different requirements, and that different approaches to surge capacity mechanisms might be necessary based on the type of commodity and intended use case. These mechanisms need to be assessed relative to potential public health needs, supply chain risks and level of risk tolerance.

Robust lifecycle management practices will be key to minimizing waste, optimizing use and supporting good stewardship of public funds. However, this approach requires that NESS continue to maintain the infrastructure and tools implemented during the pandemic, required to do so.

### **Key objectives to reach goal IV:**

- Uphold appropriate standards of quality, safety and compliance in the provision of products and services that meet customer, regulatory, technical and operational requirements
- Maintain regulatory compliance
- Improve life cycle management practices from investment planning through deployment for emergency use through implementation of a variety of surge capacity mechanisms ([Annex C](#)) and robust inventory management
- Prevent and/or minimize waste
- Maintain inventory data accuracy
- Optimize warehousing footprint to support program delivery

## Implementation risks

**Risk I:** There is a risk that NESS will be unable to implement the action items outlined in the CMP as the implementation of action items are dependent on collaboration with PTs, OGDs and PHAC programs and external partners and stakeholders.

- › **Mitigation:** This will be mitigated through early engagement to validate timelines and scope required to implement the action items to confirm the capacity of key partners and stakeholders to complete.

**Risk II:** There is a risk that the NESS will be unable to implement the action items outlined in the CMP due to the need to respond to the emergence of a new public health emergency.

- › **Mitigation:** NESS has demonstrated the ability to make incremental improvements to the management of the NESS while responding to a public health emergency and as such, would prioritize the action items outlined in the CMP.

**Risk III:** There is a risk that NESS will be unable to implement the action items outlined in the CMP due to funding constraints.

- › **Mitigation:** The NESS will continue to prioritize strategic investment where PHAC's public health role is clear, and where federal intervention is most critically required to address risks.

## Key action items & timeframe

NESS has developed key action items to support the implementation of the CMP, which build off key achievements already implemented over the course of the response to the COVID-19 pandemic that support the four strategic goals and improve the management of NESS and respond to previous audit and evaluation recommendations ([Annex D](#)).

## Key achievements

### Goal I: Establish and sustain strong program foundations

#### Key achievements to date:

- Secured explicit legal authority to distribute assets to support public health emergency management (Order-in-Council)
- Secured policy authority to distribute assets outside of the context of public health emergency management in certain circumstances as part of PHAC Renewal initiatives and activities
- Secured ongoing funding to maintain and enhance niche MCM capabilities
- Secured time-limited funding to maintain two domestic supply contracts for N95 respirators and surgical masks
- Secured interim (3-year) funding to support program renewal
- Established the NESS as a stand-alone directorate in PHAC with a dedicated management team and skilled multi-disciplinary workforce
- Established a scalable national third-party logistics (3PL) solution to support management of key assets
- Leased and retrofitted a modern warehouse facility with specialized infrastructure to support role in management of biomedical equipment and niche MCMs
- Developed and launched the NESS portal to support information and data sharing with PTs
- Developed a modern WMS to replace the legacy system and completed pilot installation
- Developed an enhanced product catalogue to support standardized data collection and reporting on inventory including for specialized MCM holdings

### Goal II: Provide sustained leadership for collaborative action on MCM preparedness and response

#### Key achievements to date:

- Worked with PTs to establish and implement the FPT Allocation of Scarce Resources – COVID-19 Interim Response Strategy for the management of medical products procured as part of COVID-19 bulk procurement
- Established MoU with 100% of FPT jurisdictions (PTs, ISC, DND and CSC) for the management of loaned biomedical equipment
- Enhanced and sustained FPT collaboration throughout the COVID-19 response through the Logistics Advisory Committee, Medical Devices Technical Task Group, and the Public Health Emergency Management Task Group

- Established regular bilateral engagements with key external partners such as non-governmental organizations, group buying organizations, and the US Strategic National Stockpile

