

ADVICE TO THE MINISTER

SUBJECT - SUJET

English:

SURGE HEALTH CARE CAPACITY IN CANADA

Français:

CAPACITÉ D'APPOINT EN SOINS DE SANTÉ AU CANADA

SYNOPSIS - SOMMAIRE

English:

PHAC is refocusing its efforts from Health Emergency Response Teams (HERT) to a reserve of emergency health care specialists

ANTICIPATED QUESTION - QUESTION PRÉVUE

English:

Can the Government of Canada confirm the existence of operational HERT mobile teams in the cities of Vancouver, Halifax and Winnipeg? What is the current status of the HERT Program?

Français:

Est-ce que le gouvernement du Canada confirme la présence d'équipes opérationnelles mobiles du programme d'équipe d'intervention d'urgence en santé (EIUS) à Vancouver, à Halifax et à Winnipeg? Quel est l'état actuel du programme d'EIUS?

KEY MESSAGES - MESSAGES CLÉS

English:

- The Government of Canada is committed to supporting surge health care capacity to help provinces and territories respond to emergencies.
- We are currently working with the provinces and territories to move toward a more flexible and scalable volunteer reserve of emergency health care specialists, and moving away from the previous strictly team based approach to surge emergency response capacity.
- The Government deployed emergency health care responders to Whistler Village to support the Vancouver Olympic

Organizing Committee during the Winter Games.

Français:

- Le gouvernement du Canada est déterminé à assurer une capacité d'appoint en soins de santé afin d'aider les provinces et les territoires en cas d'urgence.
- Nous travaillons avec les provinces et les territoires en vue d'établir une réserve de spécialistes de la santé bénévoles plus souple et plus adaptable et d'abandonner progressivement l'approche antérieure fondée strictement sur la formation d'équipes pour assurer une capacité d'appoint en cas d'urgence.
- Le gouvernement a envoyé des intervenants d'urgence en soins médicaux à Whistler pour aider le Comité d'organisation des Jeux olympiques de Vancouver pendant les Jeux.

SUPPLEMENTARY MESSAGES / MESSAGES SUPPLÉMENTAIRES

English:

- The reserve builds on the lessons learned from the current Health Emergency Response Team and will have broad representation from across Canada.
- The reserve will consist of a pool of qualified and deployable health care professionals who can support provincial and territorial medical surge requirements.

Français:

- Le projet de réserve s'appuie sur les leçons tirées de l'actuel projet d'équipe d'intervention d'urgence en santé (EIUS) et mettra à contribution des représentants de partout au Canada.
- La réserve sera constituée d'un bassin de professionnels de la santé qualifiés qui pourront être envoyés sur place afin de

fournir une capacité d'appoint aux provinces et aux territoires qui en ont besoin.

BACKGROUND - CONTEXTE

The Public Health Agency of Canada's Centre for Emergency Preparedness and Response currently maintains a Health Emergency Response Team (HERT). The HERT was established as a pilot in 2007 and is based in Ottawa with membership drawn from Eastern Ontario, Toronto and the Montreal areas.

During the 2007 pilot phase of the Ottawa based HERT, the provinces and territories (P/Ts) did not support the concept of four large HERTs as they did not believe they would need self sufficient medical teams for initial acute care in the majority of medical emergencies.

The P/Ts support the proposed reserve as a surge capacity that is distributed nationally and that can be integrated into hospitals and other local health care infrastructure if resident medical staff were to be overwhelmed in a health emergency.

The reserve is being developed using an evidenced based approach that includes the assessment of risks and threats for Canada and their potential health impacts. This is being complimented with the modernization of the National Emergency Stockpile System (NESS) to support health emergency responders with appropriate equipment and supplies.

The reserve will be made up of practicing physicians, nurses, paramedics and other medical professionals who can be deployed to any location in Canada when needed. Provinces and territories will be involved in the establishment of recruitment policies to help ensure that local medical capacity is not impacted by the needs of the reserve.

As with the current HERT, the reserve will be supported by a Training and Exercises (simulated emergencies) Programs.

The current intention is for the HERT be form part of the reserve, to assist a province or territorial should it request a self-sufficient surge medical unit.

ATTACHMENTS / PIÈCE(S)-JOINTE(S)

CONTACT INFORMATION / PERSONNES-RESSOURCE

Subject Matter Expert/ Expert(e) en la matière: [REDACTED]	Telephone/ Téléphone: [REDACTED] Mobile/ Cellulaire:	Approved by/ [REDACTED] [REDACTED] /HC-SC/GC/CA Title/ Titre: [REDACTED] OERS	Telephone/ Téléphone: [REDACTED] Mobile/ Cellulaire: [REDACTED]
Alternate/ Secondaire:	Telephone/ Téléphone: Mobile/ Cellulaire:		

Verification/

- Centre for ☒

Approved / Approuvé

Vérification par le [redacted] : Emergency Preparedness and Response [redacted]

Date [redacted] Verified/ 2010-02-19
Date vérifié par le [redacted] :

Division : Office of the [redacted]

Directorate/ Centre for Emergency Preparedness and Response/Centre de mesure de
Direction : d'intervention et urgence

[redacted] [redacted] ☒ [redacted] Approved / Approuvé [redacted]
Approved/
Approbation
par [redacted]
:

Branch/ Direction Infectious Diseases and Emergency Preparedness (IDEP)
générale :

CFO Approved/ ☐ CFO Approved / Approuvé CSF
Approbation par
CSF :

Branch/ Direction
générale :



FOR CONCURRENCE

Votre référence Your file

10-103709 - 71

Notre référence Our file

MEMORANDUM TO THE CHIEF PUBLIC HEALTH OFFICER

Disposal of Bifurcated Needles

SUMMARY

- The National Emergency Stockpile System (NESS) stockpile of bifurcated needles for the delivery of smallpox vaccine reached its labelled expiry date in 2008.
- Replacement needles were acquired in 2009 at a cost [REDACTED]
- It is recommended that the expired needles be disposed of through incineration to recycle the steel content. Disposition will result in the removal of a product with no use and allow for better use of warehouse space.

BACKGROUND:

Bifurcated needles are required for the efficient inoculation with smallpox vaccine and are stored in the NESS for that purpose. Bifurcated needles are only used for the administration of smallpox vaccine.

The smallpox vaccine order in 2005 was for the [REDACTED] and a stockpile of approximately [REDACTED] bifurcated needles were purchased for administration. [REDACTED]

[REDACTED]

As the result of the five-year shelf life limit set by Canadian regulators, Canada's stockpile of bifurcated needles reached its labelled expiry date during 2008.

About half of the expired needles are stored in [REDACTED], and the rest are stored in [REDACTED]. The needles are individually packaged in plastic containers and represent a [REDACTED]

.../2

CONSIDERATIONS:

The Department of Justice has conducted a legal analysis on the possible use of the expired needles. Replacing the needles was deemed to be the optimal approach.

██████████ replacement needles were purchased in 2009 for ██████████. The new needles have a 10-year shelf life and are packaged in sets of 100 to match the packaging of the vaccine. They do not have any plastic components and are much more compact than the expired needles. Re-sterilization can be explored if required.

The disposal of the expired needles, beginning in ██████████ will result in more efficient use of warehouse space. The needles are considered hazardous waste; therefore, special precautions must be employed in their disposal.

The NESS will have a large amount of expired pharmaceuticals and other material in the near future and is working with Material Management to develop a disposal policy and schedule. Authority for disposal of the expired bifurcated needles is sought at this time due to their large space requirement and the availability of funds for the disposal.

PORTFOLIO CONSIDERATIONS:

Health Canada regulates medical devices, including the NESS bifurcated needles.

Options and Rationale:

- Option 1 –** Maintain the expired needles for possible use in an emergency. If the smallpox vaccine stockpile is renewed, there may be a requirement for additional bifurcated needles. A legal analysis has been conducted and this option was not recommended.
- Option 2 –** The expired needles could be offered for sale through Public Works and Government Services Canada (PWGSC). PWGSC Crown Assets Distribution does not support this option, as no market exists for this product.
- Option 3 – (Recommended)** Dispose of the needles as hazardous waste. The needles and packaging would be incinerated and the steel recycled. This option resolves any legal or ethical concerns, and is recommended as it supports the Treasury Board Directive on the Disposal of Surplus Materiel, which outlines options for minimizing costs.

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RESOURCE IMPLICATIONS:

The needles were purchased in 2003 at a cost of [REDACTED]. Due to current accounting procedures, the expired needles still represent an [REDACTED] Crown asset.

The Environmental Management and Sustainable Development Division of the Public Health Agency of Canada, which disposes items for the NESS, has a budget of \$80,000 for the current fiscal year that can be used for the disposal of the [REDACTED] based expired needles. The NESS plans to dispose of the needles stored in [REDACTED] during the current fiscal year. The cost associated with their disposal is approximately \$53,000. The remainder of the needles currently stored across the country would be brought back to Ottawa for disposal in the next fiscal year. The estimated cost of their disposal including shipping is \$70,000. NESS will coordinate with the Environmental Management and Sustainable Development to ensure this is part of their budget planning.

RECOMMENDATIONS:

I recommend that you indicate your concurrence with the disposal of the expired needles by signing the "I concur" block.

[REDACTED]
[REDACTED]
[REDACTED]
Centre for Emergency Preparedness and Response

I concur

[REDACTED] **MAR 10 2010**
[REDACTED] _____
Date
MECS# 10-103709-71

Contact: [REDACTED]
Telephone: [REDACTED]

Routing Slip / Bordereau d'envoi

☐ Minister/Ministre ☒ CPHO/ACSP ☐ Associate DM/SM déléguée ☐ SADM/SMAP

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Program Contact/ Responsable de programme _____	Date FEB 11 2010	Tel _____
Director/Directeur _____	Date Feb 16, 2010	Tel _____
Director General/Directeur général _____		Tel _____

Cleared With / Avec l'accord de (if applicable/s'il y a lieu)

<input type="checkbox"/> Health Canada Santé Canada	_____	Date _____
<input type="checkbox"/> Legal Services Services juridiques	_____	Date _____
<input type="checkbox"/> Communications	_____	Date _____
<input type="checkbox"/> Finance/Finances	_____	Date _____
<input type="checkbox"/> HR/RH	_____	Date _____
<input type="checkbox"/> Others/Autres _____	_____	Date _____

Approved/Noted - Approuvé/Noté

<input type="checkbox"/> _____	MAR 10 2010 Date _____
<input type="checkbox"/> _____	Date _____
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Planning and Public Health Integration Branch/ Direction générale de la planification et de l'intégration de la santé publique	Date _____
Infectious Diseases and Emergency Preparedness Branch/ Direction générale des maladies infectieuses et des mesures d'urgence	Feb 22/10 Date _____
<input type="checkbox"/> _____	Date _____
Health Promotion and Chronic Disease Prevention Branch/ Direction générale de la promotion de la santé et la prévention des maladies chroniques	Date _____

ADVICE TO THE MINISTER

SUBJECT - SUJET

English:

OPINION BASED DECISIONS - HANDWASHING AND ANTIVIRALS

SYNOPSIS - SOMMAIRE

English:

On December 2, 2010, news article reported studies on the use of antivirals and handwashing during the 2009 H1N1 pandemic.

ANTICIPATED QUESTION - QUESTION PRÉVUE

English:

Does the Minister of Health agree that evidence based decision making should be followed by her Department?

KEY MESSAGES - MESSAGES CLÉS

English:

The Government of Canada is committed to ensuring and protecting the health and safety of Canadians.

Canada's pandemic preparedness plan is a multi-faceted approach that includes evidence-based public health measures, such as handwashing, antivirals and immunization.

The Government of Canada continues to encourage Canadians to adopt respiratory hygiene etiquette, such as handwashing and immunization, to prevent the spread of influenza and other respiratory diseases.

Français:

SUPPLEMENTARY MESSAGES / MESSAGES SUPPLÉMENTAIRES

English:

Français:

BACKGROUND - CONTEXTE

"Opinion-based decisions lead to problems" article, December 2, 2010:

- During last season's H1N1 pandemic, antivirals and handwashing were promoted as heavily as the vaccine.
- The United Kingdom recently commissioned its National Institute for Health and Clinical Excellence (NICE) to systematically review the literature of the impact of antivirals.
- 26 randomized trials were included for summary in the final report that was published in *Lancet Infectious Disease* in September 2009.
- The researchers found that antivirals reduce the symptoms of influenza by about a half a day in healthy adults and that antivirals reduce the symptoms of influenza by up to one day for those at high risk of complication.
- Regrettably, the experts found that there was little overall difference in severity or complication rates associated with taking antivirals in comparison to placebo in either healthy adults or in high-risk populations. This is owing to the fact that studies conducted by the drug manufacture were unavailable for review by the researchers.
- Recommending the use of antiviral drugs for the treatment of people presenting with influenza symptoms is unlikely to be the most appropriate course of action because choices have to be made in regards to which interventions can and should be supported, within a publicly funded health-care system with competing demands.

Handwashing:

PHAC continues to recommend frequent and thorough handwashing to help prevent the spread of influenza.

These recommendations are based on scientific evidence and expert opinion. There is substantial evidence to support hand hygiene as a basic premise of infection prevention and control measures.

Antivirals:

In 2004, the federal government established the National Antiviral Stockpile (NAS) for early treatment during a pandemic pending the availability of a vaccine. Canada's pandemic preparedness plan is a multi-faceted approach that includes public health measures, such as handwashing, antivirals and immunization.

There are two separate national antiviral stockpiles in Canada:

1. The National Antiviral Stockpile (NAS) is a federal/provincial/territorial (F/P/T) cost-shared stockpile. In 2006, the federal governments agreed to cost-share [REDACTED] antiviral doses to establish NAS (60% federal, 40% P/T).
2. The National Emergency Stockpile System (NESS) contains [REDACTED] doses of antivirals, which are 100% federally funded and owned.

The NAS was accessed during the H1N1 pandemic to treat ill Canadians. Antiviral use coupled with respiratory hygiene practices, such as handwashing, in addition to the H1N1 vaccine contributed to the reduce spread and infections with the H1N1 flu virus.

Many Canadian studies during and after the H1N1 pandemic supported the efficacy of antivirals for treatment of sever influenza complications the early use of antivirals significantly reduced Intensive Care Unit Admission and deaths.

The Public Health Agency of Canada current recommendations for antiviral use are:

Antivirals are to be used for the early treatment of cases (within 48 hours of symptom onset).

For persons with pH1N1 and no risk factors, who are mildly ill - no antiviral treatment is recommended.

In particular, treatment is recommended for all children under 2 years of age with pH1N1 and those aged 2-5 years with any other risk factor or with the clinician's discretion.

Antivirals are to be used for the control of outbreaks in closed facilities (i.e., long term care facilities).

Antivirals are recommended for patients with suspected or confirmed pH1N1 infection who present with severe or progressive illness or have risk factors for the development of influenza complications.

Risk factors include:

Children less than 5 years of age (especially less than 2 years).

Prenant women (especially second and third trimester).

Chronic conditions including :

- asthma and other chronic respiratory diseases
- diabetes and other metabolic disorders
- cardiac disease
- chronic hepatic or renal disease
- immunocompromised / immunosuppressed
- blood disorders (including anemia and sickle cell anemia)
- neurologic and neurodevelopmental disorders (that affect swallowing and breathing)
- morbid obesity(BMI >35)

Other considerations:

- persons living in remote or isolated areas
- persons who are First Nations, Inuit or Metis

Canadian Council of Academies Report

In 2007, the Public Health Agency of Canada had commissioned the Canadian Council of Academies(CCA) to undertake a scientific review of evidence on how and where influenza is transmitted, and the relative contribution of N95 respirators and surgical masks in limiting its transmission. The CCA reported its findings in a report entitled, *Report of the Expert Panel on Influenza and Personal Protective Respiratory Equipment* , which was released on December 20th, 2007. This report did not offer any recommendations or guidelines for the use of masks of N95 respirators, but has made several key findings. The review panel concluded that when infection control is required, a "hierarchy" of controls is needed. The first and most effective line of defence against seasonal and pandemic influenza will be vaccination and treatment with antivirals. Other elements of infection control include engineering controls (i.e. ventilation systems), administrative controls (isolating patients and hand-washing measures) and personal protective equipment (PPE), such as masks and gowns. When short-range contact with an infected person is required or unavoidable, PPE provides the final layer of protection.

ATTACHMENTS / PIÈCE(S)-JOINTE(S)

CONTACT INFORMATION / PERSONNES-RESSOURCE			
Subject Matter Expert/ Expert(e) en la matière:	Telephone/ Téléphone:	Approved by/	Telephone/ Téléphone:
	Mobile/ Cellulaire:	Title/ Titre:	Mobile/ Cellulaire:
		CIRID	
Alternate/ Secondaire:	Telephone/ Téléphone:		
	Mobile/ Cellulaire:		

Verification/ Vérification par le		Centre for	<input checked="" type="checkbox"/>	Approved / Approuvé	
:		Immunization and Respiratory			
Date	Verified/	2010-12-02			
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Division :		Immunization and Respiratory Infections Division			
Directorate/ Direction :		Centre for Immunization and Respiratory Infectious Diseases			
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Approved/ Approbation par					
:					
Branch/ Direction					

générale : Infectious Disease Prevention & Control (IDPC)

CFO Approved/
Approbation par
CSF :

☐ CFO Approved / Approuvé CSF

Branch/ Direction
générale :

PHAC Evaluation Committee

March 30, 2011

Issue: Evaluation and Management Response and Action Plan (MRAP) of the National Emergency Stockpile System.

Context:

This evaluation of the NESS program was initiated in response to a recommendation in the 2010 Public Health Agency of Canada *Audit of Emergency Preparedness and Response* to assess the relevance of the program. The purpose was to gain an understanding of the extent to which the program continues to address a documented need and reflects the roles/priorities of the Government of Canada and PHAC. It also examines program performance and explores opportunities for program realignment/refinement where appropriate.

Attachment(s)

Deck: Evaluation of the National Emergency Stockpile System: Overview of evaluation issues, findings and recommendations

Report: Evaluation of the National Emergency Stockpile System

MRAP

Decisions Required:

Evaluation Committee Recommends:

___ Approval by CPHO (yes/no)

___ MRAP follow-up frequency (12 months or 6 months)

Item Sponsor:

_____, Evaluation Services Directorate

Contact:

_____, Evaluation Services Directorate

PUBLIC HEALTH AGENCY *of* CANADA AGENCE DE LA SANTÉ PUBLIQUE *du* CANADA

Evaluation of the National Emergency Stockpile System

Date: March 30, 2011



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

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2011 Evaluation of the NESS

- Initiated in response to a recommendation in the 2010 Public Health Agency of Canada *Audit of Emergency Preparedness and Response*
- The purpose was to:
 - gain an understanding of the extent to which the program continues to be “relevant”, i.e. addresses a documented need, and reflects the roles/priorities of the Government of Canada and PHAC
 - examine program performance
 - explore opportunities for program realignment/refinement where appropriate
- For methods and limitations, see Annexes 1 and 2
- Out of scope:
 - Provincial/territorial component of the National Antiviral Stockpile
 - Life cycle management (see Annex 3 for stockpile management considerations that arose during the course of the evaluation)

The NESS: History and Resources

Brief history

- 1952 - Established by Cabinet as part of civil defence plan during the Cold War for medical and social service response to a nuclear attack
- 1965 - Authority granted by Cabinet to use as peacetime surge capacity for provinces and territories to respond to a natural or manmade disaster
- 2001 - Bioterrorism threats triggered expansion to chemical biological and radio-nuclear (CBRN) countermeasures
- 2004 & 2009 – Pandemic influenza led to stockpiling of pandemic response supplies

Current resources

- PAA sub-activity 1.6.3 "Emergency Stockpile"
- Resides within the Office of Emergency Response Services, Centre for Emergency Preparedness and Response, Emergency Management and Corporate Affairs Branch
- Staff composition (as of February 2011):
 - Director
 - Chief
 - Assistant Manager
 - Pharmacist
 - 3 inventory control staff and
 - 22 warehouse staff
- The program estimates the current value of the NESS supplies to be \$300 million
- Program expenditures (2009-10):
 - \$5.5 million, including salaries and operating expenses
 - \$7.7 million for annual leasing of warehouse space

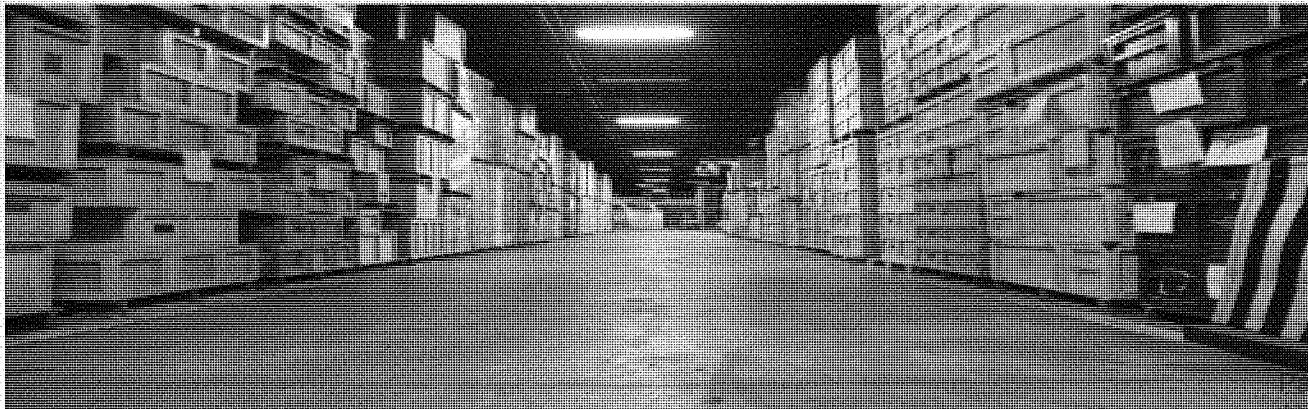
What is the NESS?

The NESS is housed in:

- 11 warehouses leased by PHAC (60% of inventory stored in National Capital Region):
 - main depot in the National Capital Region
 - Nine warehouses located across the country (none in territories)
- PHAC has contracts in place for both custodians and security for all 11 warehouses
- Approximately 1,300 pre-positioned sites located across Canada (40% of inventory – see Annex 4 for example of a provincial map of prepositioned sites):
 - PHAC owns the assets in the prepositioned sites
 - Provinces and territories determine locations of the pre-positioned materials and are responsible for any leasing costs and/or security

The NESS contains (\$300M):

- Pharmaceuticals (antiviral agents, antibiotics, CBRN antidotes, etc.)
- Medical equipment and supplies (ventilators, personal protective equipment such as masks and gloves, operating room tables, stretchers, wound dressings, bandages, etc.)
- Social service supplies (generators, cots, blankets, flashlights, etc.)
- Modules/Units/Kits (compilations of medical and social supply items packaged as casualty collection units, mini-clinics, reception centre kits, etc.)

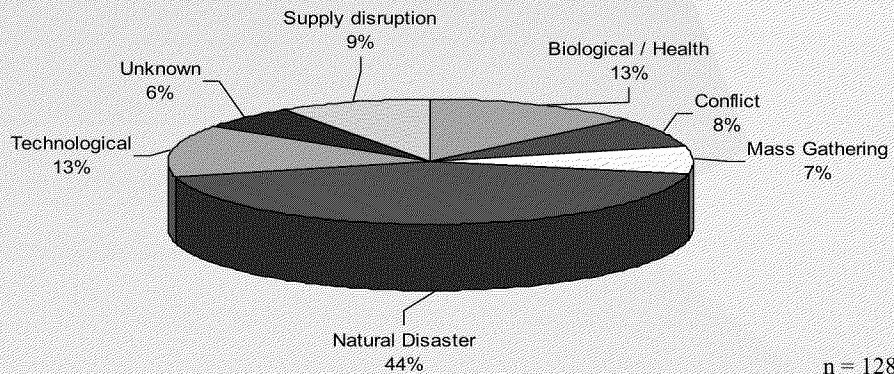


Components of NESS Stockpile

Kit or item	Type	Location	Acquired	Notes
Emergency hospitals	Medical	pre-positioned in provinces and territories and in warehouses leased by PHAC	1950s, 1960s	Designed to provide self-contained acute and short-term medical care in a worst-case scenario; Components currently being assessed and recycled/disposed
Advanced treatment centers (ATC)	Medical	pre-positioned in provinces and territories	1950s, 1960s	Designed to provide early medical and limited surgical procedures in a "field" environment; Components to be assessed
Casualty collecting units (CCU)	Medical	pre-positioned in provinces and territories and in warehouses leased by PHAC	1950s, 1960s	Designed for the provision of acute and short-term medical care in a worst-case scenario; Components currently being assessed and recycled/disposed; Replaced by mini-clinics
Trauma kits	Medical	in warehouses leased by PHAC	1950s, 1960s	Consist of first aid, intubation, IV solutions and medical components to support first line response; Components currently being assessed and recycled/disposed
Mobile feeding units	Social services	pre-positioned in provinces and territories and in warehouses leased by PHAC	1950s, 1960s	Designed to provide emergency feeding capability in the "field", e.g. normal food service is not available; Components currently being assessed and recycled/disposed
Reception centre kits	Social services	pre-positioned in provinces and territories	1950s, 1960s and later	Registration and inquiry materials for evacuation centre or shelter; Components to be assessed
Quarantine units	Medical	in warehouses leased by PHAC	1950s, 1960s and later	Support up to 300 persons that are suspect of having or have been in contact with an infectious disease and are entering Canada at one of its airports; Components to be assessed
Various social services supplies	Social services	pre-positioned in provinces and territories and in warehouses leased by PHAC	1950s, 1960s and later	Includes: Cots, blankets, generators, flashlights, survival candles, propane lanterns, garbage bags, bottle water, diapers, etc.; Components to be assessed
CBRN antidotes	Medical		2001-2002 and later	Antidotes, such as those required for: small pox, botulism and anthrax; Components are harder to acquire and store; Acquisition based on current risk assessment
CBRN push packs	Medical		2001-2002 and later	Intended as a first response to the risk of a terrorist incident; Components are harder to acquire and store; Acquisition based on current risk assessment
Pandemic supplies	Medical		2004-2005 and later	Includes: antiviral agents, antibiotics, syringes, ventilators and related oxygen supply equipment, personal protective equipment
Portable mini clinics	Medical		2009-2010 and later	Located adjacent to medical facilities, designed to supplement existing medical care facilities; Replaced the Casualty Collecting Units (CCUs)

Domestic Deployment

Domestic NESS Deployments by Hazard 1985 - 2010



n = 128

The NESS has been deployed domestically 128 times in the last 25 years.

It has primarily supported the provincial and territorial response to floods, forest and industrial fires, ice storms, pandemic, and mass gatherings.

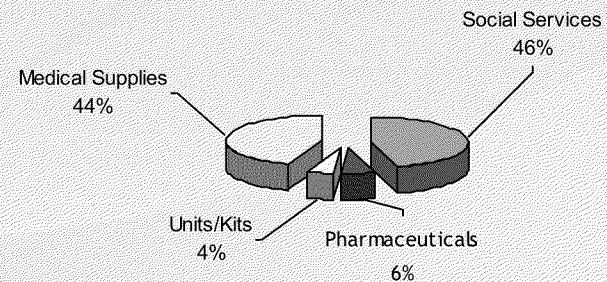
Numerous deployments may support the response to one hazard.

Social supply deployments (46%), e.g. blankets and beds to Alberta during forest fire evacuations in 2006.

Medical equipment and supplies (44%), e.g. ventilators were sent to Quebec during the H1N1 pandemic in 2009.

Very few pharmaceuticals (6%) and modules/kits (4%) have been deployed.

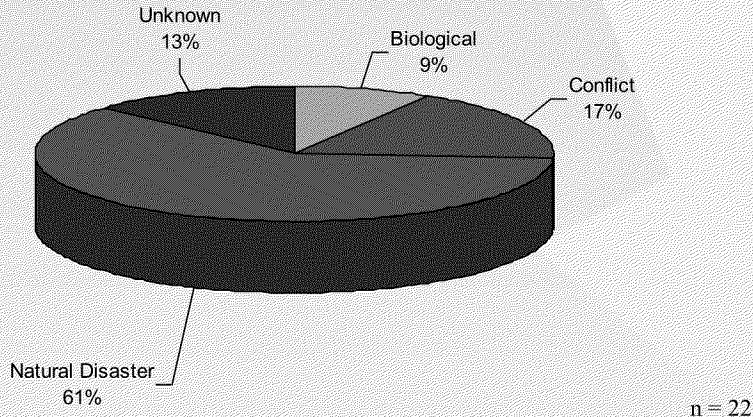
Type of Supplies Deployed Domestically 1985 - 2010



n = 335

International Deployment

International NESS Deployment by Hazard 1985-2010



NESS has been deployed internationally at least 22 times in the past 25 years.

It has primarily supported natural disasters such as the Asian tsunami (2004), Hurricane Katrina (2005) and the Haiti earthquake (2010).

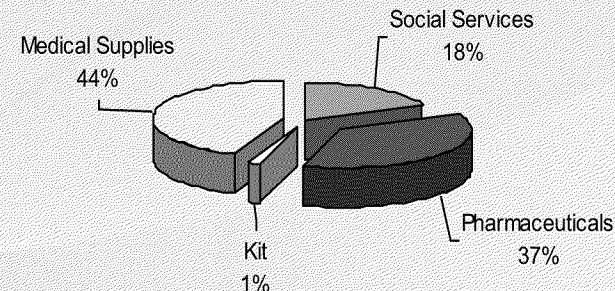
Medical supplies (44%), e.g. x-ray machines sent to Mexico after an earthquake in 1985.

Pharmaceuticals (37%), e.g. amoxicillin sent to Honduras in 1998 after a hurricane.

Social service supplies (18%), e.g. flashlights and blankets to the Maldives after the Asian Tsunami in 2004.

Kits such as a mobile feeding unit (1%), e.g. Kurdistan conflict in 1991.

Types of Supplies Deployed Internationally 1985 - 2010



Perceptions of the NESS

Provinces and Territories:

- NESS management and staff have provided good service over the years
- Confidence in the stockpile has eroded; supplies are perceived to be outdated or do not meet modern medical standards
- Jurisdictions have varying requirements (type of threats as well as capacity to respond)
- Improvements could be made:
 - better articulation of NESS mandate and increased communication on its structure, management and capacity
 - clarification on roles and responsibilities for communities/recipients of NESS supplies
 - closer working relationships with provincial and territorial counterparts

Other Government Departments:

- *Some have stockpiles of similar items (e.g. personal protective equipment, medical supplies) including DND, CFIA, DFAIT, HC-FNIHB*
- Little known about PHAC stockpile, including roles and responsibilities
- Opportunities for joint procurement, sharing of expertise and knowledge

PHAC Staff:

- Concern regarding perceived lack of concrete decisions on this file

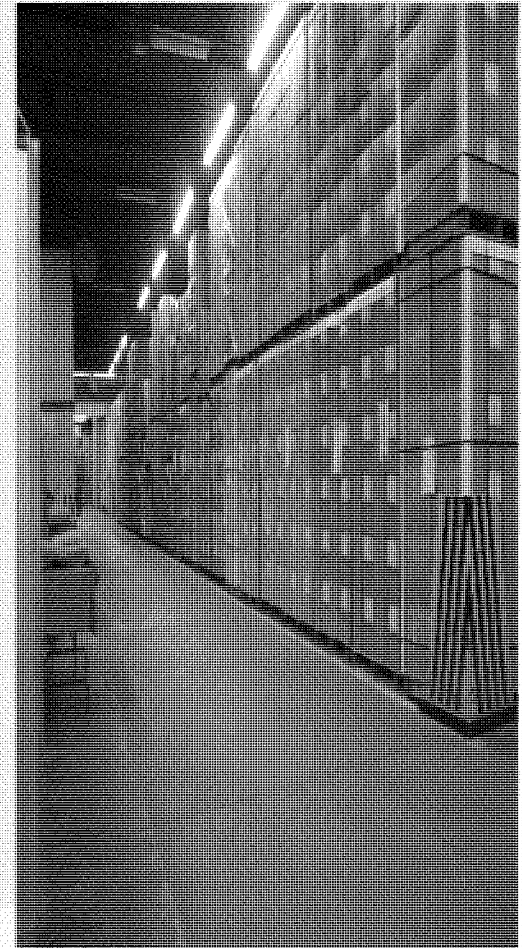
What are Other Countries Doing?

Activity <i>(United States, Australia, and Norway)</i>	Comparison to the NESS
Federal stockpile is managed for surge capacity to states and territories. Emergency response is primarily the responsibility of local jurisdictions with requests for federal help when needed.	✓
Stockpiles comprised of pharmaceuticals and other medical supplies such as personal protective equipment for first responders and kits (mini-clinics).	✓
Special focus on strategic assets: niche roles such as CBRN supplies and pandemic preparedness.	✓
No social service supplies in stockpiles. Work with other NGOs to fulfil this requirement within their country.	X

NOTE: Findings based on a limited sample of countries

Summary of Key Findings

- There is a need to provide surge capacity to provinces and territories. However, the mandate outlined 50 years ago is outdated and not reflective of current realities.
- Other countries concentrate on stockpiling pharmaceuticals and medical supplies but not for a social service response. Other organizations within these jurisdictions provide this type of service.
- No ongoing authority for PHAC to deploy internationally although PHAC will most likely continue to receive requests.
- Roles and responsibilities concerning the NESS are not clearly understood by provinces/territories and other government departments.
- Enhanced operational capacity within CEPR is required to support strategic planning, stakeholder engagement, communication and life cycle management of the NESS.



Overview of Future Capacities for NESS

LINKAGES TO BROAD COORDINATED INTEGRATED RESPONSE

ENHANCEMENT OF STRATEGIC ACTIVITIES

WAREHOUSE OPERATIONS

Stockpile management, logistics, acquisitions, distribution

Electronic inventory system

Capacity for strategic planning and long term plan

Engagement of stakeholders

Pre-positioned sites and supplies reflect risk

Life cycle management for supplies

Training and communication about supplies

Authorities for international deployments (or not)

Other government departments, provinces/territories, municipalities, NGOs, academics, others

Shared understanding of roles

Shared knowledge and expertise

Integrated network of responders

NESS NOW

NESS FUTURE

Recommendation 1

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.

a) Continue to ensure the following stock is available for provincial/territorial surge:

- pandemic preparedness supplies;
- medical and pharmaceutical supplies for planned mass gatherings of national significance and unplanned natural or manmade disasters; and
- chemical, biological and radio-nuclear (CBRN) countermeasures.

b) Do not acquire social service supplies

Rationale

- Should focus on the acquisition and management of assets that reflect current risk assessments and most closely align with the Agency's public health mandate and priorities (needs/roles/priorities)
- Other countries have a similar niche role in stockpiling public health supplies (benchmarks/comparators)
- Other countries and some provinces/territories are primarily turning to non-governmental organizations for social services support during an emergency (role/alternative service delivery)

Recommendation 2

Develop, resource and implement a disposal strategy to allow for the disposition of:

- a) equipment and supplies that are outdated, no longer meet current medical standards, or are of poor quality (i.e. emergency hospitals, casualty collecting units, etc.)
- b) individual social services items (cots and blankets) and social services units (i.e. mobile feeding units, reception centre kits, etc.) as they are not well aligned with a federal public health role

Recommendation 3

Develop, implement and monitor a strategy to help communicate the Public Health Agency of Canada's role in stockpiling supplies for public health responses, considering the following target groups:

- Other federal government departments and agencies
- Provinces/territories, including specialized areas:
 - End users (health practitioners)
 - Materiel management specialists
 - Logistical teams

Recommendation 4

Include specific consideration of the NESS in the Agency's broader discussions of its international role

NESS NOW

ASSETS

Social services supplies (cots, blankets, diapers, etc.) are purchased, stockpiled and distributed

Some medical equipment and supplies are outdated

The existing mix of medical and pharmaceutical inventory is based on an uneven risk analysis and analysis of Agency priorities

STOCKPILE MANAGEMENT

Rationale for mix of assets stored at, and the locations of, many of the 1300 pre-positioned sites is not clear and needs to be reassessed

The management of the stockpile is not efficient and would benefit from the application of more modern inventory life cycle management approaches

The current inventory control system / tools are not adequate to support effective inventory management

STRATEGIC CAPACITY

Program capacity is centred around warehouse management and does not address broader strategic needs

Broader program decision-making is ad hoc and does not reflect a long term strategic plan

There is limited engagement of stakeholders in stockpile planning. Most Canadians are unaware of the stockpile system and how it is used

There are no ongoing authorities or established procedures for the international deployment of NESS supplies

NESS FUTURE

Does not acquire social services supplies; supports other levels of government and NGOs in their social service roles

Acquires/stores supplies for pandemic preparedness, mass gatherings & unplanned disasters that meet modern medical standards/expectations

Based on recent and routine analysis of risks, and Agency priorities, acquires pharmaceutical supplies (including for pandemic preparedness and CBRN threats)

Pre-positioned assets and site locations reflect current local risk assessments

Activities are undertaken in line with an operational business plan, including adoption of efficient approaches for procurement, storage, maintenance, deployment and disposal of stockpile supplies

An electronic inventory system provides information on all assets, and their valuation and maintenance, in a timely, comprehensive, user-friendly, reliable manner

The program has resources in place to facilitate strategic analysis and planning, as well as stakeholder engagement and communication

A long term strategic plan guides program planning, including leadership and coordination activities, and strategic direction for the stockpile

Stakeholders are meaningfully involved in decision-making around the stockpile system. Canadians are aware of the stockpile and how it is used

Clear authorities and procedures exist for the international deployment of NESS supplies

Principles

(1) An "all hazards" risk-based approach

Each hazard, both natural and human-induced, should be identified and assessed to prioritize hazards against potential vulnerabilities in society.

(2) Evidence-based decision making

Decisions are based on systematic, empirical research that has provided evidence of effectiveness of approaches.

(3) Respecting jurisdictional responsibilities

In an emergency, the first response is almost always by the local authorities. The federal government prepares for and responds to requests for assistance by a provincial or territorial government.

(4) Stakeholder engagement

There is strong stakeholder engagement needed in emergency management. Good working relationships based on effective collaboration, coordination and communication are key.

(5) Clear communication

There is clear communication with other federal departments, provinces and territories, and non-government organizations on the Agency's role in stockpiling supplies and its assets for public health responses.

Adapted in part from An Emergency Management Framework for Canada, Second Edition (2011), Ministers Responsible for Emergency Management

GREY BOXES

Activities already initiated by the program (as of February, 2011)

Page: 29 of/de 933
AV2020000015

Communications Approach proposed by Communications Directorate

- A communications approach for the report will be developed that will focus on internal communications with affected staff.
- Media relations will be prepared but responsive only.
- PHAC Communications will be involved in responding to one of the report's recommendations and will develop a subsequent comms strategy for all NESS Communications, focussing on stakeholder relations.

Annexes

Annex 1:

Evaluation Methods

The evaluation analyzed information from multiple sources.

- Key internal documents including:
 - Previous audits and reviews of the NESS program
 - Records of decision from various PHAC governance committee meetings
 - Correspondence and communication related to the NESS program
 - Program records on the deployment of NESS supplies
- Written survey responses and focus group feedback from provincial/territorial representatives through the Council of Health Emergency Management Directors (CHEMD) and Council of Emergency Social Services Directors (CESSD)
- Written survey responses from selected other government department representatives
- Interviews with key senior managers and staff from the Public Health Agency of Canada, selected other government departments and non-government organizations representatives, and external issue experts in the field of emergency preparedness and response
- Interviews with specialists in OGDs plus in a selection of other countries (Australia, Norway, and United States) involved in the management of public health stockpiles within their respective jurisdictions

Annex 2:

Limitations of the Evaluation

- Deployment data inconsistent due to no electronic inventory for supplies and distribution
- External experts identified by program
- Limited number of international and domestic case studies for comparison
- Program staff turnover meant limited knowledge of program and history of the stockpile
- Saturation of reviews may have affected perceptions
- Some interviews/focus groups were not transcribed verbatim and this could lead to an imbalance in analysis
- Short timeframe for completion did not permit an in-depth analysis of some data, e.g. program finances, composition of other stockpiles: federally and provincially in Canada and in other countries

Annex 3:

Other Considerations Stockpile Management

- An updated, multifaceted NESS program will require management through more of a business model or systems lens, shifting the emphasis away from just warehouse management
- Disposal needs to be a key activity
- Consider the use of an expanded vendor or distributor-managed inventory for certain supplies (such as pharmaceuticals that are already readily available)
- Consider joint purchasing agreements for certain supplies (personal protective equipment or medical supplies)
- Processes for requests, deployments, receiving and returns for various supplies need to be better articulated in written documentation
- There may be value in providing regularly offered and standardized local training relating to the NESS

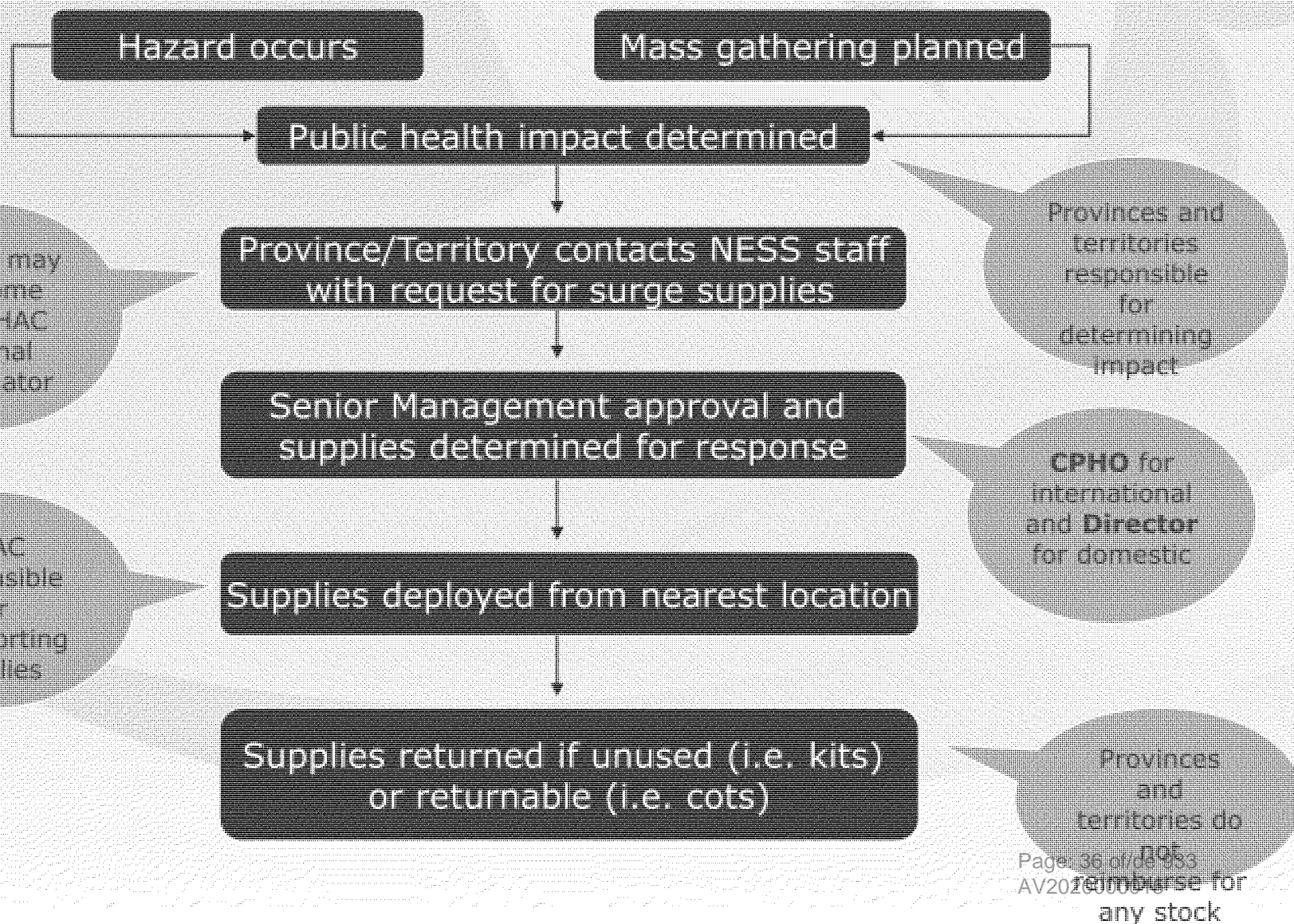
Annex 4: Pre-positioned Sites

40% of NESS inventory stored in 1,300 provincial and territorial sites,
e.g. Ontario sites

NESS Sites in Ontario



Annex 5: Process Map - Domestic Deployment



7. Overview – Emergency Preparedness and Response

Introduction

The *Emergency Management Act* sets out clear roles and responsibilities for all Ministries across the full spectrum of emergency management. A federal response to emergencies is guided by the *Federal Emergency Response Plan* (FERP), an overarching plan administered by Public Safety. It is supported by department-specific plans such as the *Health Portfolio Emergency Response Plan*, which guides Public Health Agency of Canada (PHAC) and Health Canada actions during emergency events. Public Safety is the overall lead for coordinating the federal government's response to emergencies in Canada, including response to terrorist threats. The Health Portfolio (HP) is focused on managing events that may affect the health and well-being of Canadians, including biological threats (e.g. influenza pandemics and SARS-like events, foodborne illness outbreaks, and bioterrorism attacks such as smallpox and anthrax) and chemical and radiological / nuclear response. Without a robust response, there would be significantly more morbidity and mortality in Canada.

Public health in Canada is a shared responsibility among local, provincial/territorial (P/T), and federal governments. While most domestic public health events and emergencies are managed locally, PHAC takes on a leadership role in coordinating a national response to public health events or emergencies involving more than one province or territory. PHAC is also involved whenever there is a potential for health risks to be spread into or out of Canada.

PHAC manages and maintains the HP's Emergency Operation Centre (HP EOC), which serves as the hub for the coordination of response activities to significant public health events. The HP EOC is an important HP resource that supports and facilitates emergency operations by expediting and facilitating the sharing of information, coordinating response activities and communications. To ensure a coordinated response, the HP EOC maintains a 24/7 situational awareness function and routinely communicates and shares information with Public Safety's Government Operations Centre (GOC), which provides the platform for the coordination of activities for a whole-of-government response during an emergency and is Canada's strategic-level operations centre.

The Agency has epidemiological, laboratory and other public health experts, together with equipment and supplies that can be deployed to support provinces and territories as needed in response to outbreaks, health emergencies and natural disasters.

PHAC's Canadian Field Epidemiology Program (CFEP) can deploy field epidemiologists to help investigate the cause of an outbreak and determine how to control it. The Agency's Microbiological Emergency Response Team (MERT), is equipped with a mobile laboratory that can be set up onsite to identify biological agents and provide laboratory testing during an outbreak. PHAC also supports the inter-jurisdictional sharing of medical health professional surge capacity during an emergency. Additionally, PHAC is responsible for the control and maintenance of the National Emergency Stockpile System (NESS). The NESS contains a reserve of medical resources such as hospital equipment, pharmaceuticals and medical countermeasures to counteract biological threats. It provides surge capacity to P/Ts as required.

ADVICE TO MINISTER

In support of public health capacity building on emergency management, PHAC develops and provides training of Health Portfolio staff and front line health responders. In addition, PHAC develops emergency exercises to test and train on the FERP, HP Emergency Response Plan, and disease specific plans and protocols. PHAC's corporate support functions such as human resources (HR), information management and information technology (IMIT), and Business Continuity Planning (BCP) are fully engaged to ensure response capacity.

As communication plays a key role in the coordination and collaboration of an effective response, the HP has established Crisis Communications Protocols that guide effective risk communications in the event of an emergency and emphasize the importance of the HP's many stakeholders and partners in the delivery of a public health response.

Considerations

A number of domestic and international reviews, including a Senate Committee study on H1N1 and Pandemic Preparedness, have been undertaken to assess Canada's response to various public health events and emergencies. These reviews have identified a number of cross-cutting recommendations related to preparedness and response. PHAC continues to draw on these reviews to strengthen its emergency management and pandemic preparedness measures.

For example, during the 2009 H1N1 influenza pandemic response, PHAC took a leadership role on disease surveillance, antiviral and vaccine programs, infection prevention measures, clinical care guidelines, public health communication, as well as research and laboratory testing. Following the H1N1 pandemic, HP undertook a lessons learned review in order to inform and improve future responses to pandemics and other type of public health emergencies.

In addition, an internal audit of the HP's Emergency Preparedness and Response was undertaken in 2010, examining PHAC's emergency preparedness and response capabilities. The audit found that while PHAC was able to respond to emergencies, issues need to be addressed such as clarification of roles and mandates, as well as increased human resource capacity, training and exercises. A Management Response and Action Plan is being implemented, outlining activities underway to address recommendations in the audit.

Key Priorities

Emergency Management is the Public Health Agency's number one priority. In order to build on past successes and lessons learned and to ensure PHAC is well prepared for future emergency situations, PHAC will continue to strengthen its emergency management framework, including policies and priorities, roles and accountabilities, and supportive structures and systems. Key priorities for the upcoming year include:

- As requested by Public Safety, supporting an integrated and coordinated approach to emergency management planning through the development of a Strategic Emergency Management Plan (SEMP) for the Health Portfolio (HP), including a HP Emergency Management policy based on an all-hazards, risk-based approach;

ADVICE TO MINISTER

- Providing surge capacity to provinces and territories and facilitating mutual aid, including a modernized National Emergency Stockpile System (NESS) and a new health professional emergency surge response model;
- Ensuring Canada is compliant with our obligations under the International Health Regulations (IHRs) by June, 2012; and,
- Ensuring ongoing and improved service delivery of the Agency's mandate vis-à-vis the *Quarantine Act*.

International Partners

PHAC maintains a strong link to the World Health Organization (WHO) as part of Canada's commitment to the International Health Regulations (IHR's). It is important to ensure that Canada's IHR obligations are met in order to prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide. IHR contributes to global public health security by providing a framework for the coordination of the management of events that may constitute a public health emergency of international concern, and will improve the capacity of all countries to detect, assess, notify and respond to public health threats. International liaison officers also keep PHAC linked with other international partners such as the United States and China.

Health Ministers from Canada, US, UK, France, Germany, Japan, Italy and Mexico as well as the European Commission and WHO (as technical advisor) have an informal network called the Global Health Security Initiative (GHSI). The objective of GHSI is to share information and coordinate efforts to strengthen global health security in the preparedness and response to health threats posed by chemical, biological and radio-nuclear (CBRN) and pandemic influenza.

The key principles of GHSI include collaboration to increase the effectiveness of our national and international efforts; cooperation to support timely response to health threats; alignment of approaches where possible to facilitate coordinated global action; information-sharing to support a common evidence base for critical decision-making; and learning from past and current events to inform future decisions and collaborative efforts.

Federal / Provincial / Territorial (F/P/T)

Outbreak response and emergency management are similar in that they use a "bottom up" approach. Local authorities prepare and respond to emergencies using local resources and emergency management systems. When an emergency exceeds local capacity or if it becomes larger in scope, P/Ts, as well as the federal government may become involved to coordinate and assist, as needed.

The HP continues to work closely with F/P/T partners in a number of key areas, including: revising the F/P/T governance structures for response during a pandemic and the inter-pandemic period; clarifying roles and responsibilities of all levels of government regarding pandemic planning and response activities; and developing mechanisms to address inter-jurisdictional sharing of health professionals during public health emergencies.

Moving Forward

PHAC continues to strengthen its all-hazards emergency preparedness and response by addressing a number of studies, audits and evaluations related to emergency preparedness and response, and the key lessons learned from the 2009 H1N1 influenza pandemic, which have been made public over the last year.

ADVICE TO THE MINISTER

SUBJECT - SUJET

English:

ANTIVIRAL DRUGS (TAMIFLU)

SYNOPSIS - SOMMAIRE

English:

On May 23, 2011, the CBC published an article entitled "Tamiflu Probe Spark Policy Review." The article identified the transparency of membership and potential conflict of interests of experts advising the Public Health Agency of Canada on antiviral stockpiles as an issue of concern.

ANTICIPATED QUESTION - QUESTION PRÉVUE

English:

Why are public health experts with links to pharmaceutical companies advising the federal government on the stockpiling of antiviral drugs?

KEY MESSAGES - MESSAGES CLÉS

English:

- The Government of Canada is committed to working with the vaccine industry and public health administrators to help plan for the effective roll-out of immunization programs in the event of an influenza pandemic.
- The Public Health Agency of Canada and Health Canada have completed a review of the 2009-10 H1N1 pandemic response and the report acknowledges that years of advance planning enabled the Government of Canada to implement an effective response overall.
- While expert advisers provide advice and recommendations on quantities and types of antiviral required, final decisions about the stockpiling of antiviral drugs rest with

federal/provincial/territorial governments.

Français:

SUPPLEMENTARY MESSAGES / MESSAGES SUPPLÉMENTAIRES

English:

- Sustainable Antiviral Stockpile Working Group is tasked with developing a strategy for effective and sustainable antiviral stockpile procurement and management, including options for short-term replenishment of antiviral stockpiles. Membership includes F/P/T government representation.

Français:

BACKGROUND - CONTEXTE

On May 23, 2011, the CBC published an article entitled "Tamiflu Probe Spark Policy Review" which identified the transparency of membership and potential conflict of interests of experts advising the Public Health Agency of Canada (PHAC) on antiviral stockpiles as an issue of concern. It was also noted in the article that researchers in Canada, Italy, Britain and the United States of America are now challenging the claims by Roche that oseltamivir (Tamiflu) significantly reduced complications or hospitalizations due to influenza.

Advisory Groups/Committees on Antivirals:

Participation in expert advisory groups is based upon subject matter expertise in the fields of influenza, virology, pharmacology, clinical medicine and other related disciplines relevant to antivirals. Other members may participate on the basis of their Public Health Agency of Canada (PHAC) responsibilities, their responsibilities within a provincial or territorial jurisdiction, or as representatives of relevant health professional organizations. All antiviral advisory groups have been co-chaired by a PHAC representative.

The work of expert advisory or working groups has informed antiviral policy in Canada, but no single group or entity has sole responsibility for determining antiviral stockpile size or use in Canada. Decisions regarding stockpile size, composition and use are made after federal/provincial/territorial (F/P/T) governments collaboratively consider the entirety of the available evidence.

Experts providing advice to PHAC are customarily requested to disclose their affiliations and potential conflicts of interest. The most recent expert advisory group to PHAC on antivirals - the **Antiviral**

Scientific Advisory Group (AVSAG) were requested to identify any affiliations and conflicts of interest, with the co-chairs responsible for addressing any identified issues at a meeting on September 16, 2010. Three expert members of the AVSAG did identify potential conflicts of interest that were reviewed by the Advisory Group co-chairs and were not considered sufficient to exclude their participation.

Additionally, **Sustainable Antiviral Stockpile Working Group (SASWG)** is tasked with developing a strategy for effective and sustainable antiviral stockpile procurement and management, including options for short-term replenishment of antiviral stockpiles. Membership includes F/P/T government representation.

PHAC does not currently have a policy regarding the disclosure of information regarding members of its advisory groups, and is unable to disclose personal information regarding advisory group members without their informed permission, but intends to establish such a policy.

Antiviral Stockpiles:

In 2004, F/P/T governments collaborated to establish national antiviral stockpiles intended to ensure equitable access to antiviral medication for all Canadians in the event of an influenza pandemic.

The National Antiviral Stockpile (NAS), created to provide sufficient antivirals to treat all Canadians who would be symptomatic and present for care in the event of an influenza pandemic (estimated to be 17.5 % of the population), was cost shared by the F/P/T governments and held and managed by P/T governments (60% federal, 40% P/T) of [REDACTED] antiviral doses composed of [REDACTED]

A second national antiviral stockpile, funded entirely by the Federal government, is held within the National Emergency Stockpile System (NESS), and is intended to provide surge capacity to Provinces and Territories. NESS currently holds [REDACTED] antiviral doses composed of [REDACTED]

Budget 2010, allocated \$40M to replenish antivirals that were used during H1N1, as well as those that have expired or are expiring. The Budget allocation information was not released to provinces and territories. Approximately [REDACTED] doses of antivirals were used during the 2009 H1N1 pandemic. NAS expiries are estimated at [REDACTED] doses in 2010/11 and [REDACTED] doses in 2011/12; and NESS has [REDACTED] doses of [REDACTED] and expiries are estimated at [REDACTED] in 2010/11 and [REDACTED] in 2011/12.

Updated AVSAG recommendations call for stockpile size sufficient to treat 17.5% of the Canadian population in the event of a moderate severity pandemic scenario, with the capacity to increase stockpile size by a further 7.5% to treat 25% of the Canadian population in the event of a severe pandemic scenario; this scientific review supports the previously derived recommendations as outlined in the *Canadian Pandemic Influenza Plan* .

Antiviral Safety/Efficacy:

Health Canada conducts a rigorous scientific review and testing to assess the quality, safety and efficacy of pharmaceuticals before they are approved for use in the Canadian market place. A comprehensive review of best available evidence post H1N1 has concluded that:

- There is scientific evidence that antivirals are effective in reducing complications (duration and severity of illness), and death from influenza, when administered within 48 hours of the onset of symptoms.
- Additionally, many Canadian studies during and after the H1N1 pandemic supported the efficacy of antivirals for treatment of severe influenza complications in significantly reducing intensive care unit admissions and deaths if given early.
- Although a Cochrane Review of antivirals for influenza conducted over a year ago, stated that there was insufficient evidence to say that [REDACTED] this review did not look at any evidence from H1N1

ATTACHMENTS / PIÈCE(S)-JOINTE(S)

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CONTACT INFORMATION / PERSONNES-RESSOURCE

Subject Matter Expert/ Expert(e) en la matière: [Redacted]	Telephone/ Téléphone: [Redacted] Mobile/ Cellulaire:	Approved by/ [Redacted] Title/ Titre: [Redacted] Centre for Immunization and Respiratory Infectious Diseases	Telephone/ Téléphone: [Redacted] Mobile/ Cellulaire:
Alternate/ Secondaire: [Redacted]	Telephone/ Téléphone: [Redacted] Mobile/ Cellulaire:		

[Redacted] Verification/
 Vérification par le [Redacted] Centre for ☒ [Redacted] Approved / Approuvé [Redacted]
 [Redacted] : Immunization and Respiratory
 Infectious Diseases
 Date [Redacted] Verified/ 2011-05-26
 Date vérifié par le [Redacted] :
 Division : Community acquired infections division
 Directorate/ Centre for Immunization and Respiratory Infectious Diseases
 Direction :

CFO Approved/ ☐ CFO Approved / Approuvé CSF
 Approbation par
 CSF :
 Branch/ Direction
 générale :

ADVICE TO THE MINISTER

SUBJECT - SUJET

PANDEMIC PREPAREDNESS

KEY MESSAGES - MESSAGES CLÉS

- Canada's pandemic preparedness plan is multi-faceted. In addition to pharmaceutical measures, such as pandemic vaccine and antivirals, the plan includes a range of public health measures to prevent and control the spread of a new influenza strain.
- The Government of Canada has secured a new ten-year contract with a domestic manufacturer to ensure rapid access to pandemic vaccines for all Canadians should a pandemic occur.
- A National Antiviral Stockpile is in place. New federal investment will support provincial and territorial governments in ensuring a sufficient stockpile for Canadians in the event of a pandemic.
- The Government of Canada is applying what was learned from the H1N1 pandemic to further improve its capacity to communicate with Canadians effectively during a flu pandemic.

BACKGROUND - CONTEXTE

PANDEMIC BUDGET INVESTMENTS

Budget 2006 invested \$1B in pandemic preparedness - \$600M over five years allocated to federal departments and agencies and \$400M to be set aside in the fiscal framework as a contingency. This investment has enabled the development of a comprehensive pandemic preparedness strategy.

CANADIAN CONTRACT FOR PANDEMIC VACCINE

In February 2011, the Federal Government secured a new 10-year pandemic influenza vaccine supply contract with a domestic manufacturer GlaxoSmithKline (GSK), as the primary supplier of pandemic influenza vaccine with a responsibility to provide vaccine for all Canadians on a priority basis. This primary pandemic vaccine supply contract requirements included rapid, priority access to pandemic influenza vaccine. The contract is valued at \$425.9M.

A contract for a backup supply of a pandemic influenza vaccine from Sanofi Pasteur Ltd. is also in place to mitigate the risk of the primary domestic supply being disrupted or delayed. If needed, this backup supply will be available in sufficient quantity to immunize up to [REDACTED] Canadians and would likely be used to target priority vaccination groups, such as pregnant women and individuals with chronic diseases. Sanofi Pasteur Ltd.'s three-year contract also includes a requirement to supply annual influenza vaccine for provincial and territorial programs, and the total estimated value of the contract is \$33.1M.

DOMESTIC STOCKPILE OF H5N1 VACCINE

The Government of Canada has established a stockpile of H1N1 pre-pandemic vaccine, which is held by GSK for Canada, under the 2001 10-year influenza vaccine contract. The federal government acquired materials (antigen, adjuvant and other necessary materials) for the manufacture of an H5N1 pre-pandemic influenza vaccine. The contract amendment was for \$13.7M. It allowed for the purchase of materials to be used to manufacture [REDACTED] doses of the GSK H5N1 vaccine. These doses will only be delivered to Canada if the latter exercises its delivery option. This option can only be exercised if the vaccine is authorized for sale in Canada and if there is agreement to the indemnification of GSK by the government for product liability. GSK is guaranteeing a three-year shelf-life for the materials. Since Health Canada, the regulator, will only recognize an 18-month shelf life, GSK has agreed to replace the materials free of charge if they expire before three years. It is important to note that the Health Canada decision of an 18-month shelf life is in line with other countries' regulatory decisions around the shelf life of H5N1 vaccine (24 months).

ANTIVIRALS

At the start of a pandemic, antivirals (prescription drugs that interfere with the influenza virus replication) are the only virus-specific intervention until a vaccine becomes available. The National Antiviral Stockpile (NAS) is a F/P/T funded and provincially administered supply of antiviral drugs for treatment. In 2006, F/P/T Ministers of Health agreed to increase the NAS to [REDACTED] doses for treatment of all Canadians [REDACTED], sufficient to treat ill Canadians in the event of an influenza pandemic (estimated to be [REDACTED] of the population). The Government of Canada agreed to cost-share the antiviral purchases for the NAS. In addition, a second national antiviral stockpile, funded entirely by the Federal government, is held within the National Emergency Stockpile System (NESS), and is intended to provide surge capacity to Provinces and Territories. NESS currently holds [REDACTED] doses antiviral drugs composed of [REDACTED]

In August 2011, Treasury Board approved an investment of \$ 34.3M to be allocated over three years, ending March 2014, to support replenishment of NAS, with 60:40 (F:PT) cost-sharing, to support P/Ts in maintaining a stockpile of antivirals sufficient for up to a maximum of 17.5% of the P/T population.

COMMUNICATIONS

The Public Health Agency of Canada's H1N1 Lessons Learned Report, released in December 2009, acknowledged that years of pandemic advance planning enabled the Government of Canada to implement an effective response overall. Our rapid mobilization and effective response to the H1N1 outbreak underscores how much progress has been achieved since the SARS outbreak in 2003.

The Government of Canada is already taking the appropriate actions to apply the lessons learned from this experience and enhance our abilities to communicate with stakeholders in the event of a pandemic. Various activities are being undertaken, such as:

- Implementation of the necessary tools and mechanisms to enable more effective information sharing to respond to stakeholder issues/concerns.
- Assessment of current strategies for enhancing on-line communications capacity
- Overall review of the Canadian Pandemic Influenza Plan (CPIP)
- Participation in initiatives undertaken through the Global Health Security Action Group (GHSAG) to develop strategies for communicating risk and uncertainty during each phase of a public health event, including a pandemic influenza.

We continue to work with our partners, including the provinces and territories, to ensure Canadians are well informed on how to best protect themselves and their families, and ensure they have timely access to a safe and effective vaccine, in the event of a pandemic.

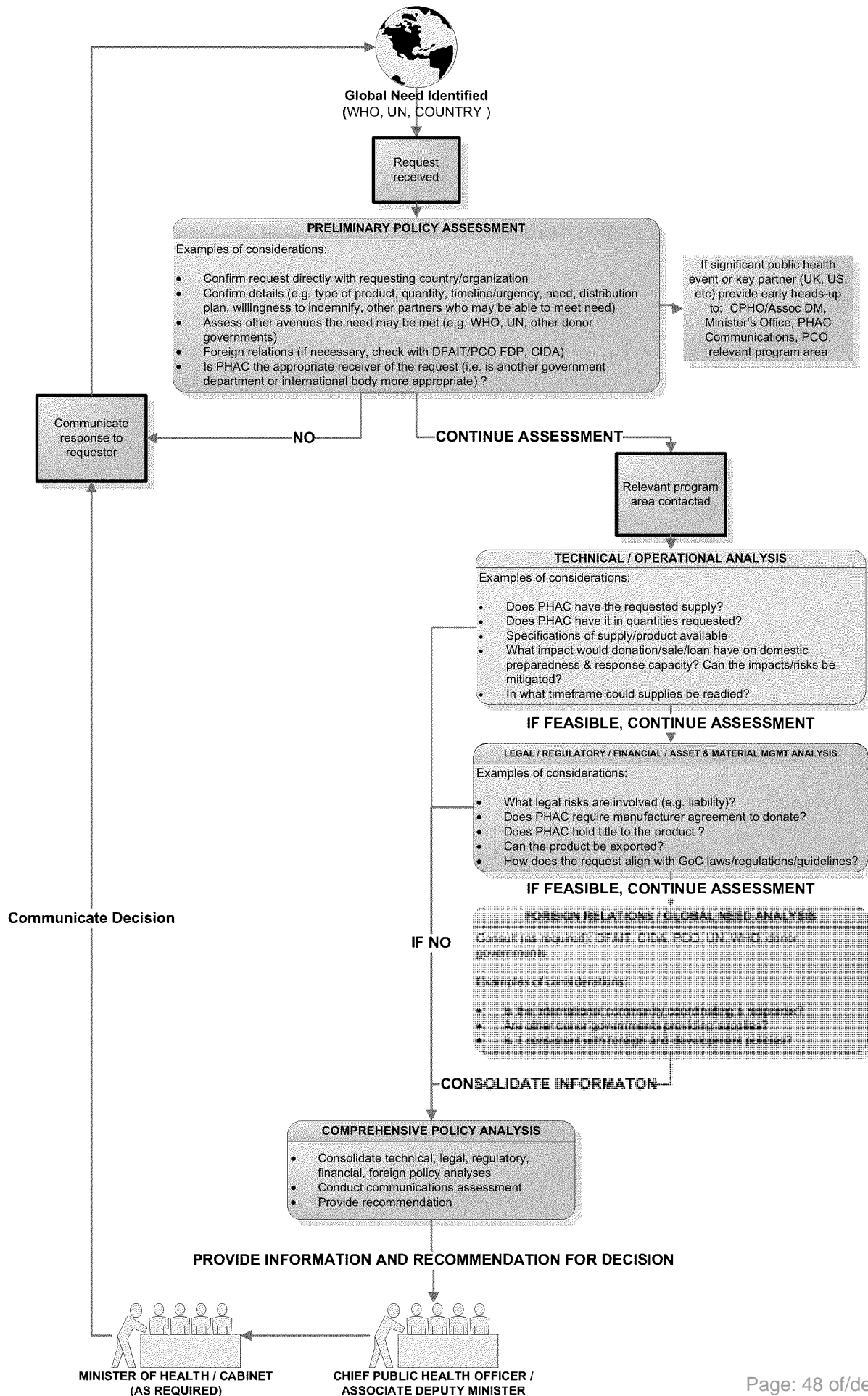
CANADIAN PANDEMIC INFLUENZA PLAN FOR THE HEALTH SECTOR

The Government of Canada's response to the H1N1 pandemic was guided by the CPIP.

The CPIP, first released in 2004 and re-released in 2006, provides a national framework for pandemic influenza preparedness and response focussed on the health sector. It is the result of a collaborative effort by the federal, provincial and territorial governments. The Plan outlines the roles and responsibilities of all levels of government for a consistent and coordinated response in the event of an influenza pandemic. The CPIP is an evergreen document intended to evolve over time as new information emerges. The goal is to minimize serious illness, overall deaths and societal disruption among Canadians during a pandemic.

The CPIP is currently being reviewed and revised. Experience and knowledge gained during the H1N1 influenza pandemic and new scientific research and information will be used to enhance the Plan in order to better inform future pandemic planning and response efforts.

International Donation, Loan, or Sale Assessment Framework



**Public Health Agency of Canada's
Policy on the Donation, Loan, and Sale of PHAC Supplies to
Foreign Governments and International Health Organizations and the Provision of
Public Health Agency of Canada Supplies to the Department of Foreign Affairs
and International Trade**

1. Effective Date

1.1. This Policy comes into force on 12/20/2011

2. PHAC Executive Committee approval granted 12/20/2011.

3. Policy Statement

3.1. The Public Health Agency of Canada will utilise a timely, transparent, and accountable framework for the management of requests for PHAC Supplies by foreign governments and international health organisations, as well as the Department of Foreign Affairs and International Trade (DFAIT). The Policy outlines a decision-making framework for the Donation, Loan or Sale of PHAC Supplies. As PHAC is not an international aid organisation, the provision of PHAC Supplies is the exception rather than the rule, and must align with federal laws, guidelines and regulations.

4. Background & Context

4.1. During the H1N1 (2009) pandemic, Canada received many multilateral and bilateral requests for assistance, including for supplies such as medical equipment and essential medicines (e.g. vaccines and antivirals). H1N1 and other international humanitarian disasters where the Public Health Agency of Canada had been engaged illustrated a need to have a timely, transparent, and accountable framework for managing these requests. PHAC Supplies were also provided to the Department of Foreign Affairs and International Trade for Government of Canada Personnel Serving outside Canada during the post-tsunami 2011 nuclear (Fukushima) incident in Japan.

4.2. Financial donations by the Government of Canada are the most effective way to support since the Donation, Loan or Sale of supplies internationally can be extremely complex and pose supply chain, regulatory, legal, administrative, and operational challenges.

4.3. However, in exceptional circumstances, a Donation, Loan or Sale of PHAC Supplies to a foreign government or international health organisation may be considered, for example where supplies cannot be purchased on the open market in a timely manner, or where mitigating the spread of infectious diseases outside Canada supports protecting and promoting the health of Canadians.

4.4. The provision of PHAC Supplies, including those located in the National Emergency Stockpile System (NESS), by the Government of Canada to a foreign government, international health organisation or DFAIT is a decision that must be informed by policy.

5. Scope

- 5.1. This Policy applies to the Donation, Loan, or Sale of PHAC Supplies to foreign governments or international health organisations.
- 5.2. The Policy also applies to the provision of PHAC Supplies to the Department of Foreign Affairs and International Trade.
- 5.3. This Policy does not apply to the provision of financial assistance to foreign governments or international health organisations.
- 5.4. This Policy does not apply to deployments of supplies for domestic use.

6. Definitions

- 6.1. “Donation” means the voluntary transfer of property without valuable consideration.
- 6.2. “Loan” means the right to use PHAC supplies for a limited period of time with the obligation to return these supplies and, if return is not possible, to replace them or to provide financial compensation to allow their repurchase.
- 6.3. “Sale” means the voluntary transfer of property for value.
- 6.4. “PHAC Supplies” means fully owned by Her Majesty in right of Canada and under the sole control of the Public Health Agency of Canada.

7. Principles

- 7.1. Before making any recommendations to the Chief Public Health Officer on whether a Donation, Loan, and Sale of PHAC Supplies is an appropriate response to a request from a foreign government or an international health organization, PHAC will assess the appropriateness of any assistance, taking into consideration factors such as:
 - a) PHAC’s public health emergency preparedness and response capacity to serve Canadians must be maintained;
 - b) whether a Donation, Loan, or Sale is the most efficient and effective manner to support global public health needs, and that PHAC is the most appropriate organization to provide the supplies;
 - c) whether a Donation, Loan, or Sale supports rather than duplicates multilateral efforts and adheres to international guidelines (e.g. *Principles and Practices of Good Humanitarian Donorship*, *WHO Guidelines on Drug Donation*, *WHO Guidelines on Health Care Equipment Donations*);
 - d) whether a Donation, Loan, or Sale complies with all relevant domestic legislation, directives, guidelines, and policies (e.g. *Financial Administration Act*, *Surplus Crown Assets Act*, *Food and Drugs Act*, *TBS Directive on Disposal of Surplus Materiel*);
 - e) whether a Donation, Loan, or Sale aligns with Canadian foreign and development assistance policies; and
 - f) appropriate terms and conditions relating to a Donation, Loan, or Sale.

- 7.2. Before making any recommendations to the Chief Public Health Officer on whether to provide PHAC Supplies for use by the Department of Foreign Affairs and International Trade, PHAC will assess the appropriateness of the request and take into consideration the factors above (7.1). PHAC will seek reimbursement for provided supplies as appropriate based on the agreed upon arrangement.