### **Goal III: Strengthen capacities and tools for risk-driven & evidence-informed capabilities and agile response**

#### **Key achievements to date:**

- Worked with HC to establish the personal protective equipment (PPE) demand and supply model for COVID-19
- Leveraged burn rate data and modelling to establish federal capability targets for PPE and ventilators for COVID-19
- Established agile processes, including real-time technical assessments, to support FPT bulk procurement of key MCMs that were in short-supply globally during the COVID-19 pandemic
- Worked with PSPC and ISED to periodically assess commodity specific supply chain risks to inform federal action during COVID-19
- Established mechanism to leverage the Global Public Health Information Network (GPHIN) as additional source of information to identify emerging supply chain vulnerabilities
- Worked with PSPC to establish a National Security Exception for COVID-19 response and future pandemic preparedness
- Established long-term contracts with domestic manufacturers for N95 respirators and surgical masks, including vendor held finished goods and raw material stockpiles
- Established scalable national third-party logistics network

### **Goal IV: foster operational excellence**

#### **Key achievements to date:**

- Implemented a Medical Devices Establishment License (MDEL) and established standard operating procedures to be assessed by HC to support expanded Drug Establishment License (DEL) and ongoing regulatory compliance
- Developed a high-level framework of key legal, regulatory and policy instruments that govern NESS' life cycle management activities
- Established training and a process for investigating, identifying, and proactively addressing operational issues and their root cause
- Established evidence-informed PPE product testing capabilities and partnerships
- Established formal biomedical asset management processes to validate and maintain safety and effectiveness of biomedical assets

- Developed a multi-year investment plan and high-level divestment approach for niche MCMs for CBRN threats
- Advanced numerous donations of routine MCMs to optimize use before expiry
- Underwent three year-end OAG inventory audits (March 31, 2021, 2022, 2023) with no identification of material errors for inventory account balances or significant management recommendations

## NESS action plan

Building off these key achievements, NESS has identified concrete actions and deliverables in the achievement of the strategic goals, that will be tracked through to completion. In the short-term, the NESS is advancing key priorities that support ongoing policy and program work in defining long-term needs and resources to achieve a steady state that can be responsive to future public health emergencies.

**Table 1. Goal I: Establish and sustain strong program foundations**

Key Objective Supported	Planned Actions	Timeframe
<ul style="list-style-type: none"> <li>• Clarify and communicate strategic focus and scope of mandate for the NESS</li> </ul>	Align the scope and scale of NESS preparedness posture to NESS funding envelope	<p><b>Estimated start date:</b> work underway</p> <p><b>Estimated end date:</b> April 2025</p>
<ul style="list-style-type: none"> <li>• Clarify and communicate strategic focus and scope of mandate for the NESS</li> </ul>	Communicate future preparedness posture with partners and stakeholders	<p><b>Estimated start date:</b> May 2025</p> <p><b>Estimated end date:</b> September 2025</p>
<ul style="list-style-type: none"> <li>• Secure authorities and funding aligned with program delivery expectations</li> </ul>	Establish legal authorities to deploy assets in certain circumstances	<p><b>Estimated start date:</b> work underway</p> <p><b>Estimated end date:</b> October 2024</p>

**Table 2. Goal II: Provide sustained leadership for collaborative action on MCM preparedness and response**

Key Objective Supported	Planned Actions	Timeframe
<ul style="list-style-type: none"> <li>• Clarify FPT roles and responsibilities for MCM</li> </ul>	Develop PHAC policy positions on FPT cost-sharing in	<p><b>Estimated start date:</b> March 2024</p>