8. Roles and Responsibilities

- 8.1. The Centre for Emergency Preparedness and Response is responsible for:
- a) management and administration of this Policy and providing the single window for all incoming requests;
 - b) coordinating the decision-making process and compiling assessments (technical, legal, financial, etc) from program, policy and corporate areas within the Agency;
 - c) contracting and financial management issues for supplies managed by NESS;
 - d) operational aspects of a donation, loan, and sale including shipping, handling, liaising with freight forwarding companies, and coordinating required export/import documentation;
 - e) providing an assessment on the potential impact on domestic preparedness and response of a potential international Donation, Loan, or Sale;
 - f) undertaking after action requests post provision of PHAC Supplies as well as annual report to the Chief Public Health Officer (as per 10.1).
- 8.2. Strategic Policy and International Affairs is responsible for:
- a) communicating with foreign governments or international organisations;
 - b) coordinating with other government departments and central agencies in assessing requests, including the Privy Council Office, Treasury Board Secretariat, Department of Foreign Affairs and International Trade, Canadian International Development Agency;
 - c) providing policy analysis and recommendations to support decision-making.
- 8.3. Legal Services, the Office of the Chief Financial Officer and the Office of Corporate Administration and Services are responsible for providing analysis and recommendations in terms of legal, financial and contracting considerations.
- 8.4. Other program areas, where relevant, will provide technical information and operational assessments for PHAC Supplies managed in their program area
- 8.5. Decisions required for the international Donation, Loan or Sale of PHAC Supplies or for their provision to the Department of Foreign Affairs and International Trade shall be made in accordance with appropriate legislation and Government of Canada directives and policies. Any such decision shall be made by the Chief Public Health Officer. The Minister of Health will be consulted where required by law or policy or where this is deemed appropriate by the Chief Public Health Officer. A decision by Cabinet may also be required.

9. Administration

- 9.1. When the Health Portfolio Emergency Operations Centre (HPEOC) is activated, the Policy continues to apply. The actors within the Incident Management Structure (IMS) and the appropriate policy and programmatic leads within the PHAC should work together to share information and coordinate decisions and actions.

10. Monitoring, Reporting and Performance Assessment

- 10.1. An after-action-review of the impact of any provision of PHAC Supplies shall also be done.
- 10.2. Two months after the end of each fiscal year, a report will be submitted to the Chief Public Health Officer, on the requests received, evaluations done or after-action-reviews completed in that year under the Policy.

11. General Information

- 11.1. For further information related to this Policy, please contact:

Centre for Emergency Preparedness and Response (CEPR)
Contact info:

Office of Emergency Response Services, CEPR, Emergency Management
and Corporate Affairs (EMCA), Public Health Agency of Canada

Strategic Policy and International Affairs Directorate (SPIAD)
Contact info:

International Operations Unit, International Affairs Division
SPIAD, Public Health Agency of Canada

ANNEX A: List of Related Laws, Regulations and Guidelines (*non-exhaustive*)

Domestic

- Financial Administration Act
- Surplus Crown Assets Act
- TBS Directive on Disposal of Surplus Materiel
- Export and Import Permits Act (section on controlled products and goods)
- Food and Drugs Act
- PHAC Asset Management Policy

International

- Principles and Practices of Good Humanitarian Donorship
- World Health Organization Guidelines for Health Care Equipment Donation
- World Health Organization Guidelines for Drug Donation

ADVICE TO THE MINISTER

SUBJECT - SUJET

English:

ANTIVIRAL DRUGS EFFECTIVENESS

SYNOPSIS - SOMMAIRE

English:

On January 18, 2012, the Cochrane Collaboration published an updated scientific review of data from randomized controlled clinical trials (RCTs) entitled Neuraminidase inhibitors for preventing and treating influenza in healthy adults and children, which questions the the clinical effectiveness of the antiviral drugs oseltamivir (Tamiflu®) and zanamivir (Relenza®) for treatment of seasonal influenza infection .

ANTICIPATED QUESTION - QUESTION PRÉVUE

English:

Why is the federal government spending millions to stockpile antiviral drugs for use against pandemic influenza when studies are raising concerns of their effectiveness?

KEY MESSAGES - MESSAGES CLÉS

English:

The Government of Canada is committed to the health and safety of Canadians and during an influenza pandemic, antiviral drugs are essential for treating and preventing illness until a vaccine becomes available.

That is why the stockpiling of antivirals is an important component of the Canadian Influenza Plan.

We continue to work with our provincial and territorial counterparts and international experts to analyse all available evidence, including the safety and effectiveness of antivirals.

SUPPLEMENTARY MESSAGES / MESSAGES SUPPLÉMENTAIRES

English:

The Public Health Agency of Canada is aware of the publication and is reviewing it closely.

BACKGROUND - CONTEXTE

On January 18, 2012, the Cochrane Collaboration published an updated scientific review of data from randomized controlled clinical trials (RCTs) entitled *Neuraminidase inhibitors for preventing and treating influenza in healthy adults and children*, which questions the clinical effectiveness of the antiviral drugs oseltamivir (Tamiflu®) and zanamivir (Relenza®) for treatment of seasonal influenza infection.

This study, an update to previous Cochrane Reviews conducted in 1999, 2006, 2009 and 2011 on antiviral effectiveness, does not present new information, but does question the quality and availability of clinical trial data submitted to regulators to support the market authorization of these drugs.

In terms of clinical effectiveness of antivirals for the treatment of seasonal influenza in healthy adults and children, the authors note that there is evidence that treatment with antivirals shorten symptoms of influenza by approximately one day, but that evidence is insufficient that treatment reduces more serious complications of influenza infection (e.g. pneumonia, hospitalization, death). The authors also note the potential for adverse events associated with use of antivirals, specifically nausea or vomiting for Tamiflu (oseltamivir) and possibly asthma for Relenza (zanamivir), all of which are noted in the Canadian Product Monographs for these products.

This Cochrane review was limited to examining RCT data for the effectiveness of antiviral drugs for treatment of seasonal influenza and does not consider the evidence supporting the clinical effectiveness of antivirals to treat pandemic influenza, including the 2009 H1N1 influenza pandemic. Evidence generated through 'real world use' of antivirals, including use during the 2009 H1N1 pandemic is largely in the form of observational studies, in which there is no randomization of treatment and no control group which does not receive treatment. As antivirals are now the clinical standard of care, it would be unethical to conduct studies that involve withholding a treatment (antivirals) from an ill patient for study purposes, particularly during H1N1 when the patients treated were seriously ill or at high risk for serious or life threatening complications of their influenza infection.

Antiviral Drug Effectiveness:

Health Canada conducts rigorous scientific reviews and testing to assess the quality, safety and efficacy of pharmaceuticals before they are approved for use in the Canadian market place.

A comprehensive review of best available evidence post H1N1 has concluded that:

- There is scientific evidence that antivirals are effective in reducing complications (duration and severity of illness) and death from influenza, when administered within 48 hours of the onset of symptoms.
- Additionally, many Canadian studies during and after the H1N1 pandemic supported the efficacy of antivirals for treatment of severe influenza complications in significantly reducing intensive care unit admissions and deaths if taken early.

Post H1N1, the World Health Organization (WHO) commissioned a systematic review of observational studies of antiviral use, conducted by a Canadian researcher from McMaster University, to inform guidance about the use of pharmacological interventions (antivirals) for influenza. The findings of this review were that oral oseltamivir and inhaled zanamivir may provide a benefit over no treatment for outcomes such as symptom duration, hospitalisation, or death in selected groups of patients. This systematic review is expected to be published in a peer review publication (date unknown). This information was presented to WHO experts in June 2011, who supported a recommendation for use of antivirals to reduce the complications

of influenza infection , especially in high risk groups. WHO is currently in the process of updating their antiviral guidance to reflect this new information.

Since the beginning of the 2011-12 influenza season, the National Microbiology Lab has tested 89 influenza viruses (35 A/H3N2, 19 A/H1N1 and 35 B) for resistance to oseltamivir and for resistance to zanamivir and it was found that 79 viruses were susceptible to oseltamivir and zanamivir.

Antiviral Stockpiles:

Antiviral drugs are a key aspect of pandemic influenza planning as they are the only pharmaceutical intervention available, during an initial pandemic response, until vaccines becomes available. In 2004, Federal/Provincial/ Territorial (F/P/T) governments collaborated to establish national antiviral stockpiles intended to ensure equitable access to antiviral medication for all Canadians in the event of an influenza pandemic.

The Government of Canada (GoC) supported provinces and territories (P/T) in the establishment of the National Antiviral Stockpile (NAS), consisting of [REDACTED] doses of antiviral drugs [REDACTED], sufficient to treat ill Canadians in the event of an influenza pandemic (estimated to be [REDACTED] of the population). The stockpile is cost shared by the F/P/T governments (60% federal, 40% P/T) and managed by P/T governments.

A second national antiviral stockpile, funded entirely by the Federal government, is held within the National Emergency Stockpile System (NESS), and is intended to provide surge capacity to Provinces and Territories. NESS currently holds [REDACTED] doses antiviral drugs composed of [REDACTED]

Treasury Board has approved an investment of \$ 34.3M to be allocated over three years, ending March 2014, to support replenishment of NAS, with 60:40 (F:PT) cost-sharing, to support P/Ts in maintaining a stockpile of antivirals sufficient for up to a maximum of 17.5% of the P/T population.

Updated Antiviral Scientific Advisory Group (AVSAG) recommendations call for stockpile size sufficient to treat 17.5% of the Canadian population in the event of a moderate severity pandemic scenario, with the capacity to increase stockpile size by a further 7.5% to treat 25% of the Canadian population in the event of a severe pandemic scenario; this scientific review supports the previously derived recommendations as outlined in the *Canadian Pandemic Influenza Plan* for the Health Sector.

PHAC, in collaboration with the Pan-Canadian Public Health Network Council (PHNC) is engaged in an ongoing review of the size and composition of the NAS, including review of new scientific data as it evolves. Consideration is also being given to strategies to ensure equitable access to antivirals for all Canadians in the most sustainable and cost effective manner possible.

International governments including the United States of America, United Kingdom and Japan continue to support stockpiling of antivirals for treatment of pandemic influenza.

Routing Slip / Bordereau d'envoi

☐ Minister/Ministre ☒ CPHO/ACSP ☐ Associate DM/SM déléguée ☐ SADM/SMAP

PHAC Tracking/Docket Management/Suivi de l'ASPC/Gestion des dossiers

Correspondence- Briefing/
Correspondance -Section de l'information

Approval/Approuvé

Feb 3/12

Program Contact/
Responsable de programme

Date

Tel:

Executive Director/
Directeur exécutif

Date

Tel:

Director General/
Directeur général

Date

Tel:

Cleared With / Avec l'accord de (if applicable/s'il y a lieu)

☒ Communications

Date

☐ Finance/Finances

Date

☐ HR/RH

Date

☐ SPD /DPS

Date

☐ Others/Autres

Date

Approved/Noted - Approuvé/Noté

FEB 10 2012

Date

Date

Date

Date

Date

Date

☐ Infectious Disease Prevention and Control /
Prévention et contrôle des maladies infectieuses

☐ Health Promotion and Chronic Disease Prevention/
Promotion de la santé et de la prévention
des maladies chroniques

☐ Emergency Management & Corporate Affairs/
Affaires organisationnelles et gestion des urgences



FOR CONCURRENCE

Your file Votre référence
11-123285 - 310
Our file Notre référence

MEMORANDUM TO THE

Evaluation of the National Emergency Stockpile System

SUMMARY

- The National Emergency Stockpile System (NESS) evaluation report (Appendix A) and management response and action plan (MRAP) (Appendix B) were presented to the Public Health Agency's (PHAC) Evaluation Committee in March 2011. The report has since been revised to address issues raised at that meeting. The approval process has also been delayed by other Agency priorities.
- The evaluation report recommends the consideration of eliminating social service supplies from the stockpile, establishing a strategy for the disposal of outdated supplies, determining the appropriate international role for NESS, and clearly communicating PHAC's roles and responsibilities with respect to the deployment of NESS supplies.
- You are asked to approve the NESS evaluation report and accompanying MRAP, including the note to readers, by signing the "I concur" portion of this memorandum.
- A separate memorandum has been prepared (MECS # 11-123287-365) which informs the Minister that the NESS evaluation report and MRAP will be posted in both official languages on the PHAC website in April 2012.

BACKGROUND:

The NESS evaluation was initiated in response to a recommendation in the 2010 PHAC *Audit of Emergency Preparedness and Response*. The purpose was to gain an understanding of the extent to which the NESS program was still relevant and to provide guidance for program realignment and refinement. This was also an opportunity to explore challenges faced by the program and examine how public health stockpiles were managed in other jurisdictions.

.../2

CONSIDERATIONS:

A key recommendation of the evaluation is to concentrate on supplies that are aligned with the Agency's current mandate. The Agency should continue to ensure the following stock is available for provincial/territorial surge: pandemic preparedness supplies; medical and pharmaceutical supplies for planned mass gatherings of national significance and unplanned natural or manmade disasters; and chemical, biological and radio-nuclear countermeasures. The evaluation also recommends that the Agency consider eliminating social service supplies in the stockpile, as some provinces and territories turn primarily to non-governmental organizations for social service support during an emergency.

In response to the 2010 Emergency Preparedness and Response Audit and this NESS evaluation, the Centre for Emergency Preparedness and Response is moving forward in developing a new mandate, mission and vision for a strategic national stockpile that responds efficiently and effectively to protect and improve the health and safety of all Canadians. NESS will work towards four strategic objectives: 1) provide a 24/7 state of readiness; 2) provide/ensure access to risk informed and evidence-based strategic assets; 3) ensure effective pre-deployment through selected strategic sites and 4) achieve cost effectiveness through modern stockpile management practices.

The report also recommends specific considerations of NESS in the Agency's broader discussion of its international role. Deliverables for this recommendation include: consultations with other government departments; a PHAC policy and decision-making framework on international donations; the development of standard operating procedures for assessing international requests; and the investigation of standing authorities for responses to international public health events.

PORTFOLIO CONSIDERATIONS:

Health Canada participated in a survey of other government departments for this project and is aware of the recommendation to consider transitioning away from the stockpiling of social service supplies. The First Nations and Inuit Health Branch recommended a transition plan, with appropriate safeguards to ensure that responsibility for these types of supplies is clearly articulated and accepted by provinces/territories and non-government suppliers.

.../3

COMMUNICATIONS IMPLICATIONS:

The evaluation report and MRAP were assessed for communication risks prior to their public release (Appendix C). Media relations staff will be prepared with a reactive approach to any media inquiries.

RECOMMENDATION:

It is recommended that you indicate your approval of the NESS evaluation report and MRAP by signing the "I concur" block.



I concur



FEB 10 2012

Date

MECS# 11-123285 - 310

Contact:

Telephone:

Attachments

Appendix A - Evaluation of the National Emergency Stockpile System Evaluation Report

Appendix B - Note to Readers and National Emergency Stockpile System MRAP

Appendix C - Communications Assessment

c.c.



Public Health
Agency of Canada

Agence de la santé
publique du Canada

EVALUATION OF THE NATIONAL EMERGENCY STOCKPILE SYSTEM (NESS)



***Prepared by: Evaluation Services
Public Health Agency of Canada***

April 2011

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List of Acronyms

ACT	Action by Churches Together
AHMAC	Australian Health Ministers' Advisory Council
AHPC	Australian Health Protection Committee
ARCS	Australian Red Cross Society
ATCs	Advanced Treatment Centers
AVSAG	Antiviral Scientific Advisory Group
CBRN	Chemical, biological, and radio-nuclear
CCUs	Casualty Collecting Units
CDC	Centers for Disease Control and Prevention
CESSD	Council of Emergency Social Services Directors
CF	Canadian Forces
CFHS	Canadian Forces Health Services
CHEMD	Council of Health Emergency Management Directors
CIDA	Canadian International Development Agency
CMED	Central Medical Emergency Depot
DART	Disaster Assistance Relief Team
DCPEP	Directorate for Civil Protection and Emergency Planning
DHA	Department of Health and Ageing
DHHS	Department of Health and Human Services
DND	Department of National Defence
DSNS	Division of Strategic National Stockpile
EPREG	Emergency Preparedness and Response Expert Group
FMS	Federal Medical Stations
FPT	Federal, provincial and territorial
GHSAG	Global Health Security Action Group

HEMB	Health Emergency Management Branch
IHRs	International Health Regulations
MFA	Ministry of Foreign Affairs
MOU	Memorandum of Understanding
NAPAPI	North American Plan for Avian and Pandemic Influenza
NAS	National Antiviral Stockpile
NCA	Norwegian Church Aid
NESS	National Emergency Stockpile System
NOREPS	Norwegian Emergency Preparedness System
NORHOSP	Norwegian Hospital
OERS	Office of Emergency Response Services
PAA	Program Activity Architecture
PHEP	Public Health and Emergency Preparedness
PHN	Canadian Public Health Network
PPE	Personal Protective Equipment
SARS	Severe Acute Respiratory Syndrome
SASWG	Sustainable Antiviral Stockpile Working Group
SNS	Strategic National Stockpile
SSAG	Stockpile System Advance Group
TARs	Technical Assistance Reviews
UNHRD	United Nations Humanitarian Response Depot
VA	Veteran Affairs
VMI	Vendor Managed Inventory
WFP	World Food Programme
WHO	World Health Organization

Executive summary

This report presents the findings from the *Evaluation of the National Emergency Stockpile System (NESS)*. It is based on research conducted by Evaluation Services, Public Health Agency of Canada.

Program description

The National Emergency Stockpile System (NESS) is a system of 11 warehouses and 1,300 pre-positioned sites containing medical equipment and supplies, pharmaceuticals, social service supplies, and various “modules or kits” such as casualty collecting units, mini-clinics and reception centre kits. The current value of NESS supplies is estimated by the program to be \$300 million.

The NESS program provides emergency supplies to provinces and territories when requested. This “surge capacity” means that when provinces and territories have exhausted their own emergency supplies, they may make a request to the Public Health Agency to access NESS supplies.

The NESS supplies are used for the provision of critical medical services in the event of a natural or manmade disaster, for example: terrorist incidents, global disease outbreaks (including pandemics), floods, fires or earthquakes. These supplies have been deployed in response to a variety of events domestically and internationally. Over the past 25 years, supplies from the NESS warehouses have been deployed for 128 domestic events and at least 22 international events.

Since the NESS program was created almost 60 years ago, there have been significant changes in the emergency management context in Canada, including the broader range of public health threats that have emerged in the 21st century. Its original mandate in the 1950s was to enable a medical and social services response to a nuclear disaster. Shortly afterwards, it was then tasked to assist with responses to natural disasters (1960s). This remained consistent until the terrorist events on September 11, 2001, when growing attention was then paid to chemical, biological and radio-nuclear threats and the need to stockpile countermeasures. In 2003-04, the SARS outbreak triggered preparations for another global threat, pandemic influenza, with the subsequent initiation of substantial NESS stockpiling of pandemic response supplies.

Recognizing these changes, numerous reviews/audits and research reports over the past 10 years have focused on “modernizing” the NESS program. The majority of findings and recommendations from these reports have been consistent, as reflected in the latest report, the 2010 *Audit of Emergency Preparedness and Response*:

“The mandate of the National Emergency Stockpile System (NESS) requires renewal in order to more appropriately reflect its current emergency response role. In addition, program management attention is required to address issues related to NESS acquisition practices, supply and equipment maintenance processes, inventory valuation, control and record keeping systems and processes, inventory obsolescence processes and information management capabilities.”¹

Evaluation purpose and methodology

This evaluation of the NESS program was initiated in response to a recommendation in the 2010 Public Health Agency of Canada *Audit of Emergency Preparedness and Response* to assess the relevance of the program.

The purpose was to gain an understanding of the extent to which the NESS program was still relevant and to provide guidance for program realignment and refinement. It focussed on an exploration of the program's scope, its alignment with federal and Public Health Agency of Canada roles and responsibilities, as well as its congruence with Government of Canada and Public Health Agency priorities. There was also an opportunity to explore challenges faced by the program and examine how public health stockpiles were managed in other jurisdictions.

This evaluation analyzed information from multiple sources. First, key internal documents were examined including previous audits and reviews of the NESS program as well as internal NESS records, correspondence and communication. Second, feedback was solicited from provincial/territorial representatives and selected other government departments. Finally, interviews were conducted with key senior managers, external issue experts and with a selection of experts in other countries involved in the management of public health stockpiles.

Findings and recommendations

In many ways, the NESS is an insurance policy. Because disasters will continue to happen, Canada has to be prepared. As a result, there is a clear need for a stockpile of public health supplies managed by the federal government. However, what needs to be contained in the stockpile has to be clearly defined and communicated.

Focusing the domestic role of the NESS

A strategic long term plan is needed to guide the acquisition and management of assets that are relevant to current risk assessments and that align with the Agency's current mandate. The Centre for Emergency Preparedness and Response should consider the Agency's role in:

- pandemic preparedness and a review of the stockpile of anti-virals in the NESS warehouse in light of any decisions regarding the size and composition of the National Antiviral Stockpile^A
- surge capacity to provinces and territories for (a) planned mass gatherings of national significance, such as the Vancouver Winter Olympic Games in 2010 and (b) medical and/or pharmaceutical responses to unplanned events such as natural or manmade disasters
- preparing for national security threats, such as a chemical, biological or radio-nuclear event (in collaboration with Health Canada).

While there continues to be a need during public health events for a social service response, the capacity of the provinces and territories, and non-governmental organizations (such as the Canadian Red Cross and a variety of other response agencies), to assist with the provision of these supplies at the local level has increased. Other countries, as well as some provinces and

^A The Public Health Agency, in collaboration with the Pan-Canadian Public Health Network Council (PHNC), has undertaken the development of a sustainable antiviral stockpile strategy.

The first element of this strategy is a scientific review of the size and composition of national antiviral stockpiles. This review has been undertaken by the Antiviral Scientific Advisory Group (AVSAG) that reports to the Public Health Agency of Canada, made up of a pan-Canadian group of antiviral, influenza and public health experts, and has been informed by the best available scientific evidence post-H1N1, cost effectiveness analyses, as well as sophisticated mathematic modeling. The updated expert recommendations will be provided in a separate report, and will serve to inform decision making for size and composition of national antiviral stockpiles going forward.

The second element of a sustainable antiviral stockpile strategy addresses the logistical aspects of procuring, maintaining and managing antiviral stockpiles. This work has been undertaken by the Sustainable Antiviral Stockpile Working Group (SASWG) that reports to the Public Health Agency of Canada, and will facilitate a long term strategy for sustainability of antiviral stockpiles through the identification of options for cost effective and innovative antiviral procurement and stockpile management.

territories in Canada, are already primarily working with non-governmental organizations for social services support during an emergency.

While the threats and effects from localized disasters are still prevalent, the roles and responsibilities for responding to those types of events do not necessarily lie with the Public Health Agency.

RECOMMENDATION 1

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.

a) Continue to ensure the following stock is available for provincial/territorial surge:

- pandemic preparedness supplies
- medical and pharmaceutical supplies for planned mass gatherings of national significance and unplanned natural or manmade disasters
- chemical, biological and radio-nuclear (CBRN) countermeasures.

b) Consider eliminating social service supplies from the NESS asset mix while ensuring their continued availability.

For stock being acquired and retained, attention should also be paid to its life-cycle management - such as methods of procuring and storing supplies. (see Appendix A)

Disposal of supplies

It is estimated by the program that a significant proportion of the supplies and equipment in the current NESS stockpile is out of date and/or is not in accordance with current medical standards or practices. This equipment may be unusable or use technology that is no longer relevant to modern medical practice.

Provincial and territorial representatives are aware of this issue and feedback indicated that this situation has to some extent eroded confidence in the overall value of the entire complement of NESS supplies. An Agency commitment to clearing the NESS warehouses of outdated supplies will help to rebuild confidence among provinces and territories in the overall program.

Disposal of outdated supplies is a critical activity. There are supplies that no longer meet current medical standards and/or are no longer deemed strategic or appropriate for a Public Health Agency stockpile. Disposing of such a large number of assets may be costly and will take time to complete.

RECOMMENDATION 2

Develop, resource and implement a disposal strategy to allow for the disposal of:

- a) equipment and supplies that are outdated, no longer meet current medical standards, or are of poor quality (i.e. emergency hospitals, casualty collecting units, etc.)
- b) individual social services items (i.e. cots and blankets) and social services units (i.e. mobile feeding units, reception centre kits, etc.) (contingent on the outcome of recommendation 1b).

Supporting an integrated response

Information about the NESS is not routinely shared within the federal government and across jurisdictions. Provinces/territories and other federal government departments have expressed concern that there is not a universal understanding about the current scope of what the NESS program is and does, its potential and its links with other public health related stockpiles.

The Agency needs to develop a strategy to clarify processes, affirm responsibilities and raise awareness of the stockpile, ensuring that knowledge and expertise on stockpiling are shared within the federal government and across Canadian jurisdictions. This effort will help build confidence in the stockpile and allow others who rely on this service to better understand what the stockpile can and cannot provide.

RECOMMENDATION 3

Develop, implement and monitor a strategy to help communicate the Public Health Agency of Canada's role in stockpiling supplies for public health responses, considering the following target groups:

- Other federal government departments and agencies
- Provinces/territories, including specialized areas:
 - o End users (health practitioners)
 - o Materiel management specialists
 - o Logistical teams.

Reflecting PHAC's international role

While international deployment of supplies is not the primary objective of the NESS, the stockpile has been used in the past to respond to international events. However, there are no ongoing authorities for deploying the stockpile internationally and there are no established processes and protocols.

RECOMMENDATION 4

Include specific consideration of the NESS in the Agency's broader discussions of its international role.

Should an international role be determined for the NESS, to plan for this type of deployment, the Public Health Agency should consult and establish ongoing points of contact with other federal government departments to better prepare for future requirements.

1. Introduction

1.1 Purpose and scope of the evaluation

This evaluation was initiated in response to a recommendation in the 2010 Public Health Agency of Canada *Audit of Emergency Preparedness and Response* to assess the relevance of the National Emergency Stockpile System (NESS) program.

The evaluation focused on the continued contextual relevance of the program, including the needs, roles, priorities and considerations related to the current NESS program for both domestic and international responses. It explored the alignment of the program with federal and Public Health Agency roles and responsibilities, as well as its alignment with Government of Canada and Public Health Agency priorities. There was also an opportunity to explore challenges faced by the program and examine how public health stockpiles are managed in other jurisdictions.

Lines of inquiry included:

- What needs does the NESS intend to address? Do these needs still exist?
- Have needs changed over time? Has the program design changed to accommodate these needs? Are there further changes that should be implemented?
- Should the federal government be delivering the services provided by NESS, either in its entirety or for each type of asset?
- Is the NESS program consistent with the current Government of Canada and Public Health Agency mandate and strategic priorities?
- Which types of assets remain relevant for the Public Health Agency?
- Is there overlap/duplication or complementarity in service delivery?

While there was an opportunity to review domestic and international deployment patterns for NESS program assets, little other program performance data was available for analysis. As a result this report focuses primarily on addressing relevance, rather than performance, issues.

This report provides a description of the NESS program, its history and current context. It presents an assessment of linkages, outlines challenges and opportunities, and culminates in four recommendations. The appendices provide additional detail on NESS supplies, context and relationships, and considerations for improved life-cycle management. The appendices also present two domestic and three international case studies.

Management and staff should use the findings and recommendations of this evaluation for planning and decision making in preparation for future national, and potentially international, public health events.

The National Antiviral Stockpile (NAS) is a separate federal/provincial/territorial stockpile outside of the NESS and therefore falls outside of the scope of this evaluation.^B

^B The National Antiviral Stockpile (NAS) was created in 2004 to ensure equitable access across Canada to a secure supply of antivirals for pandemic influenza. The Public Health Agency of Canada supports the provinces/territories by facilitating the acquisition of these antiviral drugs. The NAS is administered by the provinces/territories. These antiviral drugs are held across the country on a per capita basis in secure temperature-controlled facilities. The NESS also holds a smaller supply of antivirals that is separate from the NAS, which is intended to be surge capacity for the NAS.

1.2 Methodology

The evaluation was conducted by Evaluation Services, a group that is internal to the Public Health Agency but that is not involved in the program area responsible for administration of the NESS program. The evaluation analyzed information from multiple sources:

- key internal documents including:
 - o previous audits and reviews of the NESS program
 - o records of decision from various internal committee meetings
 - o correspondence and communication related to the NESS program
 - o program records on the deployment of NESS supplies
- a self administered survey based on open ended questions and focus group feedback from provincial/territorial representatives through the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services Directors (CESSD) of the Public Health Network
- a self administered survey based primarily on open ended questions from selected other government department representatives
- interviews with key senior managers and staff from the Public Health Agency, selected other government departments and non-governmental organizations, and external experts in the field of emergency preparedness and response
- interviews with specialists in a selection of other countries (Australia, Norway and the United States) involved in the management of public health stockpiles within their respective jurisdictions.

This evaluation incorporates multiple lines of evidence and a combination of qualitative and quantitative measures to ensure a balanced analysis of relevance and performance of the NESS program. This evaluation report has been written so that senior managers and external readers can readily focus on and understand the important issues being reported. To provide the reader with the appropriate context, it is necessary to clearly expose the limits of the evaluation in terms of scope, methods and conclusions. (For a detailed description of methodology, see Appendix B.)

Limitations

Most evaluations are confronted with constraints that may have implications for the validity and reliability of evaluation findings, conclusions and recommendations. This section discusses the limitations with respect to the design and methods for this particular evaluation. Also discussed are the mitigation strategies put in place by the evaluation team to ensure that the evaluation findings can be used with confidence to guide program planning and decision making.

Reporting bias

Due to the large number of potential informants (internal and external) that could have been involved, the evaluators were reliant on the recommendations of the Public Health Agency program staff. Some of these individuals work with the program staff and may have a vested interest in the program. Attempts were made to compensate for this by interviewing a variety of stakeholders who were within and external to the program.

Short time frame

The short timeframe for completion of this evaluation did not permit an in-depth analysis of some data, such as program finances or the composition and the contexts of other federal and provincial stockpiles in Canada. However, through case studies and surveys,

evaluators were able to gain a general understanding of both the program finances and the composition of other stockpiles, both domestic and international. The time frame did limit the number of international and domestic case studies reviewed for comparison. Importantly, the two domestic case studies include two key alternate organizations in Canada that provide domestic emergency supplies. The international case studies in particular are not intended to be a representative sample of jurisdictions with public health stockpiles, rather they were selected purposefully for their anticipated best practices.

Validity of qualitative data sources

There were several validity issues related to the data sources.

The questionnaires completed by federal and provincial government representatives were asking for retrospective data over the past five years. The validity of this information could be questioned as a result of such things as staff turnover and challenges with memory or recall. The interviews and focus groups were also in part retrospective and respondents' accuracy may also be questioned.

While detailed notes were taken during interviews and sessions, due to financial and time constraints, some interviews and focus groups were not transcribed verbatim.

Because the evaluation team was not able to initially contact the entire roster of the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services Directors (CESSD) through the survey and focus groups, this line of evidence is subject to some degree of non-response bias. That said, because both methods were employed, the participation rate was at 92% (only one jurisdiction was not represented through either the survey or the focus groups).

There have been a number of NESS reviews over the past decade and saturation may have affected perceptions of the value of input into the current review. In some cases, program staff turnover meant limited knowledge of the history of the NESS program and the location of some documents, such as inter-jurisdictional agreements dating from the 1960s.

Limited performance data available

There was limited quantitative performance data available. The evaluation team attempted to mitigate the imbalance between qualitative and quantitative data by incorporating multiple lines of evidence (i.e., the literature review, the document review, the surveys and focus groups, the key informant interviews, and the case studies) into its methodological approach. However, many of these lines of evidence - including the survey, which allowed for some quantification of results - relied on measuring individuals' perceptions.

Due to the lack of a reliable electronic inventory, deployment data about supplies in the National Emergency Stockpile System was not consistently tracked. The limitations of the qualitative performance data associated with deployment of the National Emergency Stockpile System, and mitigation strategies, have been noted in section 2.3 of the report.

Despite these potential methodological limitations, the evaluation team implemented a number of mitigation strategies to increase the validity of the findings. As multiple lines of evidence were examined throughout the course of the evaluation, Evaluation Services is confident that senior management can rely on this report for planning and decision-making needs.

2. Background and context

This section provides a description of the mandate and operation of the National Emergency Stockpile System (NESS) program. It presents a brief overview of its 60-year history and provides a description of the deployment of NESS supplies over the past 25 years.

2.1 What is the NESS?

The Public Health Agency of Canada is the lead federal agency mandated to manage public health emergencies and regional coordination of federal health emergency activities. It works with international partners, provinces and territories, and other federal partners to monitor international and domestic public health threats and to mobilize a pan-Canadian response to public health events of national or international concern (Appendix C provides a broad overview of the roles of various domestic and international authorities and stakeholders in emergency preparedness and response).

The Public Health Agency maintains the NESS to provide emergency supplies to provinces and territories when requested. In the event of a local emergency that overwhelms available municipal resources, the municipality contacts the provincial/territorial emergency management authorities for additional resources. When provinces and territories cannot supply the required resources, they can request surge resources from the NESS. Release of equipment or supplies is coordinated through the provincial/territorial Health or Social Services Director.

The system consists of a series of warehouses and pre-positioned sites. Precise locations of any of the warehouses/sites are not made public for security reasons.

- There are a total of 11 federal warehouses leased by the Public Health Agency: two main depots in the National Capital Region (Ottawa) and nine warehouses located across Canada. There are no federal warehouses located in the territories. The Public Health Agency has contracts in place for both custodians and security for all 11 federal warehouses.
- There are approximately 1,300 pre-positioned sites located across Canada. Each province and territory determines the locations of the pre-positioned materials and is typically responsible for that warehousing space (including leasing costs and security). The Public Health Agency owns the assets in the pre-positioned sites.
- Supplies are designed and packaged for long term storage; date-sensitive supplies remain at the Ottawa depots.
- The program indicated that 66% of supplies deployed are released from the Ottawa depots, 12% from the other federal warehouses located in the provinces, and 22% from pre-positioned sites.

The NESS contains a variety of assets. The program categorizes its assets as follows (see Appendix D for a detailed list of components):

- medical equipment and supplies (individual items such as ventilators, personal protective equipment such as masks and gloves, operating room tables, stretchers, wound dressings, bandages, etc.)
- pharmaceuticals (individual items such as antiviral agents; antibiotics; chemical, biological and radio-nuclear [CBRN] antidotes, etc.)
- social service supplies (individual items such as generators, cots, blankets, flashlights, etc.)
- modules, units or “kits” (compilations of items such as Casualty Collection Units, mini-clinics, reception centre kits, etc.).

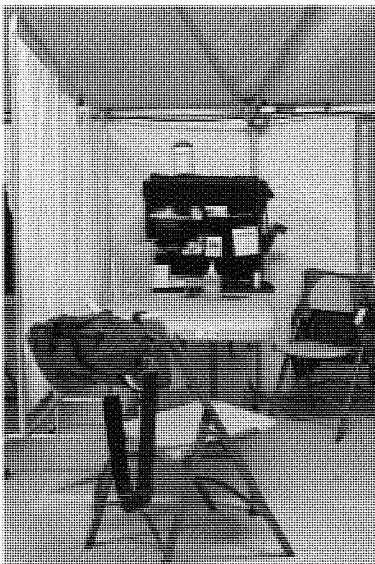
These supplies have been deployed domestically and internationally in response to a variety of public health events and other emergencies, and in preparation for mass gatherings. Responses have been medical and/or social service in nature.

The program also indicated that the NESS warehouses medical supplies and/or pharmaceuticals for other government departments or agencies, including: the Canadian Food Inspection Agency, the Department of National Defence and Health Canada.

The NESS program offers some training activities for end users of its supplies. In the past, it offered training on the set-up and maintenance of each of the kits stored in the warehouses, including emergency hospitals. Currently, the NESS program offers training on the set-up of mini-clinics.

EXAMPLE OF NESS KIT

MINI CLINIC



A more recent addition to the NESS program, developed in consultation with emergency response medical experts, the “mini-clinics” have been designed as a portable, modular and flexible medical emergency response resource.

Each module comprises the equipment necessary to provide assessment and care similar to that of a walk-in clinic. This configuration allows certified health care providers the capability to care for patients for a 72-hour period.

This resource is intended to supplement existing medical care facilities in a disaster situation that overwhelms a local health care system. It would be located adjacent to these facilities to triage and treat the less seriously injured.

In 2010-11, the mini-clinics were successfully pre-deployed to sites in advance of the 2010 Winter Olympic and Paralympic Games, the G8/G20 Summits and the Canada Youth Winter Games. The mini-clinics were available if needed; however, they were not drawn upon for these events.

The NESS program is one of the programs within the Office of Emergency Response Services (OERS), Centre for Emergency Preparedness and Response, Emergency Management and Corporate Affairs Branch within the Public Health Agency. It is listed in the Public Health Agency’s 2010-11 Program Activity Architecture (PAA) under program sub-activity 1.6.3, entitled “Emergency Stockpile.”

The current value of NESS supplies is estimated by the program to be \$300 million. Of that amount, the value of pharmaceuticals in the stockpile is estimated by the program to be \$112 million.

Approximate annual program expenditures were:

- In 2009-10 the total program expenditure was approximately \$5.5 million, including approximately \$4 million for operations and approximately \$1.5 million for salaries.
- The \$4 million in operating dollars included acquisition of new or replacement equipment and supplies, staff travel (for example, to set up and train on kits such as mini-clinics), contracts (for example, for custodians, security, etc.) and transportation of equipment and supplies for deployments, as required.

- In addition, the leasing of warehouse space for 2010-11 is estimated at \$7.7 million annually.

In 2009-10, there were 27 staff assigned to the NESS program:

- The staff complement included a Director, a Chief, an Assistant Manager, 3 inventory control staff, a pharmacist and 22 warehouse staff (roles include store person, logistics officer, carpenter, traffic supervisor and forklift operator).
- The program has indicated that a biomedical technician will also be hired.
- At the time of this report, the program's Director and Chief had recently been appointed to their positions; on the other hand, many of the warehouse staff had worked there for 10 years or more.

2.2 The history of the NESS program

Preparing for the worst

The NESS program was created in the 1950s as part of a civil defence plan against a potential nuclear attack arising from the Cold War that would threaten the infrastructure of major Canadian cities. In response to this perceived threat, the NESS program was established to enable a sustainable medical and social services response to a nuclear disaster. The authority for the then Minister of National Health and Welfare to stockpile supplies is based on a Cabinet decision on January 11, 1952.²

The initial, centrally managed and stored stockpile consisted of a variety of medical and social service provisions (1950s and 1960s):

- Medical supplies consisted primarily of Casualty Collecting Units (CCUs) designed to provide front-line response at the rescue site; Advanced Treatment Centres (ATCs) designed to support triage and early life-sustaining field treatment; and 200-bed, fully equipped emergency hospitals. The emergency hospital concept was intended to provide life-saving surgical and post-operative care and to supplement hospital care capacity in the affected area of a disaster.
- The social service elements of the NESS program consisted essentially of mobile feeding units, reception centre kits, and cots and blankets. These supplies were intended to support basic needs for emergency lodging, feeding and clothing, as well as personal services, such as registration/inquiry services and rehabilitation planning.

Given the social, economic and political environment during the Cold War period, the concept of a national stockpile was well founded. There were significant lag times for manufacturing goods and limited transportation options; in contrast, warehousing costs were relatively inexpensive. Importantly, at that time, the health care system at the local level had more limited capacity to respond to a large-scale emergency than it does today.

Over time, the threat of a nuclear attack decreased, and the scope of the NESS program expanded to include the capacity to respond to technological and natural disasters. In 1964, Cabinet decided to relocate some of the NESS supplies to a number of regional federal depots and to pre-position other supplies within each of the provinces and territories.

The authority for the provinces and territories to use these supplies during peacetime was based on a June 7, 1965 Cabinet decision.³ The NESS program was officially mandated to act in a surge capacity for provinces and territories in peacetime disasters. Memoranda of Understanding with the provinces and territories were developed in the mid-sixties to facilitate

the transfer of Crown assets, stipulating that provinces and territories were responsible for the storage of supplies in their jurisdictions. The stockpile was not a first-response tool; its purpose was to assist the response of provinces and territories to a natural or man-made disaster or other medical emergency that required additional resources.

Since 2001 the majority of the NESS purchases have been pharmaceuticals. The tragic events of September 11, 2001 initiated an important shift in focus in emergency preparedness planning around the world. The threat of a bioterrorist attack triggered a gradual expansion of the NESS stockpile, with the accumulation of a unique set of chemical, biological, and radio-nuclear (CBRN) countermeasures (such as vaccines or antidotes for smallpox, botulism and anthrax) to deal with this new threat.

In 2004, following the Severe Acute Respiratory Syndrome (SARS) outbreak, the Public Health Agency was established to provide a focal point for federal leadership in managing public health emergencies and improved collaboration within and among jurisdictions. Still part of the federal Health Portfolio, the NESS assets were transferred from Health Canada to the newly created Public Health Agency.

The SARS outbreak triggered preparations for a new global threat, pandemic influenza, with the subsequent initiation of substantial NESS stockpiling of pandemic response supplies. This surge supply included antiviral agents, antibiotics specific to pandemic response, syringes, ventilators and related oxygen supply equipment, personal protective equipment (masks, face shields, gloves), and other supplies such as gowns, disposable sheets, pillows, needles, syringes and body bags.

In 2011, the public health threats in our current environment are complex: natural disasters, new emerging pathogens, and accidents or terrorism acts involving explosives, chemicals, biological threats or radioactive substances. These events potentially present a risk to Canadians' health and well-being.

At the same time, over the last 60 years there have been significant changes in the context in Canada:

- advances in technology have increased the ability to identify and adequately respond to possible threats and to improve safety and public health in general
- pharmaceutical products and equipment have also evolved and become progressively complex to manage
- the network of community hospitals has expanded and the health care system's capacity to respond to various threats has improved
- the development of critical infrastructure makes prompt transportation possible, offers more options for acquisition of supplies, and enhances emergency response capacity at local, provincial and territorial levels.

Much dialogue on “modernization” of the NESS

Over the past three decades, numerous reviews/audits and research reports have focused on the so-called “modernization” of the NESS program, including the following from the past few years:

- 2004 *National Emergencies: Canada's Fragile Front Lines*, Report of the Standing Senate Committee on National Security and Defence
- 2005 *Report of the Auditor General of Canada*, Chapter 2, National Security in Canada
- 2006 *National Emergency Stockpile System Strategic Review*, Public Health Agency of Canada

- 2008 *Emergency Preparedness in Canada*, Report of the Standing Senate Committee on National Security and Defence
- 2010 *Audit of Emergency Preparedness and Response*, Public Health Agency of Canada.

The majority of findings and recommendations from these previous reports have been consistent, as reflected in the latest report, the 2010 *Audit of Emergency Preparedness and Response*:

The mandate of the National Emergency Stockpile System (NESS) requires renewal in order to more appropriately reflect its current emergency response role. In addition, program management attention is required to address issues related to NESS acquisition practices, supply and equipment maintenance processes, inventory valuation, control and record keeping systems and processes, inventory obsolescence processes and information management capabilities.⁴

While each report indicated that minimal progress had been made to date to address previous recommendations, it should be noted that the Centre for Emergency Preparedness and Response is currently actively responding to the recommendations outlined in the 2010 *Audit* report. For example, to support evidence-based decision making, the establishment of a Pharmaceutical and Therapeutic Committee has recently been approved and a Material Supply and Equipment Committee is under development.

2.3 Deployment of NESS supplies

Limitations of data

As mentioned in the 2010 *Audit on Emergency Preparedness and Response*, the Public Health Agency does not have an electronic inventory system for the NESS program. While the development of an electronic inventory system has been initiated, at this time it is not possible to know how many items have been in stock since the inception of the program in 1952 to the present date. It is also not possible to estimate the percentage of supplies in the stockpile that have been deployed compared with those that have not been deployed over the program's history.

While international data is available from 1960 to 2010, domestic deployment information is only available for the past 25 years (1985 to 2010). Deployment information is also subject to recording error, which could affect how supplies were classified (medical, social or pharmaceutical) or how an event was classified (technological disaster versus supply disruption i.e. NESS providing supplies to other parties to respond).

There were also significant gaps in the international data available. When it has been unclear, the data has been coded as "unknown":

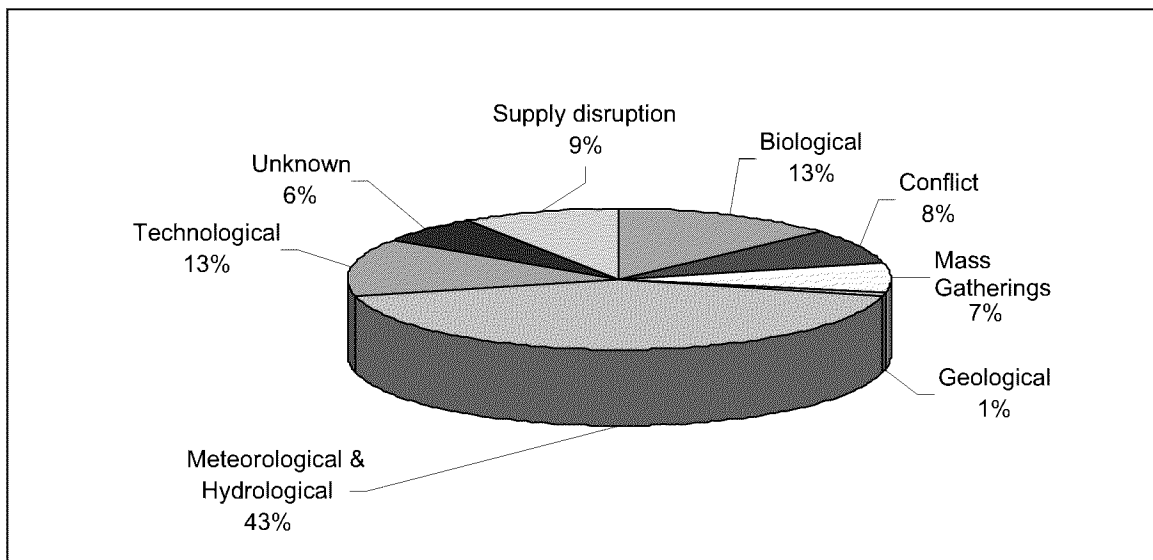
- It appears that, most often, supplies were provided through the Canadian International Development Agency (CIDA). Almost as often, there was no data available about to which organization the supplies were issued.
- The nature of the international event for which supplies were deployed is often not recorded, although reasonable assumptions could be made for some entries. For example, a deployment was sent to Turkey in 2003 for an unrecorded reason. A large earthquake occurred in Turkey during the same time frame. One cannot attribute the deployment to a geological event, however, as the reason for the request was not recorded.

With these limitations in mind, we can offer the following depiction of how the NESS stockpile has been deployed over the past 25 years.

Domestic deployment pattern

Over the past century, there have been about 1,000 Canadian disasters. These events have been primarily meteorological/hydrological (floods, wildfires, tornadoes, etc.), technological (industrial fires) and biological (pandemic influenza) in nature. There have been far fewer cases of geological (earthquake) or conflict-related events in Canada.⁵

Figure 1: Domestic Deployment by Hazard, 1985 to 2010 (n=128)

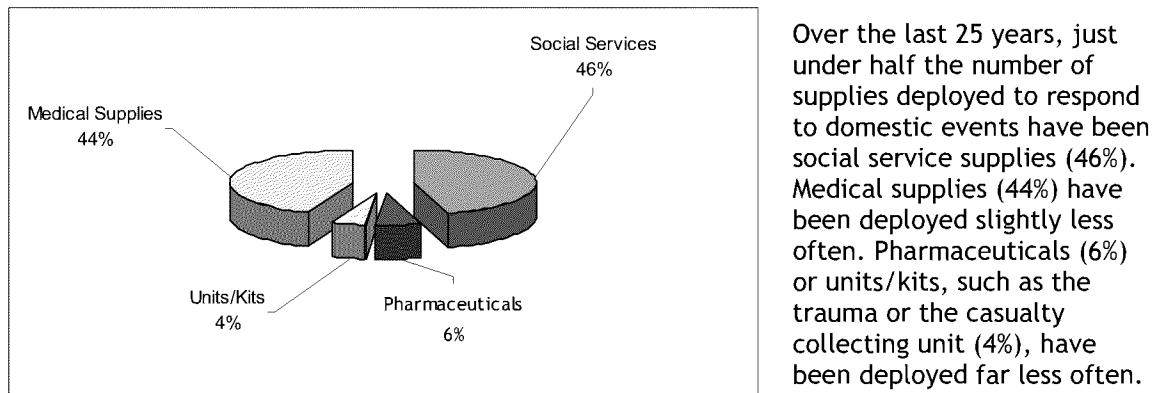


According to records kept by the Agency, the NESS program has been deployed 128 times in the past 25 years (1985 to 2010) to respond to a domestic event as a result of a hazard:

- Just over four in ten deployments (43%) have been in response to meteorological or hydrological events. The Red River floods in Manitoba in the late 1990s or in Saskatchewan in 2006, and the response to the ice storm in Ontario and Quebec in 1998 are examples of these types of deployments.
- Technological deployments (13%) have included responses to industrial fires (1990), power outages (2003) and the Swiss Air crash off the coast of Nova Scotia (1998).
- Deployments to biological events (13%) have primarily been responses to the SARS (2003) and H1N1 (2009) outbreaks.
- There have also been deployments during times of conflict such as during the Oka crisis (1990) and the “9-11” attacks that stranded airline passengers in eastern Canada (2001).
- Deployments of the stockpile have also included a surge capacity role for mass gatherings (7%). The use of the mini-clinic at the 2010 Winter Olympic Games in Vancouver is a recent example.
- Supply disruption deployments are primarily to support other organizations when their own supplies have been depleted due to an event or a disruption in the supply chain. For example, Oseltamivir (an antiviral) was issued as replacement stock to the Canadian Food Inspection Agency after an outbreak of avian flu was detected at a farm in 2004. Similarly,

field dressings were shipped to the Department of National Defence as a replacement stock in 2007.

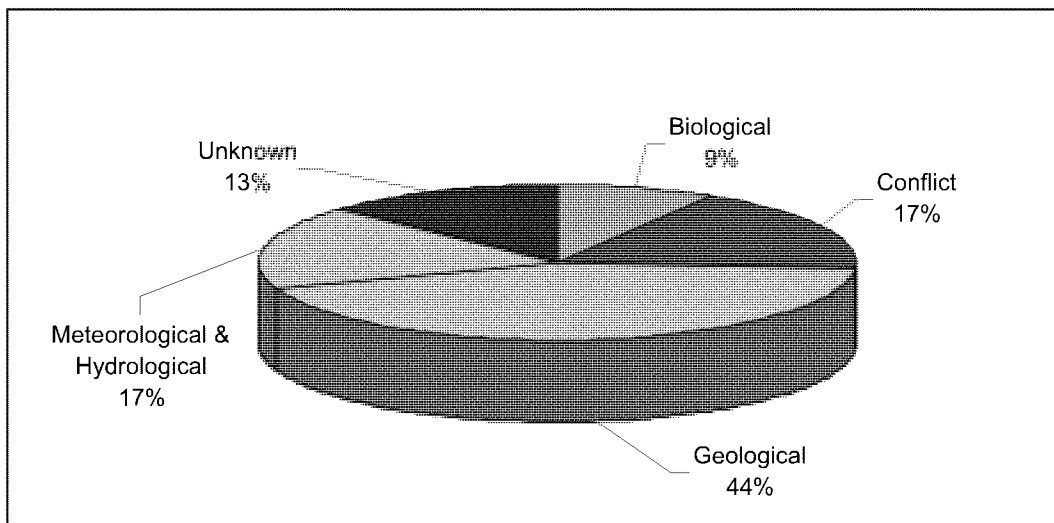
Figure 2: Types of Stock Deployed Domestically, 1985 to 2010 (n=335)



Closer scrutiny of the items contained in these categories reveal that beds, stretchers, blankets and reception kits/cards accounted for approximately two-thirds of all items deployed.

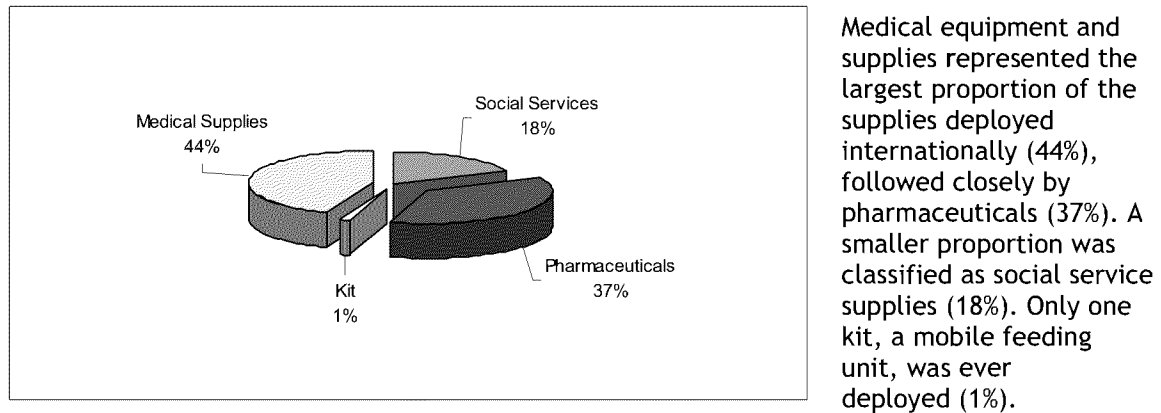
International deployment pattern

Figure 3: International NESS Deployment by Hazard, 1985 to 2010 (n=22)



While there is no specified mandate to provide supplies from the stockpile to assist in international public health events, over the past 25 years, the stockpile has been deployed internationally at least 22 times. Whereas domestically we saw a greater need for social service supplies in response to natural disasters, internationally there was a greater need for health supplies in response to conflicts or geological events. Deployments have included support for the response to the tsunami in Southeast Asia (2005) and after Hurricane Katrina in the United States (2005) and, more recently, the earthquake that occurred in Haiti in 2009 (supplies were distributed in 2010). These types of events have been catastrophic in nature, with high morbidity and injury rates.

Figure 4: Types of Stock Deployed Internationally, 1985 to 2010 (n=73)



As in the case of domestic responses, one deployment could include social service and medical supplies as well as pharmaceuticals. For example, after the tsunami in 2005 in Southeast Asia, generators (coded as medical equipment), water bladders (coded as social services) and many pharmaceuticals, such as antibiotics and acetaminophen, were provided to CIDA for its response.



3. Findings

This section provides a summary of the findings organized under two broad headings: domestic and international roles. This summary is based on an analysis of the descriptive information provided in available documents and on the themes that emerged from interviews, focus groups and surveys with key informants.

3.1 Domestic role

The need for a stockpile of emergency supplies

The federal, provincial and territorial (FPT) Ministers Responsible for Emergency Management joined efforts to produce the *Emergency Management Framework For Canada* (2011). It states that “... *the accumulating risks associated with factors such as increased urbanization, critical infrastructure dependencies and interdependencies, terrorism, climate change, environmental change, animal and human diseases, and the heightened movement of people and goods around the world, have increased the potential for various types of catastrophes.*”⁶

While relatively few catastrophic events have taken place on Canadian soil in recent memory, this country is not impervious to these threats:

- There is a history of natural and man-made disasters, including pandemic events, in urban and remote communities in Canada.
- Terrorist threats on western nations are likely to persist.

Around the world these types of risks, and subsequent events, can be expected to recur. Domestic and international public health events can change rapidly. These events, if and when they do happen, can have enormous and detrimental consequences for Canadians. These challenges require well-thought-out emergency response plans, including timely access to essential provisions.

As seen in the previous section, over the past 25 years NESS supplies have been deployed domestically to respond to a wide variety of events. The principal activity of the NESS program has been to have sufficient quantities of medical and social service supplies, strategically located across Canada, in a state of readiness for immediate response to a natural or human-caused disaster.

Given the increased possibility of a range of natural and man-made disasters, the NESS program has adopted an “all-hazards” approach, meaning that decisions about the composition and management of this national reserve of provisions are to be based on up-to-date risk assessments. The NESS reserve of medical resources such as hospital equipment and pharmaceuticals could be critically important in a major response effort.

Federal role for domestic emergency preparedness and response

It is the responsibility of local, provincial and territorial governments to respond first in an emergency; the federal government provides assistance at the request of provinces and territories.

There is a Government of Canada role to coordinate emergency management activities across jurisdictions, where appropriate, and among the various players. There is considerable

documentation that confirms the broader federal role in emergency preparedness and response in Canada (see Appendix E for further information on legislative changes):

- The *Emergency Management Act* (2007) states, “*The Minister [of Public Safety Canada] is responsible for exercising leadership relating to emergency management in Canada by coordinating, among government institutions and in cooperation with the provinces and other entities, emergency management activities.*”
- Through the *Federal Emergency Response Plan* (2009), the Government of Canada mobilizes and coordinates resources and capabilities from the following organizations: federal departmental headquarters and federal regional departments, Crown corporations and agencies, provincial and territorial emergency management organizations, industry and the private sector, and non-governmental organizations.⁷

However, there is little documentation that specifies the federal role in the provision of emergency supplies in response to a domestic disaster:

- As a signatory to the World Health Organization-led *International Health Regulations* (2005), Canada is required at the national level to have the capacity to provide support for logistical assistance (e.g. equipment, supplies and transport) for its citizens in case of a domestic public health event.⁸
- The NESS antivirals are mentioned specifically in the *Canadian Pandemic Influenza Plan for the Health Sector* (2006):

“In addition to the National Antiviral Stockpile, the National Emergency Stockpiling System (NESS) also contains oseltamivir, which could be used during domestic avian influenza outbreaks or for P/T support during the Pandemic Alert or Pandemic Period.”⁹

The Government of Canada’s commitment to the safety of Canadians in the face of human and natural threats has been reiterated in a variety of communications, instruments and agreements. In the 2010 *Speech from the Throne*, the Governor General highlighted again that “*Our peaceful, prosperous and pluralistic society is one of the safest places in the world to live. Yet Canada faces real, significant and shifting threats. ...Protecting the health and safety of Canadians and their families is a priority of our Government.*”¹⁰

Public Health Agency roles and priorities

The *Emergency Management Act* (2007) also requires all Ministers accountable to Parliament for a government institution to identify the risks that are within or related to his or her area of responsibility, including those related to critical infrastructure, and to do the following in accordance with the policies, programs and other measures established by the Minister:

- prepare emergency management plans in respect of those risks
- maintain, test and implement those plans
- conduct exercises and training in relation to those plans.¹¹

Annex A of the *Federal Emergency Response Plan* (2009) outlines the federal emergency support functions. The Minister of Health is listed as the Minister with primary responsibility for public health and essential human services.

Canada’s Minister of Health (responsibilities include the Public Health Agency) is primarily responsible for developing and maintaining the federal health portfolio emergency plans for

national public health threats or events, such as major disease outbreaks, natural or man-made disasters, or major chemical, biological or radio-nuclear events.

The Public Health Agency was established in 2004 in direct response to concerns about the capacity of Canada's public health system to anticipate and respond effectively to public health threats. Its mandate is to protect and promote the health and safety for all Canadians through leadership, partnership, innovation and action. The Agency works closely with provinces and territories to keep Canadians healthy by focusing on effective efforts such as preventing chronic diseases like cancer and heart diseases, preventing injuries, and responding to public health emergencies. The Public Health Agency has a federal leadership role and has identified the management of public health emergencies as one of its key priorities.

To address this responsibility, the Public Health Agency undertakes specific activities, including:

- manage international aspects of public health emergency preparedness and response, including liaising with the World Health Organization and acting as the focal point for coordinating implementation of the *International Health Regulations* (2005)
- provide regional coordination of federal public health emergency activities
- support provinces and territories when requested, or to respond to complex emergencies on a national scale, by:
 - o providing access to materials from the federally controlled stockpile to assist provinces and territories with surge capacity
 - o facilitating the procurement of additional emergency supplies to complement provincial and territorial stockpiles.

The NESS program is mentioned specifically in both the Public Health Agency's *Strategic Plan 2007-2012* and more recently in the *2010-11 Report on Plans and Priorities*:

- *Strategic Plan 2007-2012: "Enhancements will be made to the National Emergency Stockpile System, ensuring that sufficient supplies of appropriate and modern products and materials are available in the event of a public health emergency."*
- *2010-11 Report on Plans and Priorities: "... operate the National Emergency Stockpile System and ..., as required, to respond to infectious disease emergencies and bioterrorism incidents in Canada or around the world."*

Moving forward: Focusing the domestic role of the NESS

Supporting an integrated approach

While a major focus of the NESS program has been about buying, storing and disposing of supplies, some work has been undertaken to seek and support an integrated, coordinated pan-Canadian approach to the management of provisions for emergency public health response. Discussions with other federal departments revealed:

- Several federal departments manage similar (although limited) stockpiles of emergency medical supplies and/or pharmaceuticals to meet their own operational needs, including: the Department of National Defence, Canadian Food Inspection Agency, the Department of Foreign Affairs and International Trade, and Health Canada. The current management of these federal stockpiles is largely focused on their respective departmental requirements. For example, the Canadian Food Inspection Agency stocks personal protective equipment (respirators, rubber boots, disposable clothing, sprayers) for employees responding to

foreign animal disease.

- One key department noted that there appears to be a lack of shared understanding among Departments of the current scope of the Agency's stockpile. They suggested that an education campaign aimed at clarifying questions, affirming responsibilities, and raising awareness amongst other government departments would be beneficial to clarify roles and responsibilities associated with the National Emergency Stockpile System.
- Some departments felt it would be helpful to share information on stockpile management. Information and/or collaboration could occur in the areas of inventory management systems, stockpile management, the sharing of evidence, experience and knowledge, joint purchasing, and disposal of outdated medical equipment/supplies and pharmaceuticals.

Part of the value added for the federal role in this area is to draw on existing expertise through partnering, collaboration and communication:

- The sharing of knowledge and expertise across jurisdictions is critical to the success of emergency preparedness in Canada; this is no less true for the coordination and management of surge supplies. It is about knowing what other jurisdictions are doing, both domestically and internationally, including the introduction of cutting-edge products and protocols, and being synthesizers, transmitters and users of that information. These efforts will allow the Public Health Agency to propose good models and practices, provide opportunities for information sharing, and ensure the most appropriate and efficient systems and knowledge are in place.
- There is a great deal of variability across Canada in knowledge about, and capacity for, surge response. In building a community of experts across jurisdictions, the Public Health Agency demonstrates its leadership role in bringing together different partners and expertise to build tools to support dialogue, share resources and facilitate evidence-based decision making in a public health context. For example, expert groups could be established or enhanced for medical equipment and for pandemic, food-borne, CBRN risks, etc. To ensure the NESS inventory meets current standards of care, and is operationally relevant to end users, the continued engagement of experts from across Canada is critical to focused decision making.

International highlight: Partnering

There are potential efficiencies to be gained by partnering with organizations that already have well-established infrastructures, e.g. non-governmental organizations, other government departments and other administrations. The Norwegian Emergency Preparedness System (NOREPS) promotes a collaborative approach among a group of humanitarian organizations in Norway. In Australia, the Australian Red Cross Society (ARCS) is a major partner in responding to events. The Department of Health and Ageing provides funding to ARCS to support a broad range of health-related humanitarian work and community activities, including disaster preparedness, first aid, disaster response and refugee services, and the society's work in the Asia-Pacific region.

There are opportunities to partner with organizations for other purposes. For example, in 2009, the Centers for Disease Control and Prevention and the American Association of Respiratory Care partnered to offer a webcast training module for doctors and first responders on how to best use the LTV 1200 ventilator in an emergency.

The NESS program is as relevant as its ability to meet the real needs of its primary users, that is, to support provinces and territories in their emergency responses:

- There has not always been consistent provincial and territorial involvement in decisions on acquisitions, positioning and deployment of materials for the NESS program. There needs to be consultation with and information shared by a broad base of provincial and territorial experts to ensure that cross-jurisdictional and individual provincial and territorial considerations are well understood by the Public Health Agency. Enhanced information about stock held in other jurisdictions could facilitate the exploration of options on partnered federal/provincial/territorial stockpile initiatives, such as planning, procurement, stock rotation, quality control, distribution, facility management and life-cycle issues.
- Along the same lines, the Memoranda of Understanding with provinces and territories established in the 1960s and 1970s (there is no MOU with Nunavut) are outdated and do not match today's complex operational and business environment. The Public Health Agency has engaged a task group with provincial/territorial representatives to discuss this matter. Task group members have confirmed that these agreements need to be renegotiated with each of the provinces and territories. Updated agreements need to outline current expectations, as well as accountability and security for NESS supplies.
- There could be better communication about the supplies that are available in the stockpile. Representatives from the provinces and territories stated that, in some jurisdictions, little information was available to them regarding processes and products. Some were not aware of which supplies are available to them. One option for achieving this goal is to develop an electronic database, accessible to provinces and territories, which will provide a clearer understanding of NESS supplies and the Public Health Agency's role in the provision of these supplies. This electronic database could also serve as a tool to provide a consistent avenue of communication among federal, provincial and territorial counterparts.

International highlight: Electronic inventory

In the United States, the Centers for Disease Control and Prevention (CDC) have an electronic database (an extranet site), which allows states to view specific items held in the stockpile. A similar system could be considered for the NESS program, whereby users/clients (provinces and territories) could search the database either by event (e.g. a chemical accident) or by product (e.g. ventilators).

Updated surge support for provinces and territories

The concept of "surge" needs to be revisited given the current requirements for emergency preparedness and response in Canada.

As defined almost 60 years ago, the mandate of the NESS program was to provide surge capacity to provinces and territories: NESS social service and medical supplies were only to be deployed when provincial and territorial resources had been exhausted. The intent of the NESS program was to bolster the response of provincial, territorial or local governments in the event of a medical emergency.

Prior to the "9-11" terrorist attacks in the United States (2001) and the more recent SARS (2003-04) and H1N1 influenza (2009) pandemic events, the primary role of the NESS program had been to respond to a broad base of man-made and natural disasters. The more

recent events have accelerated efforts to address more contemporary and specific public health threats.

Updating the program has meant the acquisition of provisions that are more expensive and harder to acquire and store (not widely available, strict licensing restrictions) or that require a long lead time for procurement. Pharmaceuticals typically have a shelf life - legal limit on length of storage time before it is considered unsuitable for use. Shelf life can create challenges for stockpiling as these supplies may expire before they are needed and may require replacement.

Higher security risks for mass gatherings have led to a federal role in pre-positioning medical supplies for these events in case medical supplies are not readily available locally.

When responding to many of these new public health threats, especially those that require very rapid responses, such as the release of a chemical agent, the NESS program may be required to take on the role of a primary supplier at the request of the provinces and territories rather than a resource of last resort once provincial and territorial supplies have been exhausted.

New threats, updated responses

A more up-to-date NESS program requires more focused decision making that emphasizes the acquisition and distribution of **more strategic supplies**, based on risk assessments that reflect modern risks and the Public Health Agency's role in emergency response. The NESS program's procurement and asset plan must be adjusted in anticipation of a broader range of threats. A comprehensive health portfolio risk assessment is currently in development.

International highlight: Regular reviews

Stockpile systems are constantly evolving and updated in response to regular review.

- The Centers for Disease Control and Prevention in the United States indicated that they regularly review their threats and risks and, on that basis, add medicine and medical supplies (e.g. antivirals, respirators, masks and gloves) to the Strategic National Stockpile to help fight against pandemic flu.
- Australia is currently conducting a strategic review of issues such as procurement, stock rotation, logistics and transportation.

Pandemic preparedness:

As outlined in the *Canadian Pandemic Influenza Plan for the Health Sector* (2006), the Public Health Agency is the lead federal agency responsible for addressing pandemic influenza preparedness and response.

Key activities include the following:

- conducting scientific research to better identify, understand and track the virus
- obtaining surveillance (or tracking) information from its federal, provincial, territorial and local partners, as well as non-governmental organizations (influenza surveillance helps to determine: when, where and which influenza viruses are circulating; their intensity, spread and impact; and if specific population groups are at higher risk for illness)
- providing information and advice to the general public and particular groups, such as vulnerable populations, as well as issuing guidance for health professionals and other stakeholders

- providing regional coordination of federal health emergency activities
- managing international aspects of pandemic preparedness and response, including liaising with the World Health Organization and acting as the focal point for coordinating the implementation of the International Health Regulations
- developing and supporting the process required to update and maintain *the Canadian Pandemic Influenza Plan for the Health Sector*, in cooperation with health portfolio and provincial/territorial representatives
- ordering sufficient vaccine for the Canadian population, in collaboration with the provinces and territories
- stockpiling pharmaceuticals, equipment and supplies to assist the provinces and territories with surge capacity.¹²

Since the SARS outbreak, the NESS program has been increasing its supply of pandemic response materials. As part of this expansion, NESS stockpiled these materials prior to and during the 2009-10 H1N1 outbreak. Pandemic supplies include: antiviral agents, antibiotics specific to pandemic response, syringes, ventilators and related oxygen supply equipment, personal protective equipment (masks, face shields, gloves), and other supplies such as gowns, disposable sheets, pillows, needles, syringes and body bags.

Mass gatherings:

The NESS program has supported provinces and territories during times of emergency and also during planned contingencies such as papal visits (1984, 1987, 2002), World Youth Day (2002), the Winter Olympic and Paralympic Games in British Columbia (2010), the G8/G20 Summits in Ontario (2010), World Youth Day (2011) in Nova Scotia, and other nationally hosted events in Canada.

There are now higher security requirements for these types of mass gathering events. The Public Health Agency has been proactive in the past 10 years, offering preparations and pre-deployments for these types of planned events, with a more flexible, scalable and interoperable modular concept of emergency medical service delivery (mini-clinics) should local emergency health services become overwhelmed. Deploying these mini-clinics also provides an opportunity to field test this asset and make refinements.

Chemical, biological and radio-nuclear (CBRN) risks:

Federal leadership is always expected in rare crises such as terrorist threats. Since the “9-11” events, many countries have become better prepared for these threats. Many of the medical countermeasures for potential bioterrorist attacks do not exist in the hospital system or in the pharmacy system in Canada. Because they are expensive, difficult to acquire (few manufacturers, licensing restrictions, many not approved for sale in Canada), and their life cycle is very distinctive, the Public Health Agency started to acquire and store them in the NESS.

As the lead for the *Federal Nuclear Emergency Plan* (2002), the health portfolio is accountable for action to address CBRN risks. This role encompasses planning, preparedness activities, and response structures, processes and linkages for a coordinated federal, provincial and territorial response to nuclear emergencies affecting Canada or Canadians at home or abroad.

The *Health Portfolio Chemical Emergency Response Plan* (2010) outlines the role of the health portfolio for chemical emergencies. The Portfolio provides scientific and public health support to assist response efforts. The support is primarily intended for the provinces and territories. It can also extend to other federal departments and international counterparts when required.

One of the Public Health Agency's roles within the health portfolio is the acquisition, storage and distribution of highly specialized pharmaceuticals in response to CBRN risks. The NESS program acquires and holds medical countermeasures, but its mandate is less clear in the distribution of these centrally held, highly specialized pharmaceuticals.

Some key informants questioned the value of the central storage of these types of pharmaceuticals and wondered if they would be deployed in time to be of benefit during a public health event. Given the rapidly devastating nature of CBRN events, it would be challenging to get these medical countermeasures out to the various jurisdictions in time to be of assistance. In the recent past, some of these medical countermeasures have been pre-positioned for mass gatherings.

International highlight: Location and response time need to be balanced

- The Norwegian Emergency Preparedness System has found that the nearer stocks are to a crisis site, the more effective they are in saving lives and preventing suffering; however, representatives stress that this must be balanced against the cost of maintaining stocks at a lot of different locations and the longer turnover period.
- In Australia, every state and territory has its own stockpile, including an inventory of antiviral agents. Australia's planning and response to pandemics relies on partnerships between the Department of Health and Ageing and its state and territory counterparts.
- The Centers for Disease Control and Prevention in the United States has established CHEMPACK, a voluntary participation project with states, for the "forward placement" of sustainable repositories of nerve agent antidotes. Thirty-nine states already have containers and seven others are in the process of obtaining them.

Rural, remote and/or northern communities:

Rural, remote and/or northern communities face numerous gaps and challenges in emergency management because of their unique circumstances. Factors such as inadequate housing for some populations, the travel time to acute-care hospitals, and limited access to running water may impact emergency response for those living in remote or isolated communities. During the H1N1 outbreak in 2009, Health Canada worked with the provinces and territories to pre-position anti-virals in or near isolated communities prior to the second wave of H1N1, which occurred in the fall of 2009. It ensured more timely access to needed supplies. The report on Canada's Health Portfolio response to H1N1 stressed that pre-positioning of anti-virals for these types of communities should be taken into consideration in future planning efforts.¹³

During provincial and territorial consultations, unique challenges for storage, transportation, training and the availability of skilled professionals for stockpiles were mentioned as considerations for storing stock in isolated communities. Storage specifically could be problematic if stock required specialized facilities, such as heating.

Social service supplies:

As outlined in the 2010 *Audit of Emergency Preparedness and Response*, a strategic long term plan is needed to guide the procurement and management of supplies within the stockpile.

As noted in section 2.3, just under half of the supplies deployed to respond to domestic events have been social service supplies (46%) over the past 25 years. Just over four in ten deployments have responded to meteorological or hydrological events, where social service supplies are more likely to be deployed. Both provincial and territorial respondents as well as

other government departments indicated that there is a need for a social service response to natural and man-made events.