Key Objective Supported	Planned Actions	Timeframe
preparedness and response, including costs	consideration of immunization for vaccine preventable diseases, pandemic readiness, and emergency management surge capacity functions.	<b>Estimated end date:</b> September 2024
<ul style="list-style-type: none"> <li>Clarify FPT roles and responsibilities for MCM preparedness and response, including costs</li> </ul>	Communicate national MCM targets for pathogens with pandemic potential resulting from epidemiological modelling in collaboration with PHAC's National Microbiology Laboratory Branch	<b>Estimated start date:</b> September 2024  <b>Estimated end date:</b> December 2024
<ul style="list-style-type: none"> <li>Clarify FPT roles and responsibilities for MCM preparedness and response, including costs</li> </ul>	Develop of an FPT framework for pan-Canadian MCM readiness which documents principles, roles and responsibilities, information-sharing, and triggers for surge support for future public health emergencies in alignment with PHAC partners	<b>Estimated start date:</b> December 2024  <b>Estimated end date:</b> March 2025
<ul style="list-style-type: none"> <li>Support ongoing FPT information sharing on risk assessments and associated MCM requirements, preparedness targets, capabilities and needs</li> </ul>	Develop a FPT approach for potential scenarios and associated models to inform long-term national and associated FPT MCM targets for a variety of public health hazards	<b>Estimated start date:</b> September 2024  <b>Estimated end date:</b> June 2025 (first iteration)
<ul style="list-style-type: none"> <li>Foster ongoing relationships with key partners and stakeholders</li> <li>Facilitate more efficient and effective national approaches to contribute to Government of Canada objectives for self-sufficiency for priority MCMs</li> </ul>	Establish a FPT Forum on Emergency Management to increase information sharing on tools, best practices and stockpiling strategies.	<b>Estimated start date:</b> April 2024  <b>Estimated end date:</b> July 2024

**Table 3. Goal III: Strengthen capacities and tools for risk-driven & evidence-informed capabilities and agile response**

Key Objective Supported	Planned Actions	Timeframe
<ul style="list-style-type: none"> <li>• Increase understanding of potential public health consequences and national MCM requirements for priority threats informed by science assessment</li> <li>• Identify and assess inherent and emerging supply chain risks associated with priority MCMs</li> </ul>	Establish a new governance structure and engage OGD and PT experts from the national security and public health realms to: <ul style="list-style-type: none"> <li>• set pan-Canadian requirements for stockpiling countermeasures to address CBRN threats</li> <li>• refresh requirements to align with changes in the threat and risk environment</li> </ul>	<b>Estimated start date:</b> March 2024  <b>Estimated end date:</b> March 2025
<ul style="list-style-type: none"> <li>• Define estimated national MCM capability requirements for priority threat categories</li> </ul>	Establish a data strategy for the NESS	<b>Estimated start date:</b> September 2024  <b>Estimated end date:</b> June 2025
<ul style="list-style-type: none"> <li>• Improve contingency planning to enable rapid scaling of critical operational capabilities and infrastructure for meet needs for enhanced MCM surge capacity during a significant emergency</li> </ul>	Improve the NESS Portal to facilitate data sharing with NESS partners and stakeholders	<b>Estimated start date:</b> March 2024  <b>Estimated end date:</b> March 2025
<ul style="list-style-type: none"> <li>• Identify and assess inherent and emerging supply chain risks associated with priority MCMs</li> <li>• Strengthen, where necessary, and maintain risk-informed and data-driven targets for priority MCMs to be maintained by the NESS</li> </ul>	Re-establish risk and capability capacity within the NESS to support risk-informed and data-driven targets for priority MCMs to be maintained by the NESS	<b>Estimated start date:</b> September 2024  <b>Estimated end date:</b> September 2026

**Table 4. Goal IV: foster operational excellence**

Key Objective Supported	Planned Actions	Timeframe
<ul style="list-style-type: none"> <li>Improve life cycle management practices from investment planning through deployment for emergency use through implementation of a variety of surge capacity mechanisms and robust inventory management</li> </ul>	Establish short-term investments plans for key MCMs to support emergency response (multi-year acquisition plan for drug MCM already in place)	<p><b>Estimated start date:</b> May 2025</p> <p><b>Estimated end date:</b> September 2025</p>
<ul style="list-style-type: none"> <li>Prevent and/or minimize waste</li> <li>Optimize warehousing footprint to support program delivery</li> </ul>	Establish cost-effective alternative supply models to support MCMs for emergency response	<p><b>Estimated start date:</b> September 2024</p> <p><b>Estimated end date:</b> September 2026</p>