Provincial and territorial partners indicated that they perceived the stockpile as the last resort provision of additional supplies when the provinces and territories are overwhelmed during an emergency response (such as a mass casualty event), which is consistent with the NESS mandate. Some indicated that in the past, the stockpile had been deployed in their jurisdictions for natural disasters (floods, forest fires, etc.) and prepositioned for mass gatherings (G8/G20, Olympics, etc.). This response included primarily the use of cots and blankets, reception centre kits/forms, some use of N95 masks and ventilators during H1N1, and the prepositioning of mini-clinics, antidotes for CBNRE (niche capability that requires specialized equipment and training), and the national antiviral stockpile.

However, many respondents also indicated that they have agreements with non-governmental organizations (such as the Canadian Red Cross) for assistance during an event. The Canadian Red Cross's domestic disaster management services are focused on provision of emergency social services, such as family reunification (evacuee registration, searches and inquiry matching), basic needs (food, shelter, clothing and personal needs) and information management (call-centre operations and service information). There are currently 800 agreements between the Canadian Red Cross and municipalities across Canada to assist public authorities in emergency preparedness and response.

The Canadian Red Cross has its own regionally managed, volunteer-run inventories of basic emergency social service supplies, consisting mainly of cots that are returned after use and items that are given away, such as comfort kits, blankets, water bottles and teddy bears. Locally and regionally, inventory levels and locations vary (see Appendix F for conditions) and respondents from the provinces and territories recognize that supplies may be limited in their own jurisdiction.

Federal public health organizations in other countries do not tend to stock social service supplies within their own stockpile. Instead, this service is supplied by other government departments responsible for welfare or through non-governmental organizations who specialize in that type of response (see below).

International highlight: Provision of social service supplies

As highlighted in each of the international case studies, Appendix G, the provision of social service supplies is not typically the purview of a federal Department of Health. This response may be led by:

- non-governmental organizations (e.g. the Australian Red Cross Society, funded by the Australian government, states and territories for both domestic and international emergencies)
- another government department (e.g. the United States' Federal Emergency Management Agency under the Department of Homeland Security)
- a public/private partnership (e.g. Innovation Norway's consortia of public/private partners for the Norwegian Emergency Preparedness Stockpile System).

Outdated supplies:

It is estimated by the program that a significant proportion of the supplies and equipment in the current NESS stockpile is out of date and/or is not in accordance with current medical standards or practices. For example, many of the cots in stock are considered to be difficult for

seniors and people with disabilities to use because they are too low to the ground. Some of the blankets supplied by the NESS program are wool-based and considered by some users to not be desirable. Medical technology has advanced significantly since many of the medical components of the 200-bed hospitals and CCUs were acquired in the 1960s. This equipment is unsafe to use by modern medical standards or uses technology that is no longer relevant to modern medical practice.

Provincial and territorial representatives are aware of this issue and feedback indicated that this situation has to some extent eroded confidence in the overall value of the entire complement of NESS supplies. Provinces and territories are responsible for providing the space for storing these supplies; some jurisdictions expressed frustration that they are paying to store products that can never be used.

Disposal will be time consuming and expensive, but is necessary to update the stockpile. The Centre for Emergency Preparedness and Response has begun disposal; however, the process is complicated. In addition to disposal of supplies at the Ottawa warehouse, the process may involve shipping all or many of the products back to the Ottawa warehouse from the pre-positioned sites in provinces and territories and sorting in accordance with the Treasury Board of Canada *Directive on the Disposal of Surplus Material* (2006). There are a number of different disposal avenues for each product, depending upon its resale value and material composition (i.e. recycle, resale, or disposal).

An Agency commitment to clearing the NESS warehouses of outdated supplies will help to rebuild confidence among provinces and territories in the overall program.

3.2 International role

International public health events require different types of responses. Some require a domestic response, some require an international response and some may require both. For example, the H1N1 pandemic was an international health event and the Public Health Agency led a domestic response.

Federal role for international responses

There is a Government of Canada role in international health emergency response, specifically in the deployment of emergency supplies, including cross-border arrangements with the United States.

The domestic *Emergency Management Act* (2007) indicates that the responsibility of the Minister of Public Safety Canada includes “... *participating, in accordance with Canada’s foreign relations policies, in international emergency management activities.*” Furthermore, “*In consultation with the Minister of Foreign Affairs, the Minister may develop joint emergency management plans with the relevant United States’ authorities and, in accordance with those plans, coordinate Canada’s response to emergencies in the United States and provide assistance in response to those emergencies.*”¹⁴

There are also numerous cross-border agreements between Mexico, Canada and the United States, as well as between various American states and Canadian provinces for the reciprocal exchange of information and/or support during a public health event or emergency (see Appendix C, international sections on trilateral relations and bilateral relations).

The Public Health Agency mandate

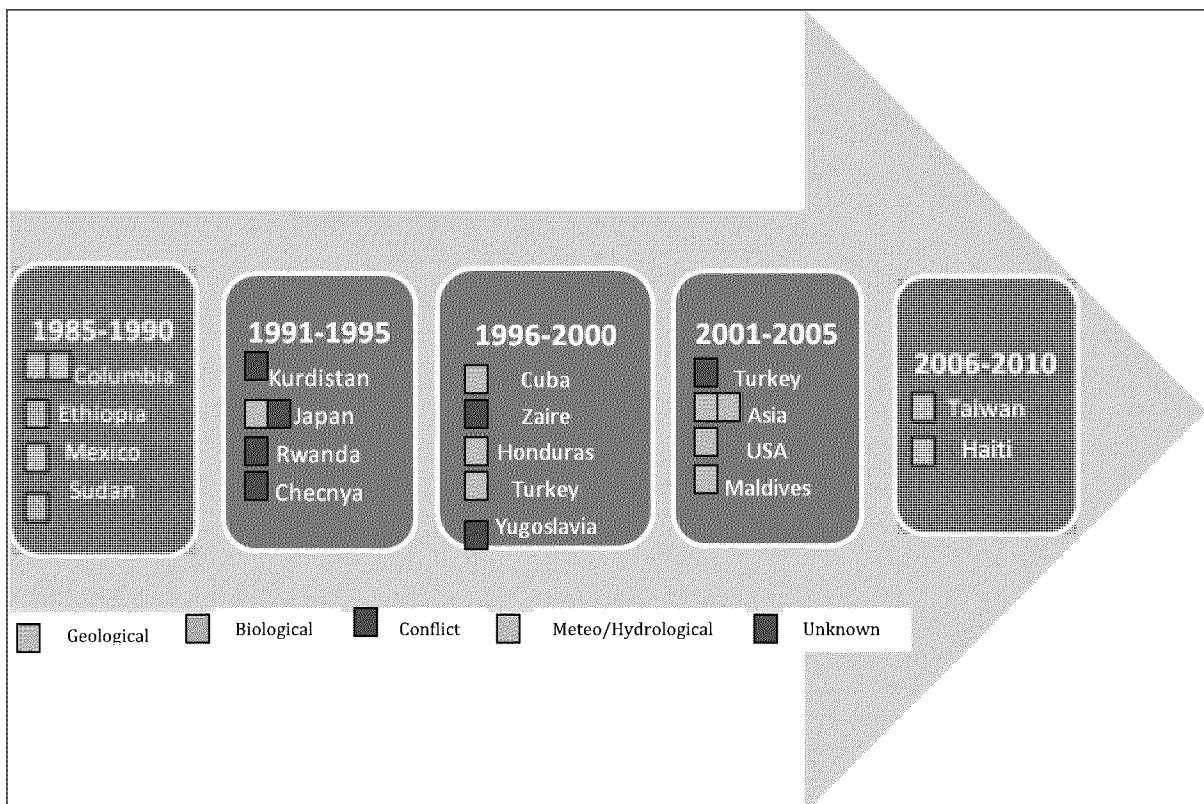
While there is a defined mandate for NESS in responding to domestic public health events, no mandate has been stipulated for responding to public health events that take place outside Canada – under the current mandate of the NESS program, the Public Health Agency has no specific authority to deploy NESS supplies internationally on behalf of the Government of Canada.

For a number of past deployments, official Cabinet authorities have had to be sought to support each of these deployments. Section 61 of the *Financial Administration Act* and Orders in Council have been used, whereby “... the Governor in Council on recommendation of Treasury Board may authorize or make regulations for the transfer, lease or loan of public property other than federal property.”¹⁵

These approval processes can be time consuming in situations where timely responses are critical. Moving forward, if an international role was determined for NESS, ongoing policy and financial authority would be required.

Although it has no direct mandate to respond to international events, as described in section 2.3, over the past 25 years the NESS stockpile has been deployed internationally at least 22 times to 19 different countries (see Figure 5).

Figure 5: International Deployment of NESS, 1985 to 2010



The potential public health threats faced by other countries are not unlike the threats Canada can be expected to face. The Public Health Agency can anticipate future requests for the international deployment of NESS supplies. Some of them may be at the request of the Government of Canada, others at the request of the World Health Organization, the Pan-American Health Organization or a national government.

Moving forward: Considering a potential Public Health Agency international role for the stockpile

The mandate, as outlined in 1952 and 1965, does not describe any international use of NESS supplies and, while the Public Health Agency has an obligation to respond domestically to an international public health event such as H1N1, there is no mandate to provide medical supplies internationally. Any consideration of a formal international role would require interdepartmental consultations and formal authorities to do so.

Obligations and opportunities:

The primary purpose of the NESS program is to provide surge capacity for the provinces and territories. If an international role was considered for the stockpile, this role should be ancillary, with domestic response continuing to be the primary role of NESS. The first priority for the NESS program should be to formalize its domestic mandate and update its domestic inventory and operations. However, key informants did raise some issues that should be taken into account when considering an international role for the stockpile.

- The implications for an international role will need to be well understood and formally acknowledged by all partners and stakeholders. The NESS program would need to be able to meet both domestic and international needs.
- Some stakeholders identified a need to look at the Public Health Agency's international emergency response programs as a whole, along with the infrastructure that needs to be put in place. For example, the Public Health Agency could consider the implications of the deployment of human resources and physical supplies together.
- Given the current risks of asset obsolescence in stockpile management, a number of NESS stakeholders observed that potential benefits of continuing international deployments include opportunities to rotate stock and refine response protocols and supplies.

Preparation for an international response:

Requests for assistance are typically coordinated through the Canadian International Development Agency or the Department of Foreign Affairs and International Trade, as these federal organizations have the lead on international responses. Currently the NESS management team and staff maintain informal relationships with these key partners, as well as the international arm of the Canadian Red Cross.

- The need for formal relationships and a clear definition of roles and responsibilities would need to be considered as part of the exploration of a more formal international mandate. In particular, this role could be linked with the existing international assistance roles of both the Canadian International Development Agency and the Department of Foreign Affairs and International Trade.

- A formal international role would require collaboration with other stakeholders in advance to ensure planning for an international role reflects the wealth of information from those most practiced in this field. If the NESS program has a formalized international role, then it could have the planning and processes in place to support that role. Criteria governing the NESS role could be established (i.e. what could be provided and under what circumstances should supplies be sent abroad).

4. Summary and recommendations

In many ways, the NESS is an insurance policy. No one ever wants to draw from that insurance policy because that would mean that an undesirable event has happened and many people are affected. Events for which NESS supplies have been deployed have included tsunamis and floods, train accidents, ice storms, pandemic influenza and terrorist attacks within Canada and abroad.

However, these types of events will continue to happen, and Canada has to be prepared. There is a need for a stockpile of public health supplies managed by the federal government. The responsibility for managing this stockpile fits with Public Health Agency's specific mandate and priorities.

Mix of supplies for the NESS

As outlined in the 2010 *Audit of Emergency Preparedness and Response*, a strategic long term plan is needed to guide the procurement and management of supplies within the stockpile. In line with developments in capacity, and the reality of current public health threats, the NESS program should focus on its niche role in current emergency response requirements when determining what supplies should be in the stockpile.

The updating of the NESS program should focus on the acquisition and management of assets that are operationally relevant to current risk assessments and that are most closely in line with the Public Health Agency's mandate and priorities. The Centre for Emergency Preparedness and Response should consider the Agency's role in the following when reviewing and assessing the need for current supplies and future procurements:

- pandemic preparedness and a review of the stockpile of antivirals in the NESS in light of any decisions regarding the size and composition of the National Antiviral Stockpile
- surge capacity to provinces and territories for planned mass gatherings of national significance, such as during the Vancouver Winter Olympic Games in 2010, and its role in medical and/or pharmaceutical responses to unplanned events, such as natural or man-made disasters
- preparing for national security threats, such as a chemical, biological or radio-nuclear event (in collaboration with Health Canada).

While there continues to be a need during public health events for a social service response, the capacity of the provinces and territories, and non-governmental organizations (such as the Canadian Red Cross and a variety of other response agencies), to assist with the provision of these supplies at the local level has increased. Other countries, as well as some provinces and territories in Canada, are already primarily working with non-governmental organizations for social services support during an emergency.

RECOMMENDATION 1

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.

a) Continue to ensure the following stock is available for provincial/territorial surge:

- pandemic preparedness supplies
- medical and pharmaceutical supplies for planned mass gatherings of national significance and unplanned natural or manmade disasters
- chemical, biological and radio-nuclear (CBRN) countermeasures.

b) Consider eliminating social service supplies from the NESS asset mix while ensuring their continued availability.

For stock being acquired and retained, attention should also be paid to its life-cycle management - such as methods of procuring and storing supplies. (see Appendix A)

Should the Public Health Agency devolve itself of its role in the direct provision of emergency social service supplies, it should play a leadership role in the coordination of discussions with other government departments, provinces and territories, and non-governmental organizations to ensure transition plans are in place and needs continue to be met.

Disposal of supplies

The Centre for Emergency Preparedness and Response is currently developing a NESS strategic plan and operational business plan, based on a comprehensive risk assessment to guide future program activities. One of the key activities in the plan is the development of an inventory tracking system to support the lifecycle management of NESS operations.

Another sub-activity of the operational plan is the further development and continued implementation of an asset disposal policy and processes. Disposal of outdated supplies is a critical activity. Paying for the storage of outdated materials has been a source of frustration for some provinces and territories; disposing of outdated materials will therefore help to rebuild provincial and territorial confidence in the NESS program.

Disposal of supplies could also take into account any change in strategic planning that occurs as a result of the 2010 *Audit of Emergency Preparedness and Response* and this particular evaluation. Therefore, supplies that are no longer deemed strategic and/or appropriate for a Public Health Agency stockpile should also be disposed of.

Disposing of such a large number of assets will be costly and take time to complete. It may involve shipping materials back to Ottawa from warehouses and many pre-positioned sites around Canada, sorting through materials to assess the disposal strategy and moving these materials through the disposal system, and includes liaison and collaboration with Public Works and Government Services Canada. However, this activity will help to restore confidence in the NESS program and improve its ability to be relevant in emergency response.

RECOMMENDATION 2

Develop, resource and implement a disposal strategy to allow for the disposal of:

- a) equipment and supplies that are outdated, no longer meet current medical standards, or are of poor quality (i.e. emergency hospitals, casualty collecting units, etc.)
- b) individual social services items (i.e. cots and blankets) and social services units (i.e. mobile feeding units, reception centre kits, etc.) (contingent on the outcome of recommendation 1b).

Supporting an integrated response

Provinces, territories and other federal government departments have expressed confusion about components of the stockpile. In some jurisdictions there is very little information available to authorities on the NESS – they are not aware of which assets are available to them or the process for drawing from the NESS. The Public Health Agency therefore needs to develop a strategy to clarify processes, affirm responsibilities and raise awareness of the stockpile.

The Agency should support an integrated, coordinated pan-Canadian approach to the management of provisions for emergency public health response, ensuring that knowledge and expertise on public health stockpiling are shared within the federal government and across jurisdictions.

As is the case for disposing of outdated material, this effort will help build confidence in the stockpile and allow others who rely on this service to better understand what the stockpile can and cannot provide. The development of communications products and other tools should reflect the Public Health Agency's domestic, and potentially international, role in responding to emergencies.

The types of communications products will vary, depending upon the need and audience. Products such as planning guides, readily accessible to provinces and territories, fact sheets on processes related to deployment of the stockpile and training videos for particular products should be considered.

RECOMMENDATION 3

Develop, implement and monitor a strategy to help communicate the Public Health Agency's role in stockpiling supplies for public health responses, considering the following target groups:

- Other federal government departments and agencies
- Provinces/territories, including specialized areas:
 - o End users (health practitioners)
 - o Materiel management specialists
 - o Logistical teams.

International role

The Public Health Agency has not yet articulated its international role or developed a Public Health Agency-wide strategy for approaching international issues or events. The Public Health Agency must specifically consider the NESS in developing its international strategy (currently under development).

While international deployment of supplies is not the primary objective of the NESS program, the stockpile has been used in the past to respond to international events. This approach is consistent with how other international jurisdictions view and use their domestic stockpiles. It is safe to assume that further requests for the deployment of supplies for international emergencies will continue to be received in the future. However, there are no ongoing authorities for deploying the stockpile internationally, and there are no established processes and protocols for the international deployment of the NESS for this purpose.

If the Agency decides to seek an ongoing mandate to deploy the NESS supplies internationally, consultations should be held with other government departments (such as the Canadian International Development Agency, the Department of Foreign Affairs and International Trade and the Department of National Defence) and non-governmental organizations (like the international arm of the Canadian Red Cross) to determine how the NESS program could best support a coordinated Canadian response to international public health events.

RECOMMENDATION 4

Include specific consideration of the NESS in the Agency's broader discussions of its international role.

Appendix A: Considerations – Life-cycle management

The Public Health Agency provides public health supplies for emergency response in Canada. The following section will discuss how activities in other jurisdictions can help to inform an updated approach to life-cycle management for the NESS program.

A key recommendation from the 2010 *Audit of Emergency Preparedness and Response* was that “... the Director General Centre for Emergency Preparedness and Response should initiate the development and ongoing maintenance of a National Emergency Stockpile System **strategic plan and operational business plan**, based on a comprehensive risk and needs assessment, to guide program activities.”¹⁶

Operational Capacity

This evaluation, along with numerous earlier reports, highlights the need for the Public Health Agency to manage a number of increasingly complex aspects/functions to ensure that, during an emergency, the supplies in the NESS are used efficiently and effectively. However, the NESS program is about more than just inventory management; for example, the Public Health Agency has a domestic role in coordination and leadership around the management of provisions for a public health emergency response. An updated, multifaceted NESS program will require management through more of a business model or systems lens, shifting the emphasis away from just warehouse or stockpile management.

As mentioned previously, operational capacity within the Centre for Emergency Preparedness and Response should be enhanced to address previous recommendations and future activities. Proactive strategic and operational planning, and consistent and meaningful engagement with stakeholders, is required. This is especially crucial when liaising with provinces and territories on their disaster response plans and when negotiating Memoranda of Understanding. This engagement requires an awareness of other jurisdictions’ emergency response roles, responsibilities and plans. For example, in the United States, the Centers for Disease Control and Prevention have dedicated teams responsible for various aspects of their Strategic National Stockpile of provisions, including preparedness, program planning and analysis, logistics, and response, and exercises/team training.

Operational capacity should also take into account the links that need to be maintained or enhanced between the NESS program and internal branches of the Public Health Agency or the rest of the Health Portfolio. The NESS program depends on other areas of the Public Health Agency for strategic advice with regard to products and planning. For example, the Infectious Disease Prevention and Control Branch provides advice and guidance regarding the purchasing of specialized products (such as antivirals). The NESS program also requires other internal branches to confer with them on aspects of other internal branch business that may impact the management of the stockpile. The reciprocity required with these relationships should be taken into account.

Currently, staff dedicated to the NESS program are primarily responsible for stockpile management. Considerations should be made to enhance the operational capacity of the NESS program to meet the wider variety of activities that are involved when managing a stockpile for emergency response.

Planning

As mentioned above, to respond to the 2010 *Audit of Emergency Preparedness and Response*, the Centre for Emergency Preparedness and Response is already examining a strategic long term plan for the NESS program. One area of interest to the provinces and territories is risk assessment that is not a “one-size-fits-all” approach. Different jurisdictions face different risks, and have different geographical environments and different capabilities when considering surge requirements. For example, representatives from the provinces and territories stated that capacity in small remote communities is often limited. There are unique challenges for storage, transportation, training and the availability of skilled professionals. To illustrate this point further, it was noted that the storage of pre-positioned NESS supplies is a big challenge, due to the lack of available storage space that meets specifications for NESS medical and pharmaceutical supplies (e.g. heating and security).

Interviews with Public Health Agency staff reinforced the 2010 *Audit* findings that, in the past, some procurement appears to have been primarily done on an ad hoc basis, in part due to budgetary constraints. However, there is a well-recognized desire for a long term strategic plan that takes into account the full life cycle of any given product, from planning to procurement to storing to deployment and finally to disposal.

For example, with advancements in medical technology, the modules (e.g. mini-clinics, see section 2.1) pharmaceuticals and medical equipment in the NESS program have become increasingly complex. More advanced medical equipment needs more maintenance by trained bio-medical technicians. There is a large volume of advanced medical equipment now in the NESS warehouse for which there is minimal infrastructure or human resources to support its sophisticated and labour-intensive maintenance. The NESS program will need to plan for, and be resourced to manage, the maintenance requirements for these types of contemporary medical acquisitions.

Subject matter experts have played an important role in providing guidance regarding recent purchases. To support evidence-based decision making, a Pharmaceutical and Therapeutic Committee has recently been approved and a Material Supply and Equipment Committee is under development. There is still a need to develop a long term strategic plan that will allow the Public Health Agency to undertake more focused decision making on key supplies in a well-defined role.

Procurement and inventory management

While it is expected that some inventory will always need to be purchased and held by governments to insure against the scarcity of supplies during an emergency response, other methods of procuring and storing supplies should be considered. Canada is not the only country currently exploring improved efficiencies within this area. Australia is also reviewing its approach to inventory management; the country currently purchases and stores its entire inventory, similar to the NESS program.

A “one-size-fits-all” system is not the best approach for inventory management either. The Public Health Agency should consider whether the options below are suitable for different types of products or types of emergencies (e.g. for a pandemic versus a natural disaster such as a flood).

‘Just-in-time’ inventory

Pharmaceutical companies, like other sectors, have been adopting a ‘just-in-time’ method of managing the acquisition of raw materials for manufacturing and delivery of finished products to end users. The purpose of this approach is to reduce storage costs and capital frozen in the

form of unsold inventory. Hospitals themselves have been adopting a similar approach to inventory management and are dealing with fewer suppliers.

In general terms, this method has meant the reduction over the last 10 years of private sector inventories from six months to around two months (or less) of supply. However, this approach does mean that inventory supplies are more vulnerable to shortages and this should be considered in any risk analysis. The Canadian Pharmacists Association, in its December 2010 report surveying pharmacists on drug shortages, states, “*Supply is primarily a market-based function that relies on a fragile supply chain of raw material suppliers, manufacturers, wholesalers, distributors, pharmacy corporations, other pharmacies, and individual pharmacists. If there are disruptions in any part of that supply chain, shortages will occur.*”¹⁷

Another challenge to this approach is accounting for other logistical aspects (such as transporting from vendor to destination) when planning for the deployment of materials during an emergency situation. Other challenges related to budgetary constraints (availability of funds when emergencies arise) also warrant consideration.

Third-party-managed inventory

Another approach to be considered is the expanded use of a vendor- or distributor-managed inventory, leveraging the use of private sector warehouse and inventory management capacity. The continuous expiry of components of the stockpile could be managed by cycling inventory through the vendor’s stockpile, as needed, through ongoing sales to other customers.

The Ontario review of the province’s response to the 2009 H1N1 pandemic examines Ontario’s stockpile system, which utilizes this approach:

*The highly efficient distribution of supplies resulted from a strong working relationship with a logistics partner before the pandemic (developed as part of the OPHIP [Ontario Health Plan for an Influenza Pandemic] planning) and the capacity to establish thresholds for orders by timing, quantity and product mix which limited extraordinary draws on the stockpile. The online ordering system allowed providers to place orders quickly and access supply kits specific to their practice and setting. The logistics company was also able to track and trace all orders, and provide daily reports to the ministry to ensure that health providers were receiving the materials they needed.*¹⁸

It should also be noted that Ontario has set up joint purchasing agreements with other health and public sector organizations (from hospitals to other government ministries) “*who may otherwise be financially challenged to put in place their required supplies and equipment stockpiles.*”¹⁹

However, certain factors should be taken into account when considering a vendor-managed approach to stockpiling. A vendor may not be willing to enter into this relationship if the product does not have much ongoing customer demand. Therefore, the types of products in this particular type of stockpile management are an important consideration.

As mentioned above, logistical and transportation considerations should also be included in this approach to stockpiling. Finally, it may be possible that a vendor in another country may be prevented from exporting stock by the host country (due to a policy of meeting domestic emergency response needs), endangering the delivery of pre-purchased stockpile inventory.

International highlight: Vendor-managed inventory

There are many benefits to having vendor-managed inventory (VMI). The Norwegian Emergency Preparedness System espouses the virtues of VMI, such as “turn-key” operations; established stock levels (i.e. agreed minimum levels); and contractual arrangements for the immediate replacement of product. The Centers for Disease Control and Prevention use VMI to provide pharmaceuticals, supplies and/or products specific to suspected or confirmed agent(s) when VMI may be the first option for immediate response from the Strategic National Stockpile program.

Deployment

It should be noted that, particularly in terms of deployment, provincial/territorial representatives overwhelmingly indicated that there has been a strong, supportive relationship with NESS management and staff over the years. They very much appreciated the proactive contact of staff when events are occurring and the direct involvement of NESS staff in support of deployments. A number of respondents also indicated that supplies were always provided in a timely manner (24-hour turnaround) and that the pre-positioning of supplies for mass gatherings promoted familiarity with the NESS program and exercised logistical supports that would be used for actual emergencies.

The following suggestions will augment future deployment activities. Communication and training activities could help provinces, territories and local responders in their understanding and subsequent use of the provisions available through the NESS program:

- Processes for requests, deployments, receiving and returns for various supplies need to be better articulated in written documentation. One suggestion was that a “concept of operations” document be developed that reflects the realities of each jurisdiction. It should include one-pagers on how to contact one another, expected time lines for deployment and how to access resources. Written instructions will also support ease of packing and shipping. Published specifications and standards for use by end users will ensure optimal performance.
- The value of providing regularly offered and consistent local training relating to the NESS program was highlighted. In addition to general provincial and territorial orientation and annual familiarization activities, specific training should be considered to address: (a) clinical competencies, (b) logistic roles and requirements and (c) roles of material managers in the acquisition NESS supplies. Some jurisdictions suggested that centrally supported training should include documented best practices and training provincial staff to train their own people to sustain their own emergency stockpile systems.

We can also learn from other approaches. In the United States, the Centers for Disease Control and Prevention (CDC) has adopted some of these mechanisms. A planning guide for states and municipalities is available online and through the CDC extranet site. The CDC also distributes training DVDs about specific medical supplies, such as their ventilators, when they are deployed.

The Centre for Emergency Preparedness and Response has initiated some of these communication activities: there is a paper-based guide for setting up the mini clinics and training has been provided to jurisdictions for that particular purpose. This practice should continue and be expanded to include other elements of the NESS program.

Appendix B: Technical annex

Part 1: Methodology

Approach and Design

This ex-post evaluation was conducted by Evaluation Services, a group that is internal to the Public Health Agency but that is not involved in the program area responsible for administration of the Public Health Agency's National Emergency Stockpile System activities.

The overall approach to this evaluation integrated two conceptual evaluation models – goals-based and process-based.

- A goals-based model allowed the evaluators to explore whether the program was meeting its predetermined goals and objectives as set out in the original program mandate. Given changes in the Canadian emergency preparedness context over the past 60 years, the initial purpose of the evaluation was to look at (a) program relevance and whether or not program goals should be changed, as well as (b) how program goals should be established in the future.
- The other purpose of the evaluation was to fully understand how the National Emergency Stockpile System program is actually working today; therefore a process-based model was also appropriate. While this long-standing program had evolved since it was first established in the 1950s, it appeared that clients had had concerns/complaints about the need to modernize the program, and there appeared to be a number of inefficiencies in delivering program services.

The short time frame to conduct the evaluation was based on target dates stipulated in the management response to *the 2010 Audit of Emergency Preparedness and Response*. To respond in a timely fashion, a non-experimental cross-sectional design was used to take a retrospective look at this long established program. Since little baseline information was available, this design allowed evaluators to analyze information at one point in time from multiple sources. It explored performance, as well as the alignment and “value-added” of the Public Health Agency's National Emergency Stockpile System activities with the Public Health Agency's roles and priorities.

The impetus for this evaluation included:

- a request from senior management for a thorough review of program relevance and performance of program activities
- a request from the Audit Committee in response to the Public Health Agency's *2010 Audit of Emergency Preparedness and Response* that suggested an in depth review of the relevance and performance of this program was needed at this time.

The decision to use multiple lines of evidence to address relevance and performance, and the retrospective nature of the evaluation design, was influenced by a number of evaluation risk factors, including:

- a paucity of current performance measurement data available for this program
- the very long history of this program (almost 60 years) and little evaluative analysis undertaken over the life of the program

- a lack of a clearly articulated logic model or program theory for this long standing program, and a considerable shift in the context of emergency preparedness and response since the establishment of the program.

In addition to the perspectives of a broad cross section of program management and staff, major stakeholders' perspectives were considered. In particular, the evaluators sought out the perspectives of recipients of the services provided through the National Emergency Stockpile System program, including provincial/territorial counterparts and other government departments. Information was also gathered from other organizations that provide related services domestically (such as the Canadian Red Cross) and internationally (in other countries). External and internal issue experts in the field of emergency preparedness and response were interviewed.

Methods

The evaluation used multiple lines of evidence, including literature and document reviews. It was important to triangulate these data sources with surveys, focus groups and interviews with relevant stakeholders. Five case studies were compiled detailing the approaches and activities of two domestic (Appendix F) and three international (Appendix G) organizations involved in delivering emergency stockpile services.

1. Literature review

A streamlined literature review was conducted to explore the nature of emergency stockpiling in Canada and internationally. It addressed evaluation issues related to relevance (evaluation questions #1, #2 and #3). The purpose of this review was to obtain information regarding the need for the program, including whether it represents a legitimate and necessary role for the Government of Canada as well as best practices which may represent potential improvements to program design and delivery.

In total, 110 documents were reviewed. These documents included all of the available literature suggested by program staff, including grey literature, as well as documents identified through Internet searches, and bibliographic key word searches. Bibliographic key word searches for recent (last 10 years) academic publications in English and French on this topic, in particular literature on the need for and the management of emergency stockpiles, were completed. The following databases were searched: Scopus (which contains the content of Medline & Embase), CINAHL (Cumulative Index to Nursing and Allied Health Literature) and Global Health.

2. Document review

The evaluation team undertook a review of available National Emergency Stockpile System documentation. Many documents were identified by program management and staff. This review was used to address particular evaluation issues related to relevance (evaluation question #1, #2, #3, #4 and #5) and performance (evaluation questions #6, #7 and #8). In total, 93 documents were reviewed by the evaluation team.

The types of documents reviewed included the following:

- previous audits and reviews of the National Emergency Stockpile System program
- records of decision from various internal committee meetings
- correspondence and communication related to the National Emergency Stockpile System program
- program records on the deployment of National Emergency Stockpile System supplies.

3. Survey and focus groups with provincial/territorial representatives

The purpose of the survey and focus groups was to learn about partners' perspectives on:

- their roles in the program
- progress made towards achievement of the expected NESS outcomes
- opportunities for improvement.

An email survey solicited written survey responses through two Councils of the Public Health Network: the Council of Health Emergency Management Directors and the Council of Emergency Social Services Directors. From December 22, 2010 to January 14, 2011 surveys were sent out in English and French. Each Council is comprised of one representative from each province and territory - 13 representatives in total. One survey was sent to each representative of the two Councils therefore a total of 26 individual representatives were sent a survey to complete. A total of 14 survey recipients completed the survey out of a sample of 26, for a response rate of approximately 54%. Most surveys (93%) were completed in English; the balance in French. All respondents (100%) submitted the survey by return email. Of a total of 13 jurisdictions, 9 jurisdictions were represented.

To validate the feedback provided in the email survey and explore issues further, two separate bilingual focus groups were conducted with provincial/territorial representatives through the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services Directors (CESSD). A summary of the email survey feedback was provided to participants in advance of the focus groups. A total of 21 individuals participated in the focus groups; some individuals participated in more than one group. Of a total of 13 jurisdictions, 11 jurisdictions were represented (85% of jurisdictions were represented between the two focus groups).

By province/territory, participation in the focus groups was as follows:

Province / territory	Number of participants
Newfoundland	2
Nova Scotia	2
Prince Edward Island	2
New Brunswick	1
Quebec	3
Ontario	3
Manitoba	1
Saskatchewan	2
Alberta	1
British Columbia	3
Yukon	1
Northwest Territories	0
Nunavut	0
TOTAL	21

The focus groups were conducted by teleconference on January 24 and 25, 2011 and were one hour in duration. The focus groups were facilitated by two Evaluation Services evaluators in Ottawa.

4. Interviews with key senior managers and staff from the Public Health Agency, emergency stockpile contacts with other federal government departments, external experts in the field of emergency preparedness and response, and specialists from selected other countries

The purpose of the interviews was to obtain a further description of how various elements of the program have been implemented as well as receive input on program relevance and performance.

The interviews were conducted using structured interview guides. Interview guides were developed in discussion with internal and external experts in the field of emergency preparedness and response.

Key informants were identified by program management and staff and Internet searches (for other key international contacts only). The sampling approach was purposive. Evaluation Services notified key informants of the evaluation and requested their participation. From November 8, 2010 to January 24, 2011, 22 one-hour interviews were conducted with 38 interviewees. Several interviews involved more than one key informant.

The breakdown of interviewees by type of key informant was as follows:

Interview sub-group	Number of interviewees
Public Health Agency senior managers and staff	26
Emergency stockpile contacts with other federal government departments	2
External experts in the field of emergency preparedness and response	7
Specialists from selected other countries	3
TOTAL	38

5. Survey with selected other government departments

The purpose of this survey was to obtain comparable data on the programs delivered by other federal government departments as well as identify best practices that could represent potential improvements to program design and delivery.

An email survey solicited written responses from a selection of federal government departments from January 21 and 31, 2011. This purposeful sample was with all federal departments with a known role in emergency preparedness and response or a known stockpile of emergency supplies. Representatives were identified by the National Emergency Stockpile System program area. One survey was sent to a representative from each department. A total of seven survey recipients completed the survey out of a sample of 12, for a response rate of approximately 58%. All the surveys (100%) were completed in English. All respondents (100%) submitted the survey by return email.

6. Case studies of international and domestic organizations

Case studies were conducted to highlight the approaches to emergency stockpiling undertaken by two domestic organizations and three other countries. The purposeful sampling strategy was used to focus on potential duplication of domestic emergency services provided and international best practices.

The domestic case studies included:

- Department of National Defence
- Canadian Red Cross.

The international case studies included:

- United States: Centers for Disease Control and Prevention - Strategic National Stockpile
- Australia: National Medical Stockpile
- Norway: Norwegian Emergency Preparedness Stockpile System (NOREPS).

A review of available Internet information and documentation provided by each organization, as well as one interview, were conducted for each case study. The interview guide was developed in discussion with external experts in emergency preparedness and response. A total of five interviews were conducted with 10 interviewees.

Evaluation tools, such as interview or focus group guides, are available upon request.