# Annex A

## NESS evolution

### The NESS pre-COVID (2019):

- › 31 employees
- › 8 warehouses comprising 178K square feet
- › Approximately 3 to 5 requests for assistance (RFAs) per year
- › Priority focus on niche MCMs for CBRN threats
- › Limited holdings of routine MCMs

### The NESS in 2023:

- › 150 employees
- › 20 warehouses comprising 1.7M square feet
- › 600 RFAs from April 2020 to March 2023
- › Capability to respond to multiple concurrent events with a wide range of MCMs
- › Expanded focus on routine MCMs necessary to support pandemic response

### Quick facts from March 2020 to December 2023:

- ↑ Over 300 contracts issued
- ↑ Over 4 billion units of medical supplies and equipment procured
- ↑ Over 2 billion units received, validated and deployed for emergency use
- ↑ Over 600 requests for assistance
- ↑ Over 14M units of medical supplies and equipment donated
- ↑ Scaled to approximately 3M square feet of warehousing space

## Annex B

### NESS MCM holdings

As at March 31, 2023, the NESS holds assets across the following four core key business lines in 3PL locations and in PHAC managed or vendor locations:

- Medical supplies (approximately 60% of NESS assets)
- Medical equipment (approximately 20% of NESS assets)
- Medical countermeasures (less than 20% of NESS assets)
- Social service supplies (less than 1% of NESS assets)

### NESS holdings by product category

- Drugs with niche indications:
  - Vaccines, treatments and drugs for priority CBRN threats.
- Medical equipment:
  - Ventilators; high flow nasal oxygen devices; oxygen concentrators; infusion pumps; cardiac monitors, laryngoscopes; x-ray machines, ECMO; pulse oximeters; vital sign; monitors; life support machine; thermometers.
- Medical supplies:
  - Personal protective equipment (PAPRs, N95 respirators, surgical masks, nitrile gloves, gowns, face shields); vaccine ancillary supplies (needles, syringes, gauze, alcohol swabs, sharps containers); biomedical equipment consumables; biohazard and body bags; hand sanitizer; disinfectants; testing supplies.
- Mini-clinics
  - Emergency triage units which contain kits of medical equipment and supplies
- Essential social service supplies
  - Cots; mattresses; blankets; sheets; pillows; towels; generators.

# Annex C

## Surge capacity mechanisms

According to the World Health Organization's (WHO) [Strengthening the health system response to COVID-19: Creating surge capacity for acute and intensive care](#) technical working guidance #2, "surge capacity is the ability of a health system to manage a sudden and unexpected influx [...] in a disaster or emergency situation". It requires proactively identify gaps and vulnerabilities and developing mechanisms and strategies to mitigate. It is a pivotal NESS' capacity to uphold readiness in key areas of a robust response, such as guaranteeing that systems are conceived to handle spikes in demand and deliver a rapid response, that necessary resources and medical assets are readily available, that critical program operations are sustained even under extreme conditions, that resources are allocated efficiently and equitably, and that overall community resilience is enhanced.

NESS currently maintains some vendor managed contracts, however, to further support effective and efficient MCM preparedness and response, the NESS plans to explore more and different surge capacity mechanisms, considering relative feasibility, risks and benefits, where possible to reduce reliance on physical stockpiling of assets for surge capacity.

In a response effort, the NESS will consider alternative delivery models to facilitate access to MCMs within Canada, which could include:

- Government-owned physical inventory (traditional stockpiling)
- Vendor or distributor managed inventory
- Readiness contracts / safety stocks
- Mutual aid / resource-sharing between jurisdictions
- Collaborative procurement
- Bulk purchasing
- Bulk materials

While assessing the above strategies the NESS must consider the potential risk that despite readiness planning, supply may not be available at all times without sustained domestic capacity.

A virtual inventory opens up options for retailers in a way that traditional inventory hasn't been able – by making products available regardless of a location.

## Annex D

### Key achievements against audit and evaluation recommendations (2010 – 2021)

**Table 5. Goal I: Establish and sustain strong program foundations**

Findings from Prior Audits/Evaluations	Key Achievements to Date
Lack of effectiveness of PHAC's governance and oversight of the NESS.	<ul style="list-style-type: none"> <li>Established the NESS as a stand-alone directorate in PHAC with a dedicated management team and skilled multi-disciplinary workforce</li> </ul>
Lack of strategic plan and operational business plan.	<ul style="list-style-type: none"> <li>Developed the NESS Policy Frame and Optimization Plan (2013)</li> <li>Developed a Comprehensive Management Plan for the NESS</li> </ul>
Aging physical infrastructure for NESS managed warehouses.	<ul style="list-style-type: none"> <li>Leased and retrofitted a modern warehouse facility with specialized infrastructure to support role in management of biomedical equipment and niche MCMs</li> </ul>
Outdated information management systems for the NESS.	<ul style="list-style-type: none"> <li>Developed and launched the NESS portal to support information and data sharing with PTs</li> <li>Developed a modern WMS to replace the legacy system and completed pilot installation</li> <li>Developed an enhanced product catalogue to support standardized data collection and reporting on inventory including for specialized MCM holdings</li> </ul>
NESS should maintain up-to-date Business Continuity Planning (BCP) and physical security risk assessments of warehouse locations, as well as corresponding action plans for risk mitigation	<ul style="list-style-type: none"> <li>Established a standard operating procedure (SOP) to establish a formalized action plan for risk mitigation when a physical security risk has been identified at a NESS warehouse location.</li> <li>Revised the Business Impact Analysis (BIA) for the NESS to support an updated Business Continuity Plan (BCP).</li> </ul>
Review NESS' role in the international space.	<ul style="list-style-type: none"> <li>Developed the NESS Policy Frame and Optimization Plan (2013)</li> </ul>

Findings from Prior Audits/Evaluations	Key Achievements to Date
	<ul style="list-style-type: none"> <li>Established an international donation, loan or sale assessment framework (2011)</li> <li>Advanced numerous international donations of routine MCMs to optimize use before expiry</li> </ul>

**Table 6. Goal II: Provide sustained leadership for collaborative action on MCM preparedness and response**

Findings from Prior Audits/Evaluations	Key Achievements to Date
Outdated Memorandum of Understandings with Provinces and Territories with the NESS.	<ul style="list-style-type: none"> <li>Established MoU with 100% of FPT jurisdictions (PTs, ISC, DND and CSC) for the management of loaned biomedical equipment</li> <li>Worked with PTs to establish and implement the FPT Allocation of Scarce Resources – COVID-19 Interim Response Strategy for the management of medical products procured as part of COVID-19 bulk procurement</li> </ul>
Lack of consistent communication for awareness and understanding to PTs and other stakeholders on NESS holdings.	<ul style="list-style-type: none"> <li>Enhanced and sustained FPT collaboration throughout the COVID-19 response through the Logistics Advisory Committee, Medical Devices Technical Task Group, and the Public Health Emergency Management Task Group</li> <li>Improved information sharing with PTs on personal protective equipment (PPE) and biomedical device holdings through established FPT governance tables.</li> <li>Developed and socialized with PTs a revised request for assistance (RFA) form for surge support from the NESS in response to a public health emergency.</li> <li>Established regular bilateral engagements with key external partners such as non-governmental organizations, group buying organizations, and the US Strategic National Stockpile</li> </ul>

**Table 7. Goal III: Strengthen capacities and tools for risk-driven & evidence-informed capabilities and agile response**