Data source matrix

ISSUE	QUESTION	LINE OF EVIDENCE	DATA SOURCE
Relevance issue #1: Continued need for program	1. What needs does the NESS intend to address? 2. Do these needs still exist?	Literature review	published literature on emergency preparedness (Canada and International) and on utility of emergency stockpiles of social service and medical supplies
		Document review	key internal documents including: Records of Decision from original Cabinet decisions to establish the program; previous audits and reviews of the NESS program; records of decision from various internal committee meetings; correspondence and communication related to the NESS program; program records on the deployment of NESS supplies
		Survey and focus groups	written survey responses and focus group feedback from provincial/territorial representatives through the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services Directors (CESSD); written survey responses from selected other government department representatives
		Key informant interviews	interviews with key senior managers and staff from the Public Health Agency, selected other government departments and non-governmental organizations, and external experts in the field of emergency preparedness and response; interviews with specialists in a selection of other countries (Australia, Norway and the United States)
Relevance issue #2: Alignment with government priorities	3. Is the NESS program consistent with the current Government of Canada and Public Health Agency mandate and strategic priorities?	Literature review	published literature on emergency preparedness and emergency stockpiles of social service and medical supplies
		Document review	key internal documents including: previous audits and reviews of the NESS program; records of decision from various internal committee meetings; correspondence and communication related to the NESS program; program records on the deployment of NESS supplies
Relevance issue #3: Alignment with federal roles and responsibilities	4. Should the federal government be delivering the services provided by NESS, either in its entirety or for each type of asset?	Document review	key internal documents including: previous audits and reviews of the NESS program; records of decision from various internal committee meetings; correspondence and communication related to the NESS program; program records on the deployment of NESS supplies

ISSUE	QUESTION	LINE OF EVIDENCE	DATA SOURCE
	5. Which types of assets remain relevant for the Public Health Agency?	Survey and focus groups	written survey responses and focus group feedback from provincial/territorial representatives through the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services Directors (CESSD); written survey responses from selected other government department representatives
		Key informant interviews	interviews with key senior managers and staff from the Public Health Agency, selected other government departments and non-governmental organizations, and external experts in the field of emergency preparedness and response; interviews with specialists in a selection of other countries (Australia, Norway and the United States)
		Case studies	two domestic case studies explored potential duplication of domestic emergency services provided and three international case studies explored international best practices
Performance issue #4: Achievement of expected outcomes	6. Have needs changed over time?	Document review	key internal documents including: previous audits and reviews of the NESS program; records of decision from various internal committee meetings; correspondence and communication related to the NESS program; program records on the deployment of NESS supplies
	7. Has the program design changed to accommodate these needs?	Survey and focus groups	written survey responses and focus group feedback from provincial/territorial representatives through the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services Directors (CESSD); written survey responses from selected other government department representatives
	8. Are there further changes that should be implemented?	Key informant interviews	interviews with key senior managers and staff from the Public Health Agency, selected other government departments and non-governmental organizations, and external experts in the field of emergency preparedness and response

ISSUE	QUESTION	LINE OF EVIDENCE	DATA SOURCE
Performance issue #5: Demonstration of efficiency and economy	9. Is there overlap/duplication or complementarity in service delivery?	Survey and focus groups	written survey responses and focus group feedback from provincial/territorial representatives through the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services Directors (CESSD); written survey responses from selected other government department representatives
		Key informant interviews	interviews with key senior managers and staff from the Public Health Agency, selected other government departments and non-governmental organizations, and external experts in the field of emergency preparedness and response
		Case studies	two domestic case studies explored potential duplication of domestic emergency services provided and three international case studies explored international best practices

Part 2: Results and discussion

Findings and evidence matrix

QUESTION #1: What needs does the NESS intend to address? Do these needs still exist?	
FINDINGS	EVIDENCE
While relatively few catastrophic events have taken place on Canadian soil in recent memory, this country is not impervious to these threats. These challenges require well-thought-out emergency response plans, including timely access to essential provisions.	<p>The federal, provincial and territorial (FPT) Ministers Responsible for Emergency Management joined efforts to produce the <i>Emergency Management Framework for Canada</i> (2011). It states that “... <i>the accumulating risks associated with factors such as increased urbanization, critical infrastructure dependencies and interdependencies, terrorism, climate change, environmental change, animal and human diseases, and the heightened movement of people and goods around the world, have increased the potential for various types of catastrophes.</i>”^{xx}</p> <p>Key informants indicated that there is a history of natural and man-made disasters, including pandemic events, in urban and remote communities in Canada. Terrorist threats on western nations are likely to persist. Domestic and international public health events can change rapidly. These events, if and when they do happen, can have enormous and detrimental consequences for Canadians.</p> <p>According to records kept by the Agency, the NESS program has been deployed 128 times in the past 25 years (1985 to 2010) to respond to a domestic event as a result of a hazard. Just over four in ten deployments (43%) have been in response to meteorological or hydrological events, i.e. floods, ice storms.</p> <p>Over the last 25 years, just under half the number of supplies deployed to respond to domestic events have been social service supplies (46%). Medical supplies (44%) have been deployed slightly less often. Pharmaceuticals (6%) or units/kits, such as the trauma or the casualty collecting unit (4%), have been deployed far less often.</p> <p>While there is no specified mandate to provide supplies from the stockpile to assist in international public health events, over the past 25 years, the stockpile has been deployed internationally at least 22 times. Whereas domestically we saw a greater need for social service supplies in response to natural disasters, internationally there was a greater need for health supplies in response to conflicts or geological events - tsunamis, hurricanes, earthquakes.</p> <p>Key informants indicated that the potential public health threats faced by other countries are not unlike the threats Canada can be expected to face. The Public Health Agency can anticipate future requests for the international deployment of NESS supplies. Some of them may be at the request of the Government of Canada, others at the request of the World Health Organization, the Pan-American Health Organization or a national government.</p>
The NESS program has adopted an “all-hazards” approach, meaning that decisions about the composition and management of this national reserve of provisions are to be based on up-to-date risk assessments.	Over the past 25 years NESS supplies have been deployed domestically to respond to a wide variety of events. The principal activity of the NESS program has been to have sufficient quantities of medical and social service supplies, strategically located across Canada, in a state of readiness for immediate response to a natural or human-caused disaster.

QUESTION #2: Is the NESS program consistent with the current Government of Canada and Public Health Agency mandate and strategic priorities?	
FINDINGS	EVIDENCE
The Government of Canada's commitment to the safety of Canadians in the face of human and natural threats has been reiterated in a variety of communications, instruments and agreements.	In the 2010 <i>Speech from the Throne</i> , the Governor General highlighted again that " <i>Our peaceful, prosperous and pluralistic society is one of the safest places in the world to live. Yet Canada faces real, significant and shifting threats. ...Protecting the health and safety of Canadians and their families is a priority of our Government.</i> " ^{xxi}
PHAC planning documents have consistency cited the National Emergency Stockpile System as strategically important.	<p>The NESS program is mentioned specifically in both the Public Health Agency's <i>Strategic Plan 2007-2012</i> and more recently in the Public Health Agency of Canada <i>2010-11 Report on Plans and Priorities</i>:</p> <p>Strategic Plan 2007-2012: "Enhancements will be made to the National Emergency Stockpile System, ensuring that sufficient supplies of appropriate and modern products and materials are available in the event of a public health emergency."</p> <p>2010-11 Report on Plans and Priorities: "... operate the National Emergency Stockpile System and ..., as required, to respond to infectious disease emergencies and bioterrorism incidents in Canada or around the world."</p>

QUESTION #3: Should the federal government be delivering the services provided by NESS?	
FINDINGS	EVIDENCE
There is documentation that confirms the broader federal role in emergency preparedness and response in Canada.	<p>The <i>Emergency Management Act</i> (2007) states, "<i>The Minister [of Public Safety Canada] is responsible for exercising leadership relating to emergency management in Canada by coordinating, among government institutions and in cooperation with the provinces and other entities, emergency management activities.</i>"</p> <p>Through the <i>Federal Emergency Response Plan</i> (2009), the Government of Canada mobilizes and coordinates resources and capabilities from the following organizations: federal departmental headquarters and federal regional departments, Crown corporations and agencies, provincial and territorial emergency management organizations, industry and the private sector, and non-governmental organizations.^{xxii}</p>

QUESTION #3: Should the federal government be delivering the services provided by NESS?	
FINDINGS	EVIDENCE
The Public Health Agency of Canada was established to support, and currently undertakes, public health emergency preparedness and response activities domestically and internationally, including the dissemination of emergency supplies.	<p>The Public Health Agency was established in 2004 in direct response to concerns about the capacity of Canada's public health system to anticipate and respond effectively to public health threats. Its mandate is to protect and promote the health and safety for all Canadians through leadership, partnership, innovation and action. The Agency works closely with provinces and territories to keep Canadians healthy by focusing on effective efforts such as preventing chronic diseases like cancer and heart diseases, preventing injuries, and responding to public health emergencies. The Public Health Agency has a federal leadership role and has identified the management of public health emergencies as one of its key priorities.</p> <p>To address this responsibility, the Public Health Agency undertakes specific activities, including:</p> <ul style="list-style-type: none"> - manage international aspects of public health emergency preparedness and response, including liaising with the World Health Organization and acting as the focal point for coordinating implementation of the <i>International Health Regulations</i> (2005) - provide regional coordination of federal public health emergency activities, support provinces and territories when requested, or to respond to complex emergencies on a national scale, by: providing access to materials from the federally controlled stockpile to assist provinces and territories with surge capacity, and facilitating the procurement of additional emergency supplies to complement provincial and territorial stockpiles.
Canada is required at the national level to have the capacity to provide support for logistical assistance. There is some documentation that specifies the federal role in the provision of emergency supplies in response to a <u>domestic</u> disaster.	<p>There is a mandate from the World Health Organization to the Government of Canada to provide national level support in the case of a domestic public health event. As a signatory to the World Health Organization-led <i>International Health Regulations</i> (2005), Canada is required at the national level to have the capacity to provide support for logistical assistance (e.g. equipment, supplies and transport) for its citizens in case of a domestic public health event.^{xxiii}</p> <p>The NESS antivirals are mentioned specifically in the <i>Canadian Pandemic Influenza Plan for the Health Sector</i> (2006): "In addition to the National Antiviral Stockpile, the National Emergency Stockpiling System (NESS) also contains oseltamivir, which could be used during domestic avian influenza outbreaks or for P/T support during the Pandemic Alert or Pandemic Period."^{xxiv}</p>
<p>The Minister of Health (responsibilities include Public Health Agency of Canada) is mandated to provide a federal emergency support function for public health.</p> <p>There is little documentation that describes a specific Public Health Agency of Canada role in the provision of emergency supplies in response to a <u>domestic</u> public health event.</p>	<p>The <i>Emergency Management Act</i> (2007) requires all Ministers accountable to Parliament for a government institution to identify the risks that are within or related to his or her area of responsibility, including those related to critical infrastructure, and to do the following in accordance with the policies, programs and other measures established by the Minister:</p> <ul style="list-style-type: none"> - prepare emergency management plans in respect of those risks - maintain, test and implement those plans - conduct exercises and training in relation to those plans.^{xxv} <p>Annex A of the <i>Federal Emergency Response Plan</i> (2009) outlines the federal emergency support functions. The Minister of Health is listed as the Minister with primary responsibility for public health and essential human services. Canada's Minister of Health (responsibilities include the Public Health Agency) is primarily responsible for developing and maintaining the federal health portfolio emergency plans for national public health threats or events, such as major disease outbreaks, natural or man-made disasters, or major chemical, biological or radio-nuclear events.</p>

QUESTION #3: Should the federal government be delivering the services provided by NESS?	
FINDINGS	EVIDENCE
<p>There is some documentation that specifies the federal role in the provision of emergency supplies in response to an <u>international</u> disaster.</p> <p>No mandate or specific authority for PHAC has been stipulated for responding to public health events that take place outside Canada.</p>	<p>The domestic <i>Emergency Management Act</i> (2007) indicates that the responsibility of the Minister of Public Safety Canada includes "... <i>participating, in accordance with Canada's foreign relations policies, in international emergency management activities.</i>" Furthermore, "<i>In consultation with the Minister of Foreign Affairs, the Minister may develop joint emergency management plans with the relevant United States' authorities and, in accordance with those plans, coordinate Canada's response to emergencies in the United States and provide assistance in response to those emergencies.</i>"^{xxvi}</p> <p>There are also numerous cross-border agreements between Mexico, Canada and the United States, as well as between various American states and Canadian provinces for the reciprocal exchange of information and/or support during a public health event or emergency (see Appendix C, international sections on trilateral relations and bilateral relations).</p> <p>While there is no specified mandate to provide supplies from the stockpile to assist in international public health events, over the past 25 years, the stockpile has been deployed internationally at least 22 times.</p> <p>For a number of past deployments, key informants indicated that official Cabinet authorities have had to be sought to support each of these deployments. Section 61 of the <i>Financial Administration Act</i> and Orders in Council have been used, whereby "... <i>the Governor in Council on recommendation of Treasury Board may authorize or make regulations for the transfer, lease or loan of public property other than federal property.</i>"^{xxvii} These approval processes can be time consuming in situations where timely responses are critical. Moving forward, if an international role was determined for NESS, ongoing policy and financial authority would be required.</p>
<p>The implications for an <u>international</u> role are not understood nor formally acknowledged by all partners and stakeholders. The NESS program would need to be able to meet both domestic and international needs.</p>	<p>Key informants indicated that the primary purpose of the NESS program is to provide surge capacity for the provinces and territories. If an international role was considered for the stockpile, this role should be ancillary, with domestic response continuing to be the primary role of NESS. The first priority for the NESS program should be to formalize its domestic mandate and update its domestic inventory and operations.</p> <p>Some stakeholders identified a need to look at the Public Health Agency's international emergency response programs as a whole, along with the infrastructure that needs to be put in place. For example, the Public Health Agency could consider the implications of the deployment of human resources and physical supplies together.</p> <p>Given the current risks of asset obsolescence in stockpile management, a number of NESS stakeholders observed that potential benefits of continuing international deployments include opportunities to rotate stock and refine response protocols and supplies.</p>

QUESTION #3: Should the federal government be delivering the services provided by NESS?	
FINDINGS	EVIDENCE
<p>The need for formal relationships and a clear definition of roles and responsibilities would need to be considered as part of the exploration of a more formal international mandate.</p> <p>A formal international role would require collaboration with other stakeholders in advance to ensure planning for an international role reflects the wealth of information from those most practiced in this field.</p>	<p>Key informants with the program indicated that requests for assistance are typically coordinated through the Canadian International Development Agency or the Department of Foreign Affairs and International Trade, as these federal organizations have the lead on international responses. Currently the NESS management team and staff maintain informal relationships with these key partners, as well as the international arm of the Canadian Red Cross. In particular, the international role for NESS could be linked with the existing international assistance roles of both the Canadian International Development Agency and the Department of Foreign Affairs and International Trade.</p> <p>Key informants indicated that number of the current supplies in the NESS stockpile are outdated and are being reviewed/revamped. Some of the provisions in the current stockpile are not in a state of readiness to be deployed internationally at this time. In some instances, the NESS program may not be able to respond optimally to an international request.</p> <p>Key informants also indicate that if the NESS program has a formalized international role, then it could have the planning and processes in place to support that role. Criteria governing the NESS role could be established (i.e. what could be provided and under what circumstances should supplies be sent abroad).</p>

QUESTION #4: Which types of assets remain relevant for the Public Health Agency? Have needs changed over time? Has the program design changed to accommodate these needs? Are there further changes that should be implemented?	
FINDINGS	EVIDENCE
<p>There are potential efficiencies to be gained by partnering with organizations that already have well-established infrastructures, e.g. non-governmental organizations, other government departments and other administrations</p>	<p>The Norwegian Emergency Preparedness System (NOREPS) promotes a collaborative approach among a group of humanitarian organizations in Norway. In Australia, the Australian Red Cross Society (ARCS) is a major partner in responding to events. The Department of Health and Ageing provides funding to ARCS to support a broad range of health-related humanitarian work and community activities, including disaster preparedness, first aid, disaster response and refugee services, and the society's work in the Asia-Pacific region.</p> <p>There are opportunities to partner with organizations for other purposes. For example, in 2009, the Centers for Disease Control and Prevention and the American Association of Respiratory Care partnered to offer a webcast training module for doctors and first responders on how to best use the LTV 1200 ventilator in an emergency.</p>
<p>Other countries concentrate on stockpiling pharmaceuticals and medical supplies but not for a social service response. Other organizations within these jurisdictions provide this type of service.</p>	<p>As highlighted in each of the international case studies, Appendix G, the provision of social service supplies is not typically the purview of a federal Department of Health. This response may be led by:</p> <ul style="list-style-type: none"> • non-governmental organizations (e.g. the Australian Red Cross Society, funded by the Australian government, states and territories for both domestic and international emergencies) • another government department (e.g. the United States' Federal Emergency Management Agency under the Department of Homeland Security) • a public/private partnership (e.g. Innovation Norway's consortia of public/private partners for the Norwegian Emergency Preparedness Stockpile System).

QUESTION #4: Which types of assets remain relevant for the Public Health Agency? Have needs changed over time? Has the program design changed to accommodate these needs? Are there further changes that should be implemented?	
FINDINGS	EVIDENCE
In other countries, stockpile systems are constantly evolving and updated in response to regular review.	<p>The Centers for Disease Control and Prevention in the United States indicated that they regularly review their threats and risks and, on that basis, add medicine and medical supplies (e.g. antivirals, respirators, masks and gloves) to the Strategic National Stockpile to help fight against pandemic flu.</p> <p>Australia is currently conducting a strategic review of issues such as procurement, stock rotation, logistics and transportation.</p>
Pandemic preparedness is a key and clearly defined role of the Public Health Agency	<p>As outlined in the <i>Canadian Pandemic Influenza Plan for the Health Sector</i> (2006), the Public Health Agency is the lead federal agency responsible for addressing pandemic influenza preparedness and response.</p> <p>Key activities include the following:</p> <ul style="list-style-type: none"> • conducting scientific research to better identify, understand and track the virus • obtaining surveillance (or tracking) information from its federal, provincial, territorial and local partners, as well as non-governmental organizations (influenza surveillance helps to determine: when, where and which influenza viruses are circulating; their intensity, spread and impact; and if specific population groups are at higher risk for illness) • providing information and advice to the general public and particular groups, such as vulnerable populations, as well as issuing guidance for health professionals and other stakeholders • providing regional coordination of federal health emergency activities • managing international aspects of pandemic preparedness and response, including liaising with the World Health Organization and acting as the focal point for coordinating the implementation of the International Health Regulations • developing and supporting the process required to update and maintain <i>the Canadian Pandemic Influenza Plan for the Health Sector</i>, in cooperation with health portfolio and provincial/territorial representatives • ordering sufficient vaccine for the Canadian population, in collaboration with the provinces and territories • stockpiling pharmaceuticals, equipment and supplies to assist the provinces and territories with surge capacity.^{xxviii} <p>Since the SARS outbreak, the NESS program has been increasing its supply of pandemic response materials. As part of this expansion, NESS stockpiled these materials prior to and during the 2009-10 H1H1 outbreak.</p> <p>Pandemic supplies include: antiviral agents, antibiotics specific to pandemic response, syringes, ventilators and related oxygen supply equipment, personal protective equipment (masks, face shields, gloves), and other supplies such as gowns, disposable sheets, pillows, needles, syringes, body bags, etc.</p>

QUESTION #4: Which types of assets remain relevant for the Public Health Agency? Have needs changed over time? Has the program design changed to accommodate these needs? Are there further changes that should be implemented?	
FINDINGS	EVIDENCE
The Public Health Agency has been responsive to requirements for pre-deployment of emergency medical supplies for mass gatherings.	<p>The NESS program has supported provinces and territories during times of emergency and also during planned such as papal visits (1984, 1987, 2002), World Youth Day (2002), the Winter Olympic and Paralympic Games in British Columbia (2010), the G8/G20 Summits in Ontario (2010), World Youth Day (2011) in Nova Scotia, and other nationally hosted events in Canada.</p> <p>There are now higher security requirements for these types of mass gathering events. The Public Health Agency has been proactive in the past 10 years, offering preparations and pre-deployments for these types of planned events, with a more flexible, scalable and interoperable modular concept of emergency medical service delivery (mini-clinics) should local emergency health services become overwhelmed. Deploying these mini-clinics also provides an opportunity to field test this asset and make refinements.</p>

QUESTION #4: Which types of assets remain relevant for the Public Health Agency? Have needs changed over time? Has the program design changed to accommodate these needs? Are there further changes that should be implemented?

FINDINGS	EVIDENCE
<p>The NESS program acquires and holds medical countermeasures, but its mandate is less clear in the distribution of these centrally held, highly specialized pharmaceuticals.</p>	<p>Key informants indicated that many of the medical countermeasures for potential bioterrorist attacks do not exist in the hospital system or in the pharmacy system in Canada. Because they are expensive, difficult to acquire (few manufacturers, licensing restrictions, many not approved for sale in Canada), and their life cycle is very distinctive, the Public Health Agency started to acquire and store them in the NESS.</p> <p>As the lead for the <i>Federal Nuclear Emergency Plan</i> (2002), the health portfolio is accountable for action to address CBRN risks. This role encompasses planning, preparedness activities, and response structures, processes and linkages for a coordinated federal, provincial and territorial response to nuclear emergencies affecting Canada or Canadians at home or abroad.</p> <p>The <i>Health Portfolio Chemical Emergency Response Plan</i> (2010) outlines the role of the health portfolio for chemical emergencies. The Portfolio provides scientific and public health support to assist response efforts. The support is primarily intended for the provinces and territories. It can also extend to other federal departments and international counterparts when required. One of the Public Health Agency's roles within the health portfolio is the acquisition, storage and distribution of highly specialized pharmaceuticals in response to CBRN risks.</p> <p>Key informants indicated that given the rapidly devastating nature of CBRN events, it would be challenging to get these medical countermeasures out to the various jurisdictions in time to be of assistance.</p> <p>The Norwegian Emergency Preparedness System has found that the nearer stocks are to a crisis site, the more effective they are in saving lives and preventing suffering; however, representatives stress that this must be balanced against the cost of maintaining stocks at a lot of different locations and the longer turnover period.</p> <p>In Australia, every state and territory has its own stockpile, including an inventory of antiviral agents. Australia's planning and response to pandemics relies on partnerships between the Department of Health and Ageing and its state and territory counterparts.</p> <p>The Centers for Disease Control and Prevention in the United States has established CHEMPACK, a voluntary participation project with states, for the "forward placement" of sustainable repositories of nerve agent antidotes. Thirty-nine states already have containers and seven others are in the process of obtaining them.</p> <p>Key informants indicated that updating the program has meant the acquisition of provisions that are more expensive and harder to acquire and store (not widely available, strict licensing restrictions) or that require a long lead time for procurement. Pharmaceuticals typically have a shelf life - legal limit on length of storage time before it is considered unsuitable for use. Shelf life can create challenges for stockpiling as these supplies may expire before they are needed and may require replacement.</p>

QUESTION #4: Which types of assets remain relevant for the Public Health Agency? Have needs changed over time? Has the program design changed to accommodate these needs? Are there further changes that should be implemented?	
FINDINGS	EVIDENCE
Efforts will need to be undertaken to support rural, remote and/or northern communities jurisdictions in developing needs assessments for emergency preparedness and response, identifying unique and specific needs, and further clarifying areas in which the Public Health Agency can provide assistance to address requirements.	Key informants and documents reviewed indicated that rural, remote and/or northern communities face numerous gaps and challenges in emergency management because of their unique circumstances. ^{xxix}
The requirements for emergency supplies have changed considerably over the last 60 years, and in the last 10 years in particular.	<p>As defined almost 60 years ago, the mandate of the NESS program was to provide surge capacity to provinces and territories: NESS social service and medical supplies were only to be deployed when provincial and territorial resources had been exhausted. The intent of the NESS program was to bolster the response of provincial, territorial or local governments in the event of a medical emergency.</p> <p>Prior to the “9-11” terrorist attacks in the United States (2001) and the more recent SARS (2003-04) and H1N1 influenza (2009) pandemic events, the primary role of the NESS program had been to respond to a broad base of man-made and natural disasters. The more recent events have accelerated efforts to address more contemporary and specific public health threats.</p> <p>Key informants indicated that higher security risks for mass gatherings have led to a federal role in pre-positioning medical supplies for these events in case local medical supplies are overwhelmed.</p> <p>Key informants indicated that when responding to many of these new public health threats, especially those that require very rapid responses, such as the release of a chemical agent, the NESS program may be required to take on the role of a primary supplier at the request of the provinces and territories rather than a resource of last resort once provincial and territorial supplies have been exhausted.</p>
Other than NESS, there are alternatives to consider for the provision of social service supplies in Canada.	<p>While there continues to be a need during public health events for a social service response, the capacity of the provinces and territories, and non-governmental organizations (such as the Canadian Red Cross and a variety of other response agencies), to assist with the provision of these supplies at the local level has increased. This situation was highlighted in both interviews with key informants and domestic case studies.</p> <p>Other countries, as well as some provinces and territories in Canada, are already working with other organizations for social services support during an emergency:</p> <ul style="list-style-type: none"> • non-governmental organizations (e.g. the Australian Red Cross Society, funded by the Australian government, states and territories for both domestic and international emergencies) • another government department (e.g. the United States’ Federal Emergency Management Agency under the Department of Homeland Security) • a public/private partnership (e.g. Innovation Norway’s consortia of public/private partners for the Norwegian Emergency Preparedness Stockpile System).

QUESTION #4: Which types of assets remain relevant for the Public Health Agency? Have needs changed over time? Has the program design changed to accommodate these needs? Are there further changes that should be implemented?	
FINDINGS	EVIDENCE
It is estimated by the program that a significant proportion of the supplies and equipment in the current NESS stockpile is out of date and/or is not in accordance with current medical standards or practices.	<p>Key informants indicated that many of the cots in stock are considered to be difficult for seniors and people with disabilities to use because they are too low to the ground. Some of the blankets supplied by the NESS program are wool-based and considered by some users to not be desirable. Medical technology has advanced significantly since many of the medical components of the 200-bed hospitals and CCUs (critical care units) were acquired in the 1960s. This equipment is unsafe to use by modern medical standards or uses technology that is no longer relevant to current medical practice.</p> <p>Provincial and territorial representatives are aware of this issue and feedback indicated that this situation has to some extent eroded confidence in the overall value of the entire complement of NESS supplies. Provinces and territories are responsible for providing the space for storing these supplies; some jurisdictions expressed frustration that they are paying to store products that can never be used.</p> <p>Key informants indicated that disposal will be time consuming and expensive, but is necessary to update the stockpile. The Centre for Emergency Preparedness and Response has begun disposal; however, the process is complicated. In addition to disposal of supplies at the Ottawa warehouse, the process may involve shipping all or many of the products back to the Ottawa warehouse from the pre-positioned sites in provinces and territories and sorting in accordance with the Treasury Board of Canada <i>Directive on the Disposal of Surplus Material</i> (2006). There are a number of different disposal avenues for each product, depending upon its resale value and material composition (i.e. recycle, resale, or disposal).</p>

QUESTION #5: Is there overlap/duplication or complementarity in service delivery?	
FINDINGS	EVIDENCE
<p>Roles and responsibilities concerning the NESS are not clearly understood by provinces/territories and other government departments.</p> <p>Part of the value added for the federal role is to draw on existing expertise through partnering, collaboration and communication.</p>	<p>Key informants indicated that the sharing of knowledge and expertise across jurisdictions is critical to the success of emergency preparedness in Canada; this is no less true for the coordination and management of surge supplies. It is about knowing what other jurisdictions are doing, both domestically and internationally, including the introduction of cutting-edge products and protocols, and being synthesizers, transmitters and users of that information. They suggested that these efforts will allow the Public Health Agency to propose good models and practices, provide opportunities for information sharing, and ensure the most appropriate and efficient systems and knowledge are in place.</p>
<p>The broader management of stockpiles of medical supplies in Canada would benefit from an enhanced focus on evidence-based decision making, a consultative approach and a plan that is reflective of stakeholder needs.</p>	<p>Several federal departments manage stockpiles of emergency medical supplies and/or pharmaceuticals to meet their own operational needs, including: the Department of National Defence, Canadian Food Inspection Agency, Department of Foreign Affairs and International Trade, and Health Canada. The current management of these federal stockpiles is largely focused on departmental requirements.</p> <p>Key informants suggested that there is a great deal of variability across Canada in knowledge about, and capacity for, surge response. In building a community of experts across jurisdictions, the Public Health Agency demonstrates its leadership role in bringing together different partners and expertise to build tools to support dialogue, share resources and facilitate evidence-based decision making in a public health context. For example, expert groups could be established or enhanced for medical equipment and for pandemic, food-borne, CBRN risks, etc. To ensure the NESS inventory meets current standards, and is operationally relevant to end users, the continued engagement of experts from across Canada is critical to focused decision making.</p>

QUESTION #5: Is there overlap/duplication or complementarity in service delivery?	
FINDINGS	EVIDENCE
<p>The NESS program is as relevant as its ability to meet the real needs of its primary users, that is, to support provinces and territories in their emergency responses.</p> <p>There could be better communication about the supplies that are available in the stockpile.</p>	<p>Key informants from both the program and the provinces and territories suggested that there has not always been consistent provincial and territorial involvement in decisions on acquisitions, positioning and deployment of materials for the NESS program. They indicated that there needs to be consultation with and information shared by a broad base of provincial and territorial experts to ensure that cross-jurisdictional and individual provincial and territorial considerations are well understood by the Public Health Agency. It was clear that enhanced information about stock held in other jurisdictions could facilitate the exploration of options on partnered federal/provincial/territorial stockpile initiatives, such as planning, procurement, stock rotation, quality control, distribution, facility management and life-cycle issues.</p> <p>Along the same lines, the Memoranda of Understanding (MOU) with provinces and territories established in the 1960s and 1970s (there is no MOU with Nunavut) are outdated and do not match today's complex operational and business environment. The Public Health Agency has engaged a task group with provincial/territorial representatives to discuss this matter. Task group members have confirmed that these agreements need to be renegotiated with each of the provinces and territories. Updated agreements need to outline current expectations, as well as accountability and security for NESS supplies.</p> <p>Representatives from the provinces and territories stated that, in some jurisdictions, little information was available to them regarding processes and products. Some were not aware of which supplies are available to them. One option for achieving this goal is to develop an electronic database, accessible to provinces and territories, which will provide a clearer understanding of NESS supplies and the Public Health Agency's role in the provision of these supplies. This electronic database could also serve as a tool to provide a consistent avenue of communication among federal, provincial and territorial counterparts.</p> <p>In the United States, the Centers for Disease Control and Prevention (CDC) has an electronic database (an extranet site), which allows states to view specific items held in the stockpile. A similar system could be considered for the NESS program, whereby users/clients (provinces and territories) could search the database either by event (e.g. a chemical accident) or by product (e.g. ventilators).</p>

Conclusions to recommendations matrix

	FINDINGS	CONCLUSIONS	RECOMMENDATIONS
RELEVANCE	While relatively few catastrophic events have taken place on Canadian soil in recent memory, this country is not impervious to these threats. These challenges require well-thought-out emergency response plans, including timely access to essential provisions.	RELEVANCE The NESS program is relevant (although the current asset mix should be reviewed in line with federal public health priorities). It is consistent with the current Government of Canada and Public Health Agency strategic priorities. There is a Government of Canada role to coordinate emergency management activities across jurisdictions, where appropriate.	#1 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.
	The NESS program has adopted an “all-hazards” approach, meaning that decisions about the composition and management of this national reserve of provisions are to be based on up-to-date risk assessments.		
	The Government of Canada’s commitment to the safety of Canadians in the face of human and natural threats has been reiterated in a variety of communications, instruments and agreements.		
	PHAC planning documents have consistently cited the National Emergency Stockpile System as strategically important.		
	There is documentation that confirms the broader federal role in emergency preparedness and response in Canada.		
	The Public Health Agency of Canada was established to support, and currently undertakes, public health emergency preparedness and response activities domestically and internationally, including the dissemination of emergency supplies.		
	Canada is required at the national level to have the capacity to provide support for logistical assistance. There is some documentation that specifies the federal role in the provision of emergency supplies in response to a <u>domestic</u> disaster.		
	The Minister of Health (responsibilities include Public Health Agency of Canada) is mandated to provide a federal emergency support function for public health. There is little documentation that describes a specific Public Health Agency of Canada role in the provision of emergency supplies in response to a <u>domestic</u> public health event.	While there appears to be a Government of Canada role in international health emergency response, specifically in the deployment of emergency supplies, the specific role of the Public Health Agency is not clear. Any	

	FINDINGS	CONCLUSIONS	RECOMMENDATIONS
	<p>There is some documentation that specifies the federal role in the provision of emergency supplies in response to an <u>international</u> disaster. No mandate or specific authority for PHAC has been stipulated for responding to public health events that take place outside Canada.</p> <p>The implications for an <u>international</u> role will need to be well understood and formally acknowledged by all partners and stakeholders. The NESS program would need to be able to meet both domestic and international needs.</p> <p>The need for formal relationships and a clear definition of roles and responsibilities would need to be considered as part of the exploration of a more formal international mandate. A formal international role would require collaboration with other stakeholders in advance to ensure planning for an international role reflects the wealth of information from those most practiced in this field.</p>	consideration of a formal international role would require interdepartmental consultations and formal authorities to do so.	#4 Include specific consideration of the NESS in the Agency's broader discussions of its international role.
PERFORMANCE	<p>There are potential efficiencies to be gained by partnering with organizations that already have well-established infrastructures, e.g. non-governmental organizations, other government departments and other administrations</p> <p>Other countries concentrate on stockpiling pharmaceuticals and medical supplies but not for a social service response. Other organizations within these jurisdictions provide this type of service.</p> <p>In other countries, stockpile systems are constantly evolving and updated in response to regular review.</p> <p>Pandemic preparedness is a key and clearly defined role of the Public Health Agency</p> <p>The Public Health Agency has been responsive to requirements for pre-deployment of emergency medical supplies for mass gatherings.</p> <p>The NESS program acquires and holds medical countermeasures, but its mandate is less clear in the distribution of these centrally held, highly specialized pharmaceuticals.</p> <p>Efforts will need to be undertaken to support rural, remote and/or northern communities jurisdictions in developing needs assessments for emergency preparedness and response, identifying unique and specific needs, and further clarifying areas in which the Public Health Agency can provide assistance to address requirements.</p> <p>The requirements for emergency supplies have changed considerably over the last 60 years, and in the last 10 years in particular.</p> <p>Other than NESS, there are alternatives to consider for the provision of social service supplies in Canada.</p>	<p>PERFORMANCE</p> <p>While a thorough assessment of performance was limited due to a lack of performance data, there were indications that NESS was deployed in a timely fashion. However, overall improvements could be made to the NESS program.</p> <p>There is a need to provide surge capacity to provinces and territories. However, the mandate outlined 60 years ago is outdated and not reflective of current realities. A more up-to-date NESS program requires focused decision making that emphasizes the acquisition and distribution of more strategic supplies, based on risk assessments that reflect modern risks and the Public Health Agency's role in emergency response.</p> <p>In line with developments in capacity, and the reality of current public health threats, the NESS program needs to focus on its niche role in current emergency response requirements when determining what supplies should be in the stockpile.</p> <p>An Agency commitment to clearing the NESS warehouses of outdated supplies will help to rebuild confidence among provinces and territories in the overall program.</p>	<p>#1 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.</p> <p>#1 a) Continue to ensure the following stock is available for provincial/territorial surge:</p> <ul style="list-style-type: none"> • pandemic preparedness supplies; • medical and pharmaceutical supplies for planned mass gatherings of national significance and unplanned natural or manmade disasters; and • chemical, biological and radio-nuclear (CBRN) countermeasures. <p>b) Consider eliminating social service supplies from the NESS asset mix while ensuring their continued availability. For stock being acquired and retained, attention must be paid to its life-cycle management (see Appendix A).</p>

	FINDINGS	CONCLUSIONS	RECOMMENDATIONS
PERFORMANCE	It is estimated by the program and end users that a significant proportion of the supplies and equipment in the current NESS stockpile is out of date and/or is not in accordance with current medical standards or practices.	The broader management of stockpiles of medical supplies in Canada would benefit from an enhanced focus on evidence-based decision making, a consultative approach and a plan that is reflective of stakeholder needs.	#2 Develop, resource and implement a disposal strategy to allow for the disposal of: c) equipment and supplies that are outdated, no longer meet current medical standards, or are of poor quality (i.e. emergency hospitals, casualty collecting units, etc.) d) individual social services items (i.e. cots and blankets) and social services units (i.e. mobile feeding units, reception centre kits, etc.) (contingent on the outcome of recommendation 1b)
	Roles and responsibilities concerning the NESS are not clearly understood by provinces/territories and other government departments.		#3 Develop, implement and monitor a strategy to help communicate the Public Health Agency's role in stockpiling supplies for public health responses, considering the following target groups: • Other federal government departments and agencies • Provinces/territories, including specialized areas: • End users (health practitioners) • Materiel management specialists Logistical teams
	Part of the value added for the federal role is to draw on existing expertise through partnering, collaboration and communication		
	The broader management of stockpiles of medical supplies in Canada would benefit from an enhanced focus on evidence-based decision making, a consultative approach and a plan that is reflective of stakeholder needs.		
	The NESS program is as relevant as its ability to meet the real needs of its primary users, that is, to support provinces and territories in their emergency responses.		
	There could be better communication about the supplies that are available in the stockpile.		

Appendix C: Current context, roles and responsibilities

This appendix provides a broad overview of the roles of various domestic and international authorities and stakeholders in emergency preparedness and response, specifically those related to the NESS program.

Domestic

Provincial and territorial governments, local responders and non-governmental organizations

Emergency management in Canada is a shared responsibility and requires the involvement of many players. When a significant public health event happens, emergency management begins with a response at the local level. When a community is unable to manage the impact, it will request support from its provincial or territorial government, which, in turn, asks for support from the federal government when required.

Public health practice relies heavily on collaboration among government and non-governmental organizations, such as professional associations and humanitarian organizations. These groups may be health-focused or may have primary interests in other related areas, such as social services.

Non-governmental organizations play essential roles in responding to an emergency and actively contribute in a manner consistent with their mandate. For example, various organizations may be involved by providing assistance through health services, water safety or first aid, by responding to and preparing for events, and by delivering services in the community.

Federal/provincial/territorial collaboration

Pan-Canadian Public Health Network

The (Pan-Canadian) Public Health Network (PHN) was established by Canada's federal, provincial and territorial Health Ministers in 2005. Led by a 17-member Council, with representatives from each province and territory and the federal government, the PHN enables different levels of government and experts to work together to improve public health in Canada. The Network takes a collaborative approach to public health that is critical at all times, but is especially important for coordination and collaboration during public health events. The Public Health Agency acts as the Secretariat for the Council and its groups and committees.

The leading PHN group that supports implementation of the NESS program is the Emergency Preparedness and Response Expert Group (EPREG)^c. EPREG is responsible for coordinating and strengthening federal, provincial and territorial health emergency preparedness policy and planning, as well as providing technical advice and assistance as required. Working groups of EPREG involved in shaping the direction of the NESS program include the Council of Health Emergency Management Directors (CHEMD) and the Council of Emergency Social Services

^c As part of the review of the Public Health Network governance structure, the Emergency Preparedness and Response Expert Group and subsequently the Council of Health Emergency Management Directors and the Council of Emergency Social Services Directors will cease to be active as of March 31, 2011.

Directors (CESSD).

PCHEMS and PCHIMS

The mandate of the federal/provincial/territorial Emergency Preparedness and Response Expert Group (EPREG) of the (Pan Canadian) Public Health Network is to develop and maintain an integrated, coordinated and comprehensive *Pan-Canadian Health Emergency Management System* (PCHEMS) that encompasses the full spectrum of emergency management including: prevention/mitigation, preparedness, response and recovery.

EPREG also coordinated the development of the *Pan Canadian Health Incident Management System* (PCHIMS), which facilitates planning and communication across jurisdictions during emergencies by defining roles and responsibilities and establishing operational guidelines and protocols that ensure coordinated planning across jurisdictions.

In December 2010, the Deputy Ministers of Health approved a streamlined Public Health Network governance structure which establishes three Steering Committees reporting to the Council dedicated to: Health People and Communities, Communicable and Infectious Diseases, and Public Health Infrastructure. These Steering Committees will replace the existing six expert groups. As of April 1, 2011, the mandate of the Emergency Preparedness and Response Expert Group (EPREG) will migrate to the newly established Steering Committee on Public Health Infrastructure.

Canadian Pandemic Influenza Plan for the Health Sector

Currently being updated post-H1N1, the *Canadian Pandemic Influenza Plan for the Health Sector* (2006) is intended to provide a broad frame for Canada's collaborative response to pandemic influenza, and guides the roles and responsibilities of the Public Health Agency, Health Canada, the provinces and territories. Its goal is to help minimize serious illness, death and societal disruption during and after a pandemic by assisting with and facilitating a coordinated planning and response effort. It is the product of extensive dialogue and collaboration with representatives from all provinces and territories; Chief Medical Officers of Health; epidemiologists; virologists; communicable disease specialists; clinical, public health and laboratory specialists; and a wide group of stakeholders, including non-governmental organizations, local governments, emergency planners and bioethicists.

MOU on Mutual Aid

The *Federal/Provincial/Territorial Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public*, developed under the leadership of the Emergency Preparedness and Response Expert Group of the Canadian Public Health Network, is a framework for mutual aid among Canadian jurisdictions in accordance with a set of principles and understandings.

Federal government roles

The federal government, through Public Safety Canada, exercises leadership at the national level related to emergency management responsibilities, with different federal departments taking the lead on specific functions.³⁰ The *Emergency Management Act* states that the Public Safety Minister is responsible for leading “*emergency management in Canada by coordinating, among government institutions and in cooperation with the provinces and other entities, emergency management activities.*”³¹

While the health portfolio (comprised of Health Canada, the Public Health Agency of Canada, the Canadian Institutes of Health Research, the Hazardous Materials Information Review Commission, the Patented Medicine Prices Review Board and Assisted Human Reproduction Canada) plays a leading role in public health events, other federal departments and agencies have specific roles in response to major emergency events, including the following:

- The Canadian Food Inspection Agency has the lead role in responding to animal health emergencies. It works with provinces and territories, the animal and food industries and private sector veterinarians to enhance monitoring for signs of illness and to maintain enhanced bio-security measures on farms across Canada. It maintains a stockpile of personal protective equipment for its staff.
- The Canadian Forces has the mandate to provide its own health care. It maintains an emergency stockpile to meet potential operational requirements primarily related to providing care to its personnel in the areas of chemical, biological and radio-nuclear (CBRN) response and pandemic preparedness. The Canadian Forces also has supplies available for humanitarian operations and disaster response.
- The Department of Foreign Affairs and International Trade coordinates Canada’s international response, including international aid from national stockpiles.
- The Canadian International Development Agency leads Canada’s international effort to help people affected by poverty or disasters.
- The health portfolio also works with the Royal Canadian Mounted Police, the Canada Border Services Agency and Citizenship and Immigration Canada to manage screening of travelers and events at the U.S. border and international points of entry.

Federal Emergency Response Plan

The *Federal Emergency Response Plan* outlines the processes and mechanisms to facilitate an integrated Government of Canada response to an emergency and to eliminate the need for departments to coordinate a wider Government of Canada response. The aim of the *Federal Emergency Response Plan* is to harmonize emergency response efforts by the federal, provincial and territorial governments, non-governmental organizations and the private sector. In the Plan, Public Safety Canada is identified as the federal coordinating department, with responsibility for engaging relevant federal departments.

Federal Nuclear Emergency Plan

The aim of the *Federal Nuclear Emergency Plan* (2002) is to provide the structure for federal nuclear emergency preparedness and response to protect the public from immediate and delayed health effects due to exposure to uncontrolled sources of radiation; minimize the impacts of a nuclear emergency on property and the environment; and maintain public confidence in the ability of responsible authorities to protect public health.

Federal Healthcare Partnership – Pandemic Planning Working Group

The ad hoc Federal Healthcare Partnership – Pandemic Planning Working Group was created on May 11, 2009, to provide coordination between partners and federal organizations currently

providing health care to federal populations. Federal partners include Citizenship and Immigration Canada, the Correctional Service of Canada, the Department of National Defence, Health Canada, the Public Health Agency of Canada, the Royal Canadian Mounted Police and Veterans Affairs Canada. The Working Group was designed to answer questions posed by partners and to provide strategic guidance on issues related to H1N1 vaccination and access to the National Emergency Stockpile System and the National Antiviral Stockpile.

Health Portfolio

Under the *Department of Health Act*, the Minister of Health has a broad mandate to promote and preserve the physical, mental and social well-being of Canadians, as well as to protect the people of Canada against risks to health and the spread of diseases. Also, the Minister of Health is responsible for ensuring cooperation with provincial authorities, with a view to coordination of efforts made or proposed for preserving or improving public health.

The Minister of Health is supported by the Health Portfolio, which comprises Health Canada, the Public Health Agency of Canada, the Canadian Institutes of Health Research, the Hazardous Materials Information Review Commission, the Patented Medicine Prices Review Board and Assisted Human Reproduction Canada. Within the Health Portfolio, the response to a public health crisis is managed primarily by the Public Health Agency of Canada.

Health Portfolio Emergency Response Plan

The *Health Portfolio Emergency Response Plan* is structured as an “all-hazards” plan for emergency response. It defines the scope, framework, roles and responsibilities within which the Public Health Agency of Canada and Health Canada operate to ensure an appropriate response to a range of emergencies that could affect the health and well-being of Canadians.

Canada’s Minister of Health (Public Health Agency of Canada and Health Canada) is primarily responsible for developing and maintaining the federal health portfolio emergency plans for national public health threats or events such as major disease outbreaks, natural disasters or major chemical, biological or radio-nuclear events.

Within the Health Portfolio, the Public Health Agency of Canada (PHAC) acts as the principal public health advisor to the Minister and has emergency management responsibilities, in the areas relating to:

- Public health emergencies involving natural and human induced disasters, including infectious disease outbreaks
- Legislative and regulatory issues for quarantine
- Implementation of legislation for the importation of human pathogens
- Laboratory biosafety and biosecurity
- Emergency Operations Centre activation
- Mobilization of the National Emergency Stockpile System.

Health Portfolio Chemical Emergency Response Plan

The *Health Portfolio Chemical Emergency Response Plan* is used by health portfolio staff involved in responding to a chemical emergency and provides information on how response to a chemical emergency is coordinated throughout the Health Portfolio. In the majority of cases, chemical emergencies will be localized and dealt with by regional resources. The health portfolio provides support for responses to chemical emergencies only when requested by a province or territory; when requested by another federal department or agency; when requested by an international counterpart; or when the chemical emergency occurs within a federal jurisdiction.

Health Canada's role in public health emergencies

Through its Emergency Preparedness and Occupational Health Directorate, Health Canada is responsible for preparing and responding to requests from federal departments and agencies related to alleged or actual terrorist acts. It also develops plans and policies to ensure Health Canada's emergency preparedness and effective interaction with the Public Health Agency at a portfolio-wide level.

Health Canada is responsible for the regulatory regime governing the safety of products including food, drugs, medical devices, natural health products, consumer products, chemicals, radiation-emitting devices, cosmetics and pesticides.

In recognition of the unique status and needs of on-reserve First Nations people in Canada, Health Canada collaborates with on-reserve First Nations communities to address health barriers and disease threats, and to attain health levels comparable to other Canadians living in similar locations. In preparing for and responding to a public health threat in on-reserve First Nations communities, among its many roles Health Canada is responsible for the following: ensuring that health services are available and accessible to on-reserve First Nations communities, including maintaining a personal protective equipment stockpile for health-care workers and support staff assisting in the delivery of health-care services.

Public Health Agency of Canada's role in public health emergencies

The *Public Health Agency of Canada Act* came into force in December 2006. The legislation establishes the Agency as a separate entity within the Health portfolio, with the mandate to assist the Minister of Health fulfilling his public health responsibilities. It also establishes the position and sets out the unique dual role of the Chief Public Health Officer. The Act highlights that the Agency should be responsible for the following: immunization; chronic disease prevention; and emergency preparedness.

The Act also highlights that "The Chief Public Health Officer of Canada would be a leading national voice for public health, particularly in outbreaks and other health emergencies, and a highly visible symbol of a federal commitment to protecting and improving Canadians' health."

The Public Health Agency of Canada is the lead federal agency mandated to manage public health emergencies and regional coordination of federal health emergency activities. It plays a coordinating function in emergency planning, and training and activities that engage all levels of government, as well as the voluntary and private sectors. It works with international partners, provinces and territories, and other federal partners to monitor international and domestic public health threats and to mobilize a pan-Canadian response to public health events of national or international concern.

With respect to its emergency response role, the Public Health Agency of Canada leads and/or undertakes the following broad activities:

- provides national leadership and coordination for public health emergencies, in collaboration with other federal departments and agencies, and with provinces, territories and municipal officials
- provides support and coordination, through the Government of Canada's health portfolio Operations Centre, for preparing for and responding to national and international health events
- initiates and participates in emergency management exercises, within Canada and internationally.

Within the Public Health Agency of Canada, the Centre for Emergency Preparedness and Response is Canada's central coordinating point for public health security issues. Its mandate is to maintain the safety and national health security of Canadians through emergency preparedness and response, and protection from all hazards, including natural and human caused disasters. It is accountable for the NESS program. Among its many responsibilities, the Centre:

- develops and maintains national emergency response plans for the Public Health Agency of Canada and Health Canada
- monitors outbreaks and global disease events
- assesses public health risks during emergencies
- contributes to keeping Canada's health and emergency policies in line with threats to public health security and general security for Canadians, in collaboration with other federal and international health and security agencies
- is responsible for the important federal public health rules governing quarantine and similar issues
- is the health authority in the Government of Canada on bio-terrorism, emergency health services and emergency response.

Within the Centre for Emergency Preparedness and Response, the Office of Emergency Response Services (OERS) is responsible for supporting emergency health and social services in the provinces, territories or abroad. It responds to natural and man-made disasters by carrying out the following activities:

- supporting provincial, territorial and foreign agencies that provide health and social services during national emergencies
- managing and maintaining the National Emergency Stockpile System, which stores pharmaceutical products, emergency medical and social services supplies and equipment
- maintaining a roster of Health Emergency Responders who are ready to be deployed to assist provincial, territorial and other local authorities in providing health emergency medical support during a health crisis and/or disaster.

The Office also supports federal, provincial, territorial and municipal partners and stakeholders through the development and delivery of a full spectrum of public health emergency management training and exercise services.

International

Major emergency events do not respect borders, nor do they occur at convenient times. The magnitude of human suffering can be huge, affecting many aspects of people's lives, including health, security, housing and access to food or water. When responding to an international public health event, the Government of Canada works with its international partners through organizations such as the World Health Organization (WHO) and mechanisms such as the Global Health Security Initiative. The Government of Canada also works closely with its North American partners, the United States and Mexico.

World Health Organization

The World Health Organization leads the international public health response to major events and also helps to build the capacity of member states in emergency preparedness. The WHO's strategy is based on an "all-hazards/whole-health" concept. An all-hazards approach entails the development of management strategies for the full range of likely threats and risks. A whole-health approach works toward unified and coordinated emergency planning, through coordination of surge and operational platforms between health and other sectors.

In 2005, the World Health Assembly revised the *International Health Regulations* (IHRs). The IHRs are an international legal instrument that is binding on 194 countries. The aim is to help the international community prevent and respond to serious public health threats that have the potential to cross borders and put people in danger worldwide. This legally binding agreement, to which Canada is a party, requires members to improve their capacity to detect, assess, notify and respond to public health threats.

Global Health Security Initiative

Canada is a member of the Global Health Security Initiative, an international partnership among France, Germany, Italy, Japan, Mexico, the United Kingdom and the United States, intended to strengthen preparedness and global response to public health threats. In 2001, the Global Health Security Action Group (GHSAG) of senior officials was established by health ministers of these countries to develop and implement concrete actions to improve global health security. The GHSAG also serves as a network of rapid communication/reaction in a crisis. Of note are two projects in progress: (a) Public Health Aspects of Radiological and Nuclear Threats, and (b) Capacity Building and Training for Emerging Infectious Diseases.

Trilateral Relations: Canada, the United States and Mexico

Canada works closely with its North American neighbors, the United States and Mexico. One priority of this relationship is to protect people from disease.

Guided by the *North American Plan for Avian and Pandemic Influenza* (NAPAPI), Canada, Mexico and the United States work together to prepare for and manage an outbreak of avian influenza or pandemic influenza in North America. Recognizing that the social and economic health of the three countries is closely intertwined, the Plan outlines a collaborative and coordinated North American approach to controlling the spread of avian influenza or a novel strain of human influenza.

The NAPAPI describes joint activities to be carried out through six lines of action: health promotion and risk communications, coordination, epidemiological surveillance and laboratory practices, health care provision, strategic stockpile, and research and development. Its aims are to detect, contain and control an avian influenza outbreak and prevent transmission to humans; prevent or slow the entry of a novel strain of human influenza to North America; minimize illness and deaths; and sustain infrastructure and mitigate the impact to the economy and the functioning of society.³²

The *Public Health Emergency Mutual Aid Declaration* (2007) is a declaration among the Department of Health and Human Services of the United States of America, the Ministry of Health of the United Mexican States and Health Canada, including the Public Health Agency of Canada. It highlights the intent to cooperate by sharing information as well as supplies, such as medical and pharmaceutical supplies in national stockpiles.

Bilateral Relations: Canada and the United States

The domestic *Emergency Management Act* (2007) authorizes the Minister of Public Safety, in consultation with the Minister of Foreign Affairs, to coordinate Canada's response to an emergency in the United States.

The *Agreement between the Government of Canada and the Government of the United States of America on Emergency Management Cooperation* was signed in 1986 and re-signed in 2008 to facilitate civil emergency operations in both countries. The Agreement recognizes the importance of strengthening cooperation in emergency management in relation to natural and

man-made incidents, emergencies and disasters, and declares that the government of the two countries will use their best efforts to facilitate movement of evacuees, refugees, civil emergency personnel, equipment and other resources.

There are numerous cross-border agreements that arrange for the exchange of information and/or supplies during an emergency; for example, the *Pacific Northwest Emergency Management Agreement* (2007) executed by Alaska, British Columbia, Idaho, Oregon, Washington and Yukon; the *International Emergency Management Memorandum of Understanding* (2000) executed by the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont, and the provinces of New Brunswick, Newfoundland, Nova Scotia, Prince Edward Island and Quebec; and the *Erie-Niagara Cross Border Contingency Plan* (2004) executed by Regional Municipality of Niagara, the Province of Ontario and the Counties of Erie and Niagara in the State of New York.

Appendix D: Components of the NESS stockpile

Kit or unit	Brief description	Type	Location	Acquisition	Comments
Emergency hospitals	These 200 bed hospitals, to be set up in existing buildings such as schools and community centers, were designed to provide self-contained acute and short-term medical care in a worst-case scenario.	Medical		1950s, 1960s	Components currently being assessed and recycled/disposed
Advanced treatment centers (ATC)	These centers were designed to provide early medical and limited surgical procedures in a "field" environment and support the movement of patients to other health care facilities.	Medical		1950s, 1960s	Components to be assessed
Casualty collecting units (CCU)	These units were designed to provide support to the existing health care system by the provision of acute and short-term medical care in a worst-case scenario.	Medical		1950s, 1960s	Components currently being assessed and recycled/disposed Replaced by mini-clinics
Trauma kits	These kits were designed to consist of first aid, intubation, IV solutions and medical components to support first line response and triage-patient staging (mini clinics, advanced treatment centers, etc.).	Medical		1950s, 1960s	Components currently being assessed and recycled/disposed
Mobile feeding units	These units were designed to provide an emergency feeding capability in a "field" environment, or where normal food services are not available.	Social service		1950s, 1960s	Components currently being assessed and recycled/disposed
Reception centre kits	These kits were designed to provide supplies, and registration and inquiry materials for the setup and operation of the reception functions for evacuation centers/shelters.	Social service		1950s, 1960s and later	Components to be assessed
Quarantine units	These units have the capacity to support up to 300 persons that are suspect of having or have been in contact with an infectious disease and are entering Canada at one of its airports.	Medical		1950s, 1960s and later	Components to be assessed
Various social services supplies	Cots, blankets, pillows, face cloths, generators, batteries, flashlights, survival candles, garbage bags, bottle water, propane lanterns, diapers, registration and inquiry cards, etc.	Social service		1950s, 1960s and later	Components to be assessed

Kit or unit	Brief description	Type	Location	Acquisition	Comments
CBRNE antidotes (chemical, biological, radio-nuclear, explosive)	Antidotes, such as those required for: small pox, botulism and anthrax	Medical		2001-2002 and later	Components are harder to acquire and store (expensive, not widely available, strict licensing restrictions) and/or require a long lead time for procurement Based on current risk assessment
CBRNE push packs (chemical, biological, radio-nuclear, explosive)	These push packs are intended as a first response to the risk of a terrorist incident. The contents of a push pack are: Nerve gas antidote auto injector sets, consisting of: Atropen, Combopen, Diazepam and Trainers; Multi-dose Atropine Ampoules (1 mg/ml, 10ml); Ciprofloxacin tablets, 500 mg; Reactive skin decontamination lotion (RSDL) pouches; and Potassium iodide tablets, 130 mg.	Medical		2001-2002 and later	Components are harder to acquire and store (expensive, not widely available, strict licensing restrictions) and/or require a long lead time for procurement Based on current risk assessment
Pandemic response supplies	Supplies include: antiviral agents, antibiotics specific to pandemic response, syringes, ventilators and related oxygen supply equipment, personal protective equipment (masks, face shields, gloves), and other supplies such as gowns, disposable sheets, pillows, needles, syringes, body bags, etc.	Medical		2004-2005 and later	In response to SARS an H1N1 public health events
Mini clinics	These portable clinics supplement existing medical care facilities in a disaster situation that overwhelms their system. It would be located adjacent to these facilities to triage and treat the less seriously injured (see p. 8 for detailed description).	Medical		2009-2010 and later	Replaced the Casualty Collecting Units (CCUs)

Legend:

ORANGE = Recommendation #2, Disposal of (a) equipment and supplies that are outdated, and (b) individual social service items and units

PURPLE = Recommendation #1, Focus on an appropriate public health role when determining future strategic mix of assets

Appendix E: Changes in the legislative framework

Under the Canadian *Constitution Act, 1867*, the federal government has the responsibility to provide for the safety and security of Canadians facing emergency situations. Over the past 30 years, there have been significant changes in the legislative framework linked to public health emergency management generally and the NESS program specifically:

- The *Food and Drugs Act* (1984) enables the Minister of Health to take temporary measures to deal with a significant risk to health, safety or the environment. For example, under the Act an interim order may be passed to support the approval of new drugs or vaccines when normal regulatory requirements cannot be met.
- The *Emergencies Act* (1985) was issued to authorize the Government of Canada to take special temporary measures to ensure safety and security during national emergencies. For example, in regard to public welfare emergencies, the Act provides legislative direction related to the distribution and availability of resources, such as essential goods and services, for domestic emergencies, as well as the establishment of emergency hospitals and shelters.
- The *Transportation of Dangerous Goods Act* (1992) was enacted to ensure public safety in the transportation of dangerous goods in Canada. The Act regulates the movement of hazardous goods by all means of transportation: road, rail, air and ship. It is meant to enhance the safety of the person involved in the transport as well as the general public.
- The main purpose of *Quarantine Act* (2005) was to help prevent the introduction and dissemination of communicable disease arriving in or departing from Canada. This legislation provides the Government of Canada with the authority and modern tools to respond immediately to unpredictable threats and risks that endanger global public health. It was intended to complement existing provincial and territorial public health legislation and to enable Canada to meet its obligations under the *International Health Regulations* (2005).
- The enactment of the *Emergency Management Act* (2007) was an important step forward in the federal government's effort to consolidate emergency management in Canada. The Act establishes roles and responsibilities for all federal Ministers across the full spectrum of emergency management, to ensure that Canada is well prepared to mitigate, prepare for, respond to and recover from natural and human-induced risks to the safety of Canadians.

Appendix F: Domestic case studies

Department of National Defence (DND)

Information for this section was obtained from interviews, the PHAC survey, documents provided by DND and an extensive web search.

What is the mandate of DND's emergency stockpile?	<p>The Canadian Forces (CF) has the mandate to provide its own health care in accordance with the <i>Constitution Act, 1867</i>, the <i>National Defence Act</i> and Queen's Regulations and Orders, and its exclusion under the <i>Canada Health Act</i>.</p> <p>The Canadian Forces Health Services (CFHS) is the designated health care provider for Canada's military personnel, delivering health services at military installations across Canada and overseas. It provides health services support to operations and maintains an emergency stockpile to meet military operational requirements. In certain circumstances, civilians may also receive medical care from the CF or have access to specialized drugs in the stockpile.</p> <p>The CF's Disaster Assistance Relief Team (DART) supports the Government of Canada in providing humanitarian aid and disaster relief. An emergency stockpile is maintained to support its operations.</p>
What is in the stockpile?	<p>Products in the medical stockpile are used to prevent CF personnel from becoming casualties, and diagnosing and treating those that do. They include specialized drugs, such as antivirals and vaccines, and medical supplies, such as gloves and masks. Special attention is given to preparing for a Chemical, Biological, Radiological-Nuclear and Explosives (CBRNE) incident or a pandemic.</p> <p>Products in the non-medical stockpile include supplies such as cots, blankets and tents. These supplies are intended for deployed military personnel.</p>
How are needs assessed?	<p>The Canada First Defence Strategy is a policy statement that describes the CF's core missions. The Strategy, combined with other policy documents, contingency plans (CONPLANS), and global threat and risk assessments, determines operational requirements.</p>
How is the stockpile system managed?	<p>CFHS maintains most of its medical supplies at the Central Medical Emergency Depot (CMED). Smaller quantities are maintained at "distribution points" or "medical provisioning points." Vendor management is rarely used because many companies do not have the plans and protocols necessary to meet CF requirements for emergency distribution.</p> <p>CFHS has responsibility for full life-cycle management of the medical stockpile, including logistics. There is a computerized inventory management system in place, including a mechanism for purchasing stock as it is depleted. Standing offers with medical suppliers are frequently used to replace depleted stocks.</p>

	CFHS routinely reviews its inventory to ensure it is current and disposes of inventory as required. CFHS replaces expiring drugs and medical supplies because it is not feasible to move them to other markets.
International Response: What is DART?	<p>DART is a multidisciplinary military organization that can be deployed on short notice anywhere in the world in response to situations ranging from natural disasters to complex humanitarian emergencies.</p> <p>DART is made up of about 200 CF personnel and comprises three components: engineering (water, bridges and light construction); medical treatment; and defence and security:</p> <ul style="list-style-type: none"> ▪ Engineer Troop: Engineer Troop includes both field engineers (in the Water Supply Section, Heavy Equipment Section and Field Engineering Section) and construction engineers, to provide limited utilities and vertical construction services. ▪ Medical Platoon: The members of Medical Platoon operate a medical aid station, a small tented facility offering laboratory, pharmacy, rehydration, preventive medicine and limited obstetrics services. It does not provide surgical or trauma care services. The health care centre can serve 250 to 300 outpatients and 10 inpatients per day, depending on their needs. ▪ Defence and Security Platoon: Defence and Security Platoon is DART's source of security and general labour services.
How is DART deployed?	<p>There is a small CMED detachment positioned in Trenton to manage and maintain the DART "kit," including drugs and medical supplies.</p> <p>DART deploys outside Canada only in response to a formal request for its services, either from the affected country or from an international organization such as the United Nations. The Government of Canada bases its decisions to deploy DART on advice from the Department of Foreign Affairs and International Trade, the Canadian Expeditionary Force Command and the Canadian International Development Agency.</p> <p>DART is equipped to conduct humanitarian and disaster-relief operations for up to 40 days, to bridge the gap until national and international aid agencies arrive to provide long term help. DART can deploy some, or all, of its flexible package of capabilities as the situation demands.</p> <p>DART has not been deployed domestically and does not have a defined role for domestic emergencies; this may be explored further by Canada Command.</p>
What is DND's current relationship with the Public Health Agency and the NESS?	<p>DND has no role in the management (storage, deployment and utilization) of the NESS.</p> <p>DND participates in the Public Health Agency-led Pandemic Influenza Advisory Committee and in yearly meetings with the Public Health Agency to discuss threats and risks related to the NESS and the National Antiviral Stockpile. Other ad hoc meetings are held to share knowledge and expertise on specific issues.</p> <p>DND currently has a Memorandum of Understanding (MOU) with the Public</p>

Health Agency for storage of a vaccine system at the NESS, but it has not yet been implemented. DND and the Public Health Agency have undertaken joint purchasing arrangements, as well as stability testing of stockpiled products.

In its role of providing support to the Government of Canada, DND participates with other government departments, including the Public Health Agency, in planning for special events such as the 2010 Winter Olympic Games.

**Opportunities for
the future**

Future opportunities to work with the Public Health Agency and the NESS may include mutual partnership agreements; joint procurement, particularly for expensive products such as vaccines; joint advisory committees; and knowledge sharing.

Canadian Red Cross

Description: The Canadian Red Cross is a member of the International Red Cross and Red Crescent Movement of nationally-incorporated non-profit and humanitarian National Societies. Each operates as an auxiliary service that assists public authorities in the humanitarian field, based on the Geneva Conventions. Consistency of operations and solidarity between National Red Cross and Red Crescent Societies is achieved by adhering to seven fundamental principles: humanity, impartiality, neutrality, independence, voluntary service, unity and universality.^D

What is the Canadian Red Cross? The Canadian Red Cross operates under the 1909 *Canadian Red Cross Society Act* and is active in a number of humanitarian domains in Canada^E and internationally, such as domestic and international disaster management health/injury prevention (e.g. swimming lessons, first aid training, Health Equipment Loan Program and Homecare Services); a Humanitarian Issues Program (reuniting individuals with their families and a Detention Monitoring Program); a Violence and Abuse Prevention Program; and promotion of International Humanitarian Law.

It is important to note that the Canadian Red Cross wishes to update the 1909 Act to strengthen the foundation of the Canadian Red Cross's activities in a legal sense, e.g. to protect the use of the Red Cross and Red Crescent emblems, and to shape a more holistic relationship with the federal government.^F

Domestic disaster-management services The Canadian Red Cross's domestic disaster management services are focused on provision of emergency social services, such as family reunification (evacuee registration, searches and inquiry matching), basic needs (food, shelter, clothing and personal needs) and information management (call-centre operations and service information). In addition to direct services, the Canadian Red Cross also provides donations management and volunteer resource management.

To support service delivery, the organization participates in planning and exercises. This work is governed by Memoranda of Understanding (MOU) with Public Safety Canada, with provinces and territories, and with over 800 municipalities. The MOUs specify areas in which the Canadian Red Cross can assist public authorities in emergency preparedness and response.

The 2006 MOU with Public Safety Canada sets out four objectives:^G

- identify ways that the Canadian Red Cross can assist an emergency response
- publicly promote emergency preparedness
- participate in training and exercises
- define a common approach to emergency management (including through standards and best practices).

Working as an auxiliary to existing government services and operating under four geographical Zones, Canadian Red Cross volunteers respond to local

^D <http://www.redcross.ca/article.asp?id=000318>

^E 2008 CRC Partnering to Build a Resilient Civil Society report

^F Ibid.

^G Ibid.

events, most commonly by providing support for 72 hours to people displaced by house fires. Volunteers assisted 11,042 people in this way in 2009. The Canadian Red Cross has also assisted in larger regional emergencies, such as the ice storm in Ontario and Quebec (1998), the diversion of air traffic to Canada following the “9-11” terrorist attacks in the United States (2001), British Columbia forest fires (2003) and the aftermath of Hurricane Juan in Atlantic Canada (2003). Most recently, in 2010 the Canadian Red Cross assisted 11,958 people during events such as the Gaspésie, Saskatchewan and New Brunswick floods and extreme weather in Ontario.

In addition, Canadian Red Cross volunteers responded to non-traditional disasters by providing support to people who were isolated by the Severe Respiratory Syndrome (SARS) outbreak in Toronto (2003)^H and to community vaccination centres during the H1N1 outbreak (2009). In the future, the society could provide similar community-based services for epidemics of communicable diseases.^I

This domestic response capacity is entirely distinct from the international rapid-response warehousing and deployment capacity that the Canadian Red Cross maintains with the support of the Canadian International Development Agency.

How does the Canadian Red Cross manage inventory?

The Canadian Red Cross has its own regionally managed, volunteer-run inventories of basic emergency social service supplies, consisting mainly of cots that are returned after use and items that are given away, e.g. comfort kits, blankets, water bottles, teddy bears, etc.^J

Locally and regionally, inventory levels and locations vary according to:

- risk assessments carried out within each geographical Zone
- specific arrangements via MOU, e.g. in the case of Quebec, the Canadian Red Cross manages a stockpile on behalf of the province; in other jurisdictions there is no MOU and limited capacity where provinces may have their own stockpiles
- capacity to purchase inventory and access storage space as a result of donations.

Opportunities for collaboration

There is an opportunity to share ideas with the Canadian Red Cross on procurement arrangements with suppliers and maintaining a flexible response capacity that is appropriate to local or regional needs.

The Canadian Red Cross is also interested in furthering a “whole-of-government” approach to disaster management services, including coordination of stockpiles, through collaborative bodies at Public Safety Canada and the Public Health Agency of Canada, e.g. the Council of Emergency Social Services Directors.

^H 2008 CRC Partnering to Build a Resilient Civil Society report

^I Interview, 14 January 2011

^J Ibid.

Appendix G: International case studies

United States: Centers for Disease Control and Prevention - Strategic National Stockpile

Background^K

In 1999, the United States Congress tasked the Department of Health and Human Services (DHHS) and the Centers for Disease Control and Prevention (CDC) with the establishment of a national pharmaceutical stockpile system, after March 2003 referred to as the Strategic National Stockpile (SNS).^L Congress supports CDC's public health preparedness and response activities.

The CDC's Office of Public Health Preparedness and Response manages two programs:

- **Public Health and Emergency Preparedness (PHEP) Cooperative Agreement**

CDC's PHEP cooperative agreement funds 62 state, locality and U.S.-insular-area public health departments to build and strengthen their ability to respond effectively to public health emergencies. The PHEP cooperative agreement funding includes support for the Cities Readiness Initiative of the SNS. This program focuses on enhancing preparedness for responding to a large-scale bioterrorist event within 48 hours in the nation's largest cities and metropolitan statistical areas, where more than half of the U.S. population resides.

- **Strategic National Stockpile (SNS)**

The SNS program is managed by the DHHS. CDC's Division of Strategic National Stockpile (DSNS) operates and maintains the SNS.

The core mission of the SNS is to “*deliver critical medical assets to the site of a national emergency*,”^M specifically guaranteeing the delivery of “12-Hour Push Packages” within 12 hours of the federal decision to deploy.^N

DSNS is responsible for:^O

- creating pathways to move the materiel to the area of need in the timeframe that is clinically relevant
- assuring integration with local planning (medical response is local)
- providing technical assistance to assure that all localities, states and federal agencies funded by the PHEP cooperative agreement have plans in place to receive, stage, store, distribute and dispense medical assets from the stockpile as well as other sources^P
- maintaining materiel in a manner that assures viability.

While the mandate is essentially domestic, the CDC/SNS have responded internationally when required, according to federal policy decisions. In addition, the U.S. government has commitments to the World Health Organization (i.e. the *International Health Regulations*).

^K Much of the information for this section may be found at: <http://www.bt.cdc.gov/stockpile/>

What is the SNS? The SNS is a network of strategically located storage facilities. The stockpile represents a real, material asset in federal warehouses, which can be quickly activated to meet the country's needs during a crisis.^Q

The SNS maintains ownership of the inventory and is responsible for storing, monitoring and maintaining the inventory, which is located in secure, environmentally controlled areas throughout the United States.^R CDC currently maintains several large secure warehouses across the country, as well as an undisclosed number of smaller facilities nationwide.

The SNS is not intended as a first response tool; it is designed to supplement and re-supply state and local public health departments in the event of a national emergency anywhere and at any time within the United States or its territories.^{S,T}

What is in the stockpile? The SNS contains a portfolio of antibiotics, medical supplies, chemical antidotes, antitoxins, antivirals, vaccines and other pharmaceuticals.^U Since the SNS was created, medicines and medical supplies to fight against pandemic flu have been added, including antivirals, respirators, masks and gloves.^V It should be noted that the SNS does not stock social service supplies.^W

Materials in the stockpile are standardized, i.e. number and type. The stockpile contains:^X

- 12-Hour Push Packs (less than 5% of the SNS inventory), including
 - broad-spectrum oral and intravenous antibiotics
 - other medicines for emergency conditions
 - intravenous fluids and fluid administration kits
 - airway equipment, such as endotracheal tubes, stylettes, oropharyngeal airways, Ambu-Bags and CO₂ detectors

^L The name was changed from the National Pharmaceutical Stockpile to the Strategic National Stockpile, March 1, 2003. Also see, <http://www.ndu.edu/CTNSP/docUploaded/DTP3%SNS.pdf>

^M Presentation: <http://www.blsmeetings.net/2009GHSImeetingsMCM/presentations/Plenary/Burel-DSNS.pdf>

^N Interviewees indicated that not all products have a 12 hour delivery timeframe. The 12-hour delivery guarantee is for the 12-hour Push Packages only; 130 containers (50 tons) of product have been developed specifically for rapid response.

^O Presentation: <http://www.blsmeetings.net/2009GHSImeetingsMCM/presentations/Plenary/Burel-DSNS.pdf>

^P Ibid.

^Q Interviewees noted that the SNS also owns Vendor Managed Inventory (VMI) which is actual product on shelves at vendor locations. Over time, as the SNS requirements have grown, there have been fewer and fewer VMI opportunities. Today, SNS needs far surpass what vendors can rotate through commercial supply chains. As a result, VMI is a much smaller component of the SNS. Instead, the SNS includes far more managed inventory (MI) which is product purchased and stored by the SNS.

^R Ibid.

^S CDC Report (September 2010) (p.11) (cited above)

^T Web site: <http://www.bt.cdc.gov/stockpile/>

^U Interviewees indicated the value of the program is \$4.5 billion, up from \$3.5 billion in 1999. This information is also provided in a Ppt presentation entitled: "Strategic National Stockpile: Overview", Division of Strategic National Stockpile, Coordinating Office for Terrorism Preparedness and Emergency Response, Centers for Disease Control and Prevention, November, 1999.