Findings from Prior Audits/Evaluations	Key Achievements to Date
Lack of emergency preparedness and response mandate to certain stakeholder groups.	<ul style="list-style-type: none"> <li>• Worked with PSPC to establish a National Security Exception for COVID-19 response and future pandemic preparedness</li> </ul>
Continue to develop surge capacity models for NESS assets.	<ul style="list-style-type: none"> <li>• Worked with HC to establish the personal protective equipment (PPE) demand and supply model for COVID-19</li> <li>• Leveraged burn rate data and modelling to establish federal capability targets for PPE and ventilators for COVID-19</li> <li>• Established agile processes, including real-time technical assessments, to support FPT bulk procurement of key MCMs that were in short-supply globally during the COVID-19 pandemic</li> <li>• Established long-term contracts with domestic manufacturers for N95 respirators and surgical masks, including vendor held finished goods and raw material stockpiles and built in safety stock which could be requested, if required.</li> </ul>
Modernize NESS holdings based on risk assessment and causality scenarios for CBRN events.	<ul style="list-style-type: none"> <li>• Established mechanism to leverage the Global Public Health Information Network (GPHIN) as additional source of information to identify emerging supply chain vulnerabilities</li> <li>• Developed a multi-year investment plan and high-level divestment approach for niche MCMs for CBRN threats based on advice from the Pharmaceutical and Therapeutics Committee.</li> </ul>
Retain some but not all of the current NESS asset mix. Focus on an appropriate public health role when planning for and determining the future strategic mix of assets rather than on a more general social services role in responding to events.	<ul style="list-style-type: none"> <li>• Worked with PSPC and ISED to periodically assess commodity specific supply chain risks to inform federal action during COVID-19</li> <li>• Established long-term contracts with domestic manufacturers for N95 respirators and surgical masks, including vendor held finished goods and raw material stockpiles and built in safety stock which could be requested, if required.</li> </ul>

**Table 8. Goal IV: foster operational excellence**

Findings from Prior Audits/Evaluations	Key Achievements to Date
Lack of federal stockpile management with a focus on effective materiel management.	<ul style="list-style-type: none"> <li>• Underwent three year-end OAG inventory audits (March 31, 2021, 2022, 2023) with no identification of material errors for inventory account balances or significant management recommendations</li> <li>• Advanced numerous donations of routine MCMs to optimize use before expiry</li> <li>• Developed a high-level framework of key legal, regulatory and policy instruments that govern NESS' life cycle management activities</li> </ul>
Lack of information needed to govern, oversee and manage assets due to missing, outdated or incomplete data.	<ul style="list-style-type: none"> <li>• Developed a modern WMS to replace the legacy system and completed pilot installation</li> <li>• Developed an enhanced product catalogue to support standardized data collection and reporting on inventory including for specialized MCM holdings</li> </ul>
Lack of oversight of third-party contracts for warehousing and logistics services.	<ul style="list-style-type: none"> <li>• NESS established a contract management and governance protocol for third-party logistics contracts.</li> </ul>
Secure arrangements for transportation and distribution of supplies during an emergency.	<ul style="list-style-type: none"> <li>• Established a scalable national third-party logistics (3PL) solution to support management of key assets</li> </ul>
NESS improved how it assessed needs and purchased, allocated, and distributed equipment.	<ul style="list-style-type: none"> <li>• Secured explicit legal authority to distribute assets to support public health emergency management (Order-in-Council)</li> <li>• Secured policy authority to distribute assets outside of the context of public health emergency management in certain circumstances as part of PHAC Renewal initiatives and activities</li> <li>• Worked with PTs to establish and implement the FPT Allocation of Scarce Resources – COVID-19 Interim Response Strategy for the management of medical products procured as part of COVID-19 bulk procurement</li> </ul>

Findings from Prior Audits/Evaluations	Key Achievements to Date
	<ul style="list-style-type: none"> <li>• Worked with HC to establish the personal protective equipment (PPE) demand and supply model for COVID-19</li> <li>• Leveraged burn rate data and modelling to establish federal capability targets for PPE and ventilators for COVID-19</li> <li>• Established agile processes, including real-time technical assessments, to support FPT bulk procurement of key MCMs that were in short-supply globally during the COVID-19 pandemic</li> </ul>