^V Interview

^W See: Homeland Security, National Response Framework January 2008. This document outlines the roles/responsibilities of various federal, state, local, private sector, NGO, etc., players in providing emergency responses and supplies. Overall coordination is under the purview of Homeland Security's Federal Emergency Management Agency (FEMA).

^X SNS Web site

- bandages
- managed inventories maintained by the SNS or by specific vendors or manufacturers, including:
 - vaccines
 - antitoxins (e.g. botulinum)
 - ventilators^Y
 - additional quantities of 12-Hour Push Pack items
- agents in the stockpile that could be used for medical problems related to radiological or nuclear events, including
 - chelating agents: calcium and zinc DTPA
 - Prussian blue
 - potassium iodide
 - growth factors / cytokines for white blood cells.

The SNS also has temporary equipment sets referred to as Federal Medical Stations (FMS).^Z An FMS is a cache of medical supplies and equipment that can be used to set up a temporary, non-acute medical care facility. Each FMS has beds, supplies, and medicine to treat 250 people for up to three days. Most of the items in the set are expendable, with only a few recoverable items. A 250-bed FMS consists of three modules:

- *Base Support*: administrative, food service, housekeeping, basic medical supplies, and personal protective equipment; there are five-bed units, with 50 beds each
- *Treatment*: medical/surgical items
- *Pharmacy*: medications.

In addition, in 2004 CDC established CHEMPACK, a voluntary participation project for the “forward placement” of sustainable repositories of nerve agent antidotes in numerous locations throughout the United States, so that they are immediately accessible for the treatment of affected persons. Under this project, the SNS:

- maintains ownership of the CHEMPACK stockpile
- in conjunction with state and local officials, places the antidotes in numerous strategically placed containers under controlled and monitored storage conditions for use in the event of an emergency involving nerve agents
- implements strategies to maximize the shelf life of the antidotes to minimize re-procurement costs and maintain quality, specifically through the Federal Drug Administration’s Shelf Life Extension Program.^{AA}

CDC’s CHEMPACK program has been fielded in all states and has placed

^Y <http://www.news-medical.net/news/20091020/CDC-stockpiles-ventilators-for-use-during-public-health-emergency.aspx>

^Z SNS web site and interview (It was noted that FMS sets do not include any tentage or other portable structures and rely on being established in a “building of opportunity”.)

^{AA} Strategic National Stockpile Program (SNS), Office of Terrorism Prevention and Emergency Response (OTPER), Centers for Disease Control and Prevention (CDC), CHEMPACK PROJECT, Operational Protocol, June 14, 2004

^{BB} Public Health Preparedness: Mobilizing State by State (<http://www.bt.cdc.gov/publications/feb08phprep/section1/response.asp>); and interview

over 1,900 containers of nerve agent antidotes.^{BB}

How does CDC respond to requests?

The plan is to deliver critical medical resources to the site of a national emergency when local public health resources would likely be or have already been overwhelmed by the magnitude of the medical emergency.

Pre-event requests for SNS resources might include:

- actionable intelligence indicating an impending chemical, biological, radiological/nuclear, or large explosive attack or overwhelming public health disaster
- analysis of data derived from syndromic or epidemiologic surveillance
- a sentinel event, such as a single case of smallpox.

Leading up to or following an incident, assets of the SNS can be requested by:

- state departments of health, usually in conjunction with the state governor. To receive SNS assets, the affected state's governor's office would directly request deployment of SNS assets from DHHS/CDC, or as part of a formal request for federal assistance through the national emergency response system (DHHS).^{CC}
- national agencies, e.g. the Federal Emergency Management Agency, the Federal Bureau of Investigation, in certain circumstances.

Requests are evaluated by the director of the CDC and the secretary of DHHS, and the SNS will be deployed if local resources are deemed insufficient. The CDC will assume the lead in deploying the SNS for local use, but coordination with the Department of Homeland Security may be required at times. In such instances, the two organizations will work together to evaluate the request and the situation and to determine a prompt course of action; if deployment is agreed upon, the assets that are most appropriate will be released.^{DD}

At the same time as assets from the SNS are deployed, the SNS program can deploy teams to provide on-site technical assistance and coordinate with state and local officials. In this way, SNS assets can be efficiently received and distributed on arrival at the site.^{EE} The decision to deploy is a collaborative effort between local, state and federal officials. States can request SNS assets when state and local public health systems become overwhelmed and local supplies are depleted or commercially unavailable.^{FF}

The first line of support lies with the immediate-response 12-Hour Push Package. DSNS refers to the push packages as its “core offering,” essentially a “one-size-fits-all” package. State and local first responders and health officials can use the SNS to bolster their response to a national emergency with a 12-Hour Push Package, Managed Inventory (MI) or a combination of both, depending on the situation. These caches of pharmaceuticals, antidotes and medical supplies are designed to provide

^{CC} Ibid and SNS web site

^{DD} Ibid and SNS web site

^{EE} Ibid.

^{FF} <http://www.ndu/edi/CTNSP/docUploaded/DTP3%SNS.pdf> (p. 8)

rapid delivery of a broad spectrum of assets for an ill-defined threat, in the early hours of an event.^{GG} The push packages are positioned in strategically located, secure warehouses ready for immediate deployment to a designated site within 12 hours of the federal decision to deploy SNS assets.

“The SNS has been supplemented by a second tier of medical products that are under the control and management of selected, pre-qualified vendors.”^{HH} If the incident requires additional pharmaceuticals and/or medical supplies, follow-on MI supplies will be shipped to arrive within 24 to 36 hours. If the agent is well defined, the MI can be tailored to provide pharmaceuticals, supplies and/or products specific to the suspected or confirmed agent(s). In this case, the MI could act as the first option for immediate response from the SNS program.^{II}

When required, the SNS also deploys Federal Medical Stations.^{JJ} These standardized caches of medical supplies and equipment are temporary, non-acute medical care facilities used primarily as shelters for seniors, children, persons with disabilities, etc.

How does the delivery system operate?^{KK}

Push packages are positioned in strategically located, secure warehouses ready for immediate deployment to a designated site within 12 hours of the federal decision to deploy SNS assets.

The 12-Hour Push Packages have been configured to be immediately loaded onto either trucks or commercial cargo aircraft for the most rapid transportation. Concurrent to SNS transport, the SNS program will deploy its Stockpile Service Advance Group (SSAG). SSAG staff will coordinate with state and local officials so that SNS assets can be efficiently received and distributed upon arrival at the site.^{LL}

What training is offered?

At the request of user organizations, CDC provides DVDs for training for the use of ventilators.

CDC also partners with organizations to offer webcast training. For example, in 2009 the CDC and the American Association of Respiratory Care partnered to offer a webcast training module to show doctors and first responders how to best use the LTV 1200 ventilator in an emergency. The webcast provides information on how to use the ventilator for patients with serious breathing problems caused by the H1N1 influenza virus.^{MM}

In order to help states prepare to manage, distribute and dispense SNS materiel during a public health emergency, a satellite broadcast presentation is available on the planning components (and is also available on DVD). In addition, the CDC recently started releasing podcasts on how to prepare for Technical Assistance Reviews (TARs), and other DVDs are currently in production to orient viewers on the SNS.

^{GG} Ibid.

^{HH} <http://www.ndu.edu/CTNSP/docUploaded/DTP3%20SNS.pdf> (p.4)

^{II} Ibid.

^{JJ} SNS Web site and interview

^{KK} SNS web site

^{LL} Ibid.

^{MM} The webcast is available for download at: http://www.aarc.org/headlines/09/09/webcast_training.cfm

Classroom training on a variety of topics is provided in Atlanta and in the field. Field courses are developed with state planners to customize the content to support the state's plans.

How are assets managed?

CDC is the only occupant of SNS facilities. To determine and review the composition of SNS program assets, HHS and CDC consider many factors, such as current biological and chemical threats, the availability of medical materiel, and ease of dissemination for pharmaceuticals. One of the most significant factors in determining SNS composition, however, is the medical vulnerability of the U.S. civilian population.^{NN}

The SNS program ensures that the medical materiel stock is rotated and kept within potency shelf-life limits. This involves quarterly quality assurance/quality control checks on all 12-Hour Push Packages; annual 100% inventory of all 12-Hour Push Package items; and inspections of environmental conditions, security and overall package maintenance (i.e. efficiently received and distributed on arrival at the site).^{OO}

Agreements with vendors provide that SNS owns the product, the operations are "turn-key" and CDC will have 24-hour access. Vendors have their own inventory management systems that must be compliant with current good manufacturing practices (CGMP).

Each state is responsible for ensuring all localities within its borders are prepared to manage, distribute and dispense SNS materiel during a public health emergency.^{PP} To help ensure readiness, there is a CDC DSNS program services consultant in each state, who works closely with the state SNS coordinator to review SNS programs on an annual basis.^{QQ} The state's SNS coordinator gathers all materials for review using a *Technical Assistance Review Tool Users Guide* and other evaluation-readiness scoring. Thirteen key elements are considered: developing an SNS plan; requesting SNS assistance; managing SNS operations; tactical communications; public information and communications; security; receiving, staging and storing; controlling inventory; repackaging; distribution; dispensing; hospitals and alternate care facilities coordination; and training, exercising and evaluating.

The U.S. Department of Veterans Affairs (VA) supports several federal stockpiling programs because of its "*existing national infrastructure and economical purchase prices.*"^{RR} The VA:

procures, stores, rotates, and manages pharmaceutical caches, strategically located throughout the country, to support the DHS National Medical Response Teams. In addition, the VA has an agreement with the Army Corps of Engineers to purchase and store a Congressional cache (activated following the anthrax letter attacks in the fall of 2001). The VA supports other entities by purchasing and storing pharmaceuticals, (e.g., Federal Bureau of Investigation and

^{NN} SNS web site

^{OO} SNS Web page

^{PP} Centers for Disease Control and Prevention, Coordinating Office for Terrorism Preparedness and Emergency Response, Division of Strategic National Stockpile Program Preparedness Branch, *State Technical Assistance Review Tool Users Guide*, December 2009.

^{QQ} It should be noted that DSNS staff provides technical assistance to both state and local SNS programs with planning, exercising, evaluating and training in order to achieve and maintain overall readiness in these critical preparedness functions. See: *State Technical Assistance Review Tool Users Guide*, revised June 2010

^{RR} http://pdm.medicine.wisc.edu/Volume_18/issue_4/koenig.pdf (p.330)

some Metropolitan Medical Response System caches for cities in the highest-risk areas). These caches are geared towards treatment of patients exposed to chemical, biological, and/or radiological agents, or high explosive events.⁵⁵

⁵⁵ Ibid. and interview

Australia: National Medical Stockpile

Background The Australian government formally established the National Medical Stockpile (NMS) in 2002. Emergency planning involving stockpiling started in the early 2000s in preparation for the Olympic Games in Sydney and was further precipitated by the events of September 11, 2001 in the United States.

Since 2004, in preparation for the next anticipated pandemic, the Department of Health and Ageing (DHA) has had a standing contract with vaccine manufacturers for the rapid development and supply of a pandemic vaccine,^{TT} antiviral agents and personal protective equipment (PPE).^{UU}

In 2009, emergency preparedness and response concentrated on dealing with the threat of the H1N1 influenza. In response, DHA purchased 21 million doses of the H1N1 vaccine from CSL Limited, based on coverage of 50 percent of the Australian population assuming a two-dose regime.^{VV}

What is the NMS? The NMS is a national strategic reserve of essential vaccines, antibiotics, antiviral drugs, chemical and radiological antidotes, and PPE.

How is the NMS governed? In June 2006, the Australian Health Ministers' Advisory Council (AHMAC) established the Australian Health Protection Committee (AHPC). The Committee is made up of state and territory Chief Health Officers, disaster health experts and other subject matter experts.

The AHPC provides advice to AHMAC on Australia's preparedness for health emergencies and approaches to coordinate the national response to significant incidents and to address any deficits.

The Health Emergency Management Branch (HEMB), Office of Health Protection, within the DHA, is responsible for managing the NMS, including inventory management, planning and developing Memoranda of Understanding with states and territories for deployment of the stockpile.

The role of HEMB is to provide "*effective risk assessment and coordination of national health responses to naturally occurring or deliberately introduced biological and emerging threats to the population*" and to coordinate the health sector's response to whole-of-government emergency management response activities.^{WW}

The Branch also provides strategic advice to the AHPC and has been used as a forum to share best practices through its subcommittee and special advisory committees/groups. For example, special committees include an "all-hazards" working group of medical experts, including a chemical, biological and radio-nuclear (CBRN) technical panel, where experts are able to exchange information.

^{TT} Australian Government, Department of Health and Ageing, Annual Report 2009-10, Biosecurity and Emergency Response, p. 329.

^{UU} Interview notes

^{VV} Australian Government, Department of Health and Ageing, Annual Report 2009-10, Biosecurity and Emergency Response, p. 329.

^{WW} <http://www.health.gov.au/internet/main/publishing.nsf/Content/php-about.htm>

What are the roles of partners?	<p>Every state and territory has its own stockpile, including an inventory of antiviral agents. Australia's planning and response to pandemics relies on partnerships between the DHA and its state and territory counterparts.^{xx}</p> <p>The Australian Red Cross Society is a major partner in responding to disasters in Australia. The DHA provided \$5 million to the society in 2009-10 to support a broad range of health-related humanitarian work and community activities, including disaster preparedness, first aid, disaster response and refugee services, and the society's work in the Asia-Pacific region.^{yy}</p>
What is in the stockpile?	<p>The NMS provides a key reserve of essential medicines and equipment to protect Australians from the effects of chemical, biological and radiological terrorism or a major communicable disease outbreak.</p> <p>The stockpile is designed to supplement existing medical stocks kept in the Australian hospital system, to ensure that medical supplies do not run low in response to an incident in Australia. It also includes specialized medical supplies, such as the nation's stock of smallpox vaccine.</p> <p>The NMS does not stock social service supplies. The Australian Red Cross Society is funded by the Australian government and states and territories to provide social service supplies for both domestic and international emergency response.</p> <p>The Department of Families, Housing and Community Services and Indigenous Affairs provides funding to non-governmental organizations for emergency relief and recovery arrangements that are provided locally.^{zz}</p>
How does the delivery system operate?	<p>The NMS is kept in various strategic locations around Australia. Specific details of the stockpile's contents are not publicly released for security reasons.</p> <p>All jurisdictions possess a pharmaceutical stockpile separate from the NMS and all jurisdictions maintain stockpiles of PPE for responding to a CBRN health disaster or pandemic influenza. This is confirmed by the <i>National Health Disaster Management Capability Audit 2008</i>, released March 23, 2010, which states: "All jurisdictions have undertaken assessments of hospital embedded stocks and/or manufacturer stockholdings. At the time of survey completion, most states and territories reported Oseltamivir (Tamiflu) stockpiles. Three States (Victoria, Queensland and South Australia) also reported Zanamivir (Relenza) stockpiles."^{aaa}</p> <p>Australian state and territory authorities have constitutional responsibility, within their boundaries, for coordinating and planning for response to disasters and civil emergencies. When the total resources (government, community and commercial) of an affected state or territory cannot reasonably cope with the needs of the situation, the state or territory</p>

^{xx} Australian Government, Department of Health and Ageing, Annual Report 2009-10, Biosecurity and Emergency Response, p. 328.

^{yy} DHA, Annual Report 2009-10, p. 330

^{zz} Interview notes

^{aaa} Australian Government, Department of Health and Ageing, Australian Health Protection Committee, National Health Disaster Management Capability Audit 2008, Health Emergency Management Branch, Office of Health Protection, 23 March 2010.

government can seek assistance from the Australian government.^{BBB}

The Australian Department of Defence has its own supplies in place. The Attorney-General's Department and other central agencies are interested in the stockpile from a national security and budget or funding perspective.

The Australian Customs and Border Protection Service and the Department of Agriculture, Fisheries and Forestry have limited PPE supplies for the protection of their own staff and draw on the NMS if required.

The DHA works closely with other agencies within the Australian government, state and territory health departments, and is supported by Aboriginal and Torres Strait Islander health organizations to achieve equality in health status and life expectancy for Aboriginal and Torres Strait Islander peoples.

How does the DHA respond to requests?

According to the AHPC's *National Health Disaster Capability Audit 2008*:

Current Australian health sector response arrangements dictate that, depending on the scale and nature of a presenting emergency, the health sector response may involve local, regional, state and national tiers of response. Surge theory and practice proposes that, as the resources of each tier become overwhelmed, response elements of the next tier are utilised. Medical surge is therefore a complex concept with many variables that influence capacity and capability across all tiers of the Australian health sector.^{CCC}

In terms of surge capacity, it is the role of states and territories to maintain all trauma and hospital services. The Australian government provides national coordination of acute care information, i.e. information sharing on vulnerabilities.

If there is an event of "national consequence" (e.g., two or more jurisdictions are affected, or a plane crashes in an urban area) then the Australian government coordinates the movement of patients and medical assistance teams. If a jurisdiction is overwhelmed, the Australian government will work with states and territories to coordinate the movement of assets.

In terms of CBRN antidotes, states and territories have limited capacity, and the Australian government is called upon to assist.

During the H1N1 pandemic (2009), states and territories did not have enough antiviral agents, in particular to meet paediatric requirements; therefore, it was decided that the NMS would buy and store these medicines and provide them to the states and territories as required.

How are needs assessed?

Decisions to use the NMS are based on both internal and external expert clinical advice and on threat and risk assessment from the Australian National Security Agency.

^{BBB} <http://www.ema.gov.au> (Emergency Management Australia (EMA) is an Australian Federal Government Agency tasked with coordinating governmental responses to emergency incidents. EMA currently sits within the Federal Attorney General's Department.)

^{CCC} National Health Disaster Management Capability Audit 2008, p. 5.

The budget for the NMS is determined by the Australian government as part of its annual budget process.

The CBRN committee, which meets on a regular basis, includes the NMS on the agenda as a standing item. Other work of the committee includes reviewing the stockpile each quarter; horizon scanning for the Executive; and meeting with representatives from pharmaceutical companies. The National Expert Advisory Committee meets at the same time.

In terms of detection assistance, the Australian government provides a budget to help state and territory laboratories detect threats, for instance, by providing quick diagnostics for influenza and to detect certain chemical agents.

The Australian government funds the Defence Science Technical Organisation that researches chemical warfare agents.

Current issues

There is currently a strategic review to look at how the NMS has been managed over time. A reference group has been established to review the final report and provide strategic advice.^{DDD} Areas of consideration include:

- management of the NMS, in particular future responsibility for procurement outside of the bureaucracy
- stock rotation (by states and territories, medical sphere) and market issues.

Current discussions

There have been quadrilateral discussions with the United Kingdom, the United States and Canada on CBRN emergency management.

^{DDD} Interview notes

Norway: Norwegian Emergency Preparedness Stockpile System (NOREPS)

Background^{EEE} The Norwegian Emergency Preparedness Stockpile System (NOREPS) was established as an ad hoc initiative in the aftermath of the 1991 Gulf War.

There were two forces driving creation of NOREPS: Norway's policy of supporting the lead role of the United Nations in humanitarian response; and political interest in flagging Norway as a major humanitarian actor.^{FFF}

What is NOREPS? The mandate of NOREPS, formally adopted in February 2000, outlines three objectives:

- to provide a system of preparedness to quickly meet immediate humanitarian needs in sudden crises
- to provide goods and services in the initial phase of crisis, for which the goods and services are appropriate, competitive and quality ensured
- to provide a contribution to a strengthened international coordinated crisis response.

The NOREPS system enables pre-packed products to be airborne within 24 hours and service packages and trained personnel to be on site within 72 hours.

^{EEE} Information was gathered from several documents including the NOREPS web site: <http://www.noreps.com>

^{FFF} Ibid.

**How is
NOREPS
governed?**

The Norwegian Ministry of Foreign Affairs (MFA) has the lead position as initiator. The public entity, Innovation Norway, is the administrator of the system.^{GGG} Innovation Norway is in charge of marketing, processing requests for in-kind donations, getting quotations for supplies and transportation, and presenting this information to the MFA for its decision.

Non-governmental organizations associated with NOREPS include:

- CARE Norge/Norwegian Church Aid
- Norwegian People's Aid
- The Norwegian Red Cross
- The Norwegian Refugee Council
- Save the Children Norway.

A government agency, The Directorate for Civil Protection and Emergency Planning (DCPEP), is also associated with NOREPS.

Commercial members, a select group of Norwegian suppliers of goods and services,^{HHH} pay for membership in NOREPS. Suppliers' products must go through a qualification process with the NOREPS system.

The network of partners is guided by a Member Meeting, a Working Group and an Advisory Group. New members and products must go through a qualification process, i.e. quality clearance, and must be approved by the Working Group.

**What is in
the
stockpile?**

NOREPS consists of three main components:^{III}

- goods from stockpiles or as in-kind donations. The NOREPS catalogue contains 75 different products for the relief market, from a total of 12 commercial suppliers. The products have all been vetted by the NOREPS system.
- NORSTAFF, an emergency staff roster system (and regional variants)
- service packages, which are made up of the equipment needed, as well as the installation and, if required, the staff to manage them. Service packages may be provided as deemed appropriate by the following organizations:
 - DCPEP: Norwegian Support Teams
 - Norwegian Church Aid (NCA): Emergency Water and Sanitation Preparedness Package
 - Norwegian Red Cross: Health Services Preparedness Package
 - Norwegian People's Aid: Mine Clearance Preparedness Package.

Service packages are self-contained modules with both the equipment and staff to carry out a particular function. The 2008 *Evaluation of the Norwegian Emergency Preparedness System* indicated that three of the service packages had been widely used:^{JJJ}

^{GGG} Innovation Norway is a state-owned company. As of 1 January 2004 the new state owned company replaced the following organizations: The Norwegian Tourist Board, the Norwegian Trade Council, The Norwegian Industrial and Regional Development Fund, SND and The Government Consultative Office for Inventors, SVO.

<http://www.innovasjon norge.no/Om-oss/Innovation-Norway/>

^{HHH} Nordic Consulting Group and Channel Research, *Evaluation of the Norwegian Emergency Preparedness System* (NOREPS), January 2008, p. 17

^{III} *Ibid.*, p. 11

^{JJJ} *Ibid.*, p. 48

1. Norwegian Hospital (NORHOSP) is provided by the Norwegian Red Cross when deemed appropriate; the main clients are the International Committee of the Red Cross and the International Federation of Red Cross and Red Crescent Societies. NORHOSP is a module-based hospital centered on a surgical module. Prior to 2008, there was one complete NORHOSP set held in stock by the Norwegian Red Cross; Norway held another five sets for domestic emergencies. In the past, the domestic sets have been loaned out for international response.
2. Base camp packages are provided by DCPEP in support of the United Nations. At present, the World Food Programme (WFP) is the largest customer for base-camp packages.
3. The NCA water and sanitation package had been used within the Action by Churches Together (ACT) network on numerous occasions.

In terms of value, the 2008 evaluation of NOREPS reported that, in 2005, goods worth 428 million Norwegian kroner (NOK) were sold through NOREPS, with the MFA financing 30% of the cost and the requesting organizations covering the rest. Between 2001 and 2005 (excluding 2005), the 22 companies participating in NOREPS sold goods for approximately 1.3 billion NOK.^{KKK}

How does the delivery system operate?

NOREPS partner companies commit to stock approved products and to delivery to an international airport from their own premises in Norway within 24 hours of request.

NOREPS suppliers hold their stocks at a variety of locations, with the largest stock held in their own premises in Norway. Several suppliers are located near Gardermoen Airport.^{LLL}

The main depots are located in Norway, Brindisi (Italy) and Dubai with the United Nations Humanitarian Response Depot (UNHRD). A wide range of products is kept at each depot to enable the efficient and cost-effective dispatch of a range of vital items at the same time.

The related parts of NOREPS work independently of each other.^{MMM}

What are the lessons learned?

The 2008 evaluation of NOREPS reported that service packages could be more useful if they had been designed as smaller, more flexible modules. For example, the large size of a full NORHOSP made it too slow to deploy and too costly in terms of operating costs.^{NNN}

The evaluation also found that the nearer stocks are to a crisis site, the more effective they are at saving lives and preventing suffering. However, it noted, this advantage must be balanced against the cost of maintaining stocks at a lot of different locations and the longer turnover period. All items have a limited shelf life and are subject to deterioration in storage.^{OOO}

The 2008 evaluation indicated that individuals with significant emergency experience stressed the importance of stockpiles as a way of facilitating quick

^{KKK} Ibid., p. 59
^{LLL} Ibid., p. 35
^{MMM} Ibid., p.16
^{NNN} Ibid., pp.49-51
^{OOO} Ibid. p. 35
^{PPP} Ibid., p.34
^{QQQ} Ibid., p.39

responses to humanitarian crises:^{PPP} *“Good procurement cannot replace stockpiling because of the lead times involved in production of procured items.”*^{QQQ}

Endnotes

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Management Response to the Evaluation of the National Emergency Stockpile System

Note to Readers

The National Emergency Stockpile System (NESS) forms an important part of national emergency preparedness and response activities, and supports the Public Health Agency of Canada's (PHAC) mandate of protecting and promoting the health of Canadians. PHAC recognizes that the Canadian context for health emergency management has changed significantly since NESS was established in the 1950s and therefore it is modernizing the stockpile to ensure it continues to meet the needs of Canadians efficiently and effectively.

The recommendations as outlined in this evaluation will be addressed in the context of the broader modernization process already underway. PHAC has also already made progress towards implementing recommendations as outlined in the 2010 *PHAC Internal Audit of Emergency Preparedness and Response* and the 2010 *Health Portfolio H1N1 Lessons Learned* review.

The evaluation supports this work and PHAC accepts the recommendations with conditions. With a view towards continuing to protect the health of Canadians without disruptions, these recommendations will be addressed through a staged approach. An overarching strategic plan will include a policy and decision-making framework on international donations, and the strategic plan will be followed by an operational plan which will include a disposal strategy.

Throughout these initiatives, PHAC will engage stakeholders, including provinces, territories, other government departments, non-governmental organizations, and other key partners, to determine the best way to address recommendations, using available evidence and risk analysis. A complementary communications approach will be developed to increase awareness of the new strategic role for NESS.



COMMUNICATIONS ASSESSMENT

Evaluation Report and Management Response and Action Plan (MRAP): *National Emergency Stockpile System*

Issue:

- *The Evaluation Report focuses on the National Emergency Stockpile System. The release date is to be determined but should be within 90 days of CPHO approval.*

Please note: this initial communications assessment has been provided prior to CPHO approval of the report. It is subject to change pending assessment of the final approved report and the public environment at time of release.

Background / Summary:

There has been very little media coverage of the NESS in the past. Given past audits and evaluations of the NESS there may, however, be media interest in the number of recommendations from past reports that are still in progress at PHAC. The recommendations to review the asset mix and to subsequently develop a disposal strategy may also garner some attention. The Agency has made good progress in addressing these recommendations so it could respond well to related media inquiries.

Given the recommendation to assess the asset mix of the NESS and to address questions related to how it works in a greater surge supply environment, communications should also be sensitive to the current employees of the NESS who will want to see how they fit in with the path forward. Internal communications should be given a strong emphasis.

Additionally, given that recent NESS deployments have focussed on providing social services supplies to flood and fire evacuation and response, questions may arise as to why NESS would reduce this role, and what organizations may take it on in the future.

One of the recommendations is specifically focussed on Communications, particularly with stakeholders and will require communications planning and support and is being addressed through the MRAP.

Recommended Communications Approach:

Provide the following information:

External Communications:

☐ Proactive

☒ Reactive



Risk/probability of media attention when the report is released:

Risk: ☒ Low ☐ Medium ☐ High

Probability: ☒ Unlikely ☐ Likely ☐ Highly Likely

Recommended Products:

What products do you recommend to support the release of the report?

- ☐ No communications products required
- ☐ Media Lines ☐ News Release
- ☒ Q&As ☐ Backgrounder
- ☒ Other – Internal Communications Strategy

Identify if there are existing approved media lines which can be used. YES

Internal Communications Approach and Products:

Identify if the report impacts employees and if proactive employee communications are required. YES

Key Messages:

- The Public Health Agency of Canada welcomes the recommendations in the Evaluation of the National Emergency Stockpile System and has developed a management action plan to address each one.
- This Evaluation follows on the Audit of the general emergency preparedness and response capability of the Agency and is part of its ongoing process for continuous improvement. The recommendations add further refinement and direction to ongoing work.
- The Public Health Agency of Canada plays a vital role in the national system of health emergency response and as such it must clearly define its roles to complement the functions of all its partners. The National Emergency Stockpile System has an opportunity to renew itself to better support the needs of provinces and territories and the federal government to respond to health emergencies at home and abroad.
- It is expected that the management action plan will further strengthen the Agency's ability to respond to a variety of potential and likely public health emergencies.



Assessed by:

Name: [REDACTED]

Title: [REDACTED]

Communications Directorate

Date: May 6, 2011 (Revised February 6, 2012)

Approved by:

[REDACTED] Communications Directorate (February 7, 2012)

Program approvals

[REDACTED]

[REDACTED]

CEPR

[REDACTED]

EMCA

Routing Slip / Bordereau d'envoi

☒ Minister/Ministre ☐ CPHO/ACSP ☐ Associate DM/SM déléguée ☐ SADM/SMAP

PHAC Tracking/Docket Management/Suivi de l'ASPC/Gestion des dossiers

Correspondence- Briefing/
Correspondance -Section de

Approval/Approuvé

Program Contact/
Responsable de programme

Date

Tel:

Executive Director/
Directeur exécutif

Date

Tel:

Director General/
Directeur général

Date

Tel:

Cleared With / Avec l'accord de (if applicable/s'il y a lieu)

☒ Communications

☐ Finance/Finances

☐ HR/RH

☐ SPD /DPS

☐ Others/Autres

Date

Date

Date

Date

Date

Approved/Noted - Approuvé/Noté

☒

MAR 08 2012

Date

☒

MAR 07 2012

Date

☐

Date

☐

Infectious Disease Prevention and Control /
Prévention et contrôle des maladies infectieuses

Date

☐

Health Promotion and Chronic Disease Prevention/
Promotion de la santé et de la prévention
des maladies chroniques

Date

Emergency Management & Corporate Affairs/
Affaires organisationnelles et gestion des urgences

Date



MAR 08 2012

FOR INFORMATION

Your file Votre référence

11-123287 - 365

Our file Notre référence

MEMORANDUM TO THE MINISTER

**Posting of the National Emergency Stockpile System Evaluation Report and
Management Response and Action Plan**

SUMMARY

- An evaluation report on the National Emergency Stockpile System (NESS) (Appendix A) and accompanying management response and action plan (MRAP) (Appendix B) will be posted in both official languages on the Public Health Agency of Canada (PHAC) website in April 2012.
- The evaluation report recommends considering the elimination of social service supplies from the stockpile, establishing a strategy for the disposal of outdated supplies, determining the appropriate international role for the NESS, and clearly communicating PHAC's roles and responsibilities with respect to the deployment of NESS supplies.
- The NESS evaluation report and MRAP were assessed for communication risks (Appendix C). Media relations staff will be prepared with a reactive approach to any media inquiries.

BACKGROUND:

The NESS evaluation was initiated in response to a recommendation in the 2010 PHAC *Audit of Emergency Preparedness and Response*. The purpose of the evaluation was to gain an understanding of the extent of the NESS program's relevance and to provide guidance for program realignment and refinement. The evaluation also created an opportunity to explore the challenges faced by the program and examine how public health stockpiles are managed in other jurisdictions.

.../2

CURRENT STATUS:

The NESS evaluation report and MRAP have received my approval. The PHAC Evaluation Committee will continue to monitor progress toward the completion of all deliverables noted in the MRAP.

CONSIDERATIONS:

A key recommendation of the NESS evaluation is to concentrate on supplies that are aligned with PHAC's current mandate. PHAC should continue to ensure that the following stock is available for provincial/territorial surge: pandemic preparedness supplies; chemical, biological and radio-nuclear countermeasures; and medical and pharmaceutical supplies for planned mass gatherings of national significance and unplanned natural or man-made disasters. The evaluation also recommends that PHAC consider eliminating social service supplies in the stockpile, since some provinces and territories turn primarily to non-governmental organizations for social service support during emergencies.

In response to PHAC's 2010 *Audit of Emergency Preparedness and Response* and this NESS evaluation, PHAC's Centre for Emergency Preparedness and Response is moving forward in developing a new mandate, mission and vision for a strategic national stockpile that responds efficiently and effectively to protect and improve the health and safety of all Canadians. The NESS will work toward four strategic objectives:

- providing an around-the-clock state of readiness;
- providing and ensuring access to risk-informed and evidence-based strategic assets;
- ensuring effective pre-deployment through selected strategic sites; and
- achieving cost effectiveness through modern practices for stockpile management.

PORTFOLIO CONSIDERATIONS:

Health Canada participated in a survey of other government departments for this project and is aware of the recommendation to consider transitioning away from stockpiling social service supplies. Health Canada's First Nations and Inuit Health Branch has recommended a transition plan with appropriate safeguards to ensure that responsibility for these types of supplies is clearly articulated to and accepted by provinces/territories and non-government suppliers. This suggested approach will be implemented.

.../3

NEXT STEPS:

In accordance with the Treasury Board *Policy on Evaluation*, PHAC will be posting the NESS evaluation report and MRAP in both official languages on the PHAC website in April 2012.

PHAC officials are available to discuss this report and the management actions underway, should you or your staff be interested in further details.



MECS# 11-123287 - 365

Contact: [Redacted]
Telephone: [Redacted]

Attachments

- Appendix A – NESS evaluation report
- Appendix B – NESS MRAP
- Appendix C – Communications assessment

c.c. [Redacted]

ADVICE TO THE MINISTER

SUBJECT - SUJET

English:

SANDOZ DRUG SHORTAGE AND NESS SURGE SUPPLY

SYNOPSIS - SOMMAIRE

English:

As the provinces, territories, Health Canada, and Sandoz work on a strategy to address a shortage of injectable drugs used by hospitals, the Public Health Agency of Canada is able to offer its limited supply of some of these drugs to ease the burden in the most critical cases.

ANTICIPATED QUESTION - QUESTION PRÉVUE

English:

Why did it take this long for NESS access to be given to provinces following the drug shortages?

KEY MESSAGES - MESSAGES CLÉS

English:

The Government has offered provinces and territories access to the National Emergency Stockpile System to help alleviate shortages as a result of production problems at Sandoz.

The Public Health Agency of Canada maintains a limited supply of select drugs for surge capacity to supplement extraordinary needs of provinces and territories in times of emergency.

The Agency continues to monitor the situation and is in regular contact with provinces and territories.

Français:

SUPPLEMENTARY MESSAGES / MESSAGES SUPPLÉMENTAIRES

English:

Supplying these drugs will not compromise emergency preparedness.

Français:

BACKGROUND - CONTEXTE

PHAC and the provinces and territories have agreed upon a process and criteria by which they may be able to access these drugs should the provinces and territories again find themselves facing shortages as a result of production problems at Sandoz.

The quantities available are very limited but enough that they could address targeted short term gaps. For example, the NESS has medications to support 500 persons on ventilators for one week. As the quantities are very limited and would only represent a fraction of what provinces and territories use on a weekly basis.

The amounts of injectable morphine and antibiotics in the NESS are a sufficient quantity to help some facilities if they were in a critical situation for a short period of time.

ATTACHMENTS / PIÈCE(S)-JOINTE(S)

CONTACT INFORMATION / PERSONNES-RESSOURCE			
Subject Matter Expert/ Expert(e) en la matière:	Telephone/ Téléphone	Approved by/	Telephone/ Téléphone:
	Mobile/ Cellulaire:	Title/ Titre:	Mobile/ Cellulaire:
Alternate/ Secondaire:	Telephone/ Téléphone:		
	Mobile/ Cellulaire:		

Verification/ Vérification par le	Centre for Emergency Preparedness and Response	Approved / Approuvé
Date Verified/ Date vérifié par le	2012-03-26	
Division :		
Directorate/ Direction :		

CFO Approved/ Approbation par CSF :	
Branch/ Direction générale :	

Approved/ Approbation par	Approved by	Approved
I :		

Edit History / Éditions effectuées:		
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	2012/3/26 - 08:35:19 AM	
Created By / Créé par:		Date Created / Créé le: 2012-03-26
Modified By / Modifié par :	/HC-SC/GC/CA	Date Modified / Date modifié : 2012-03-26

Public Health Agency of Canada Briefing for Minister's Office

The National Emergency Stockpile System
Modernization
April 18, 2012



Purpose

To provide an overview of the National Emergency Stockpile System (NESS) modernization and disposal/donation options.

Role

- 24/7 emergency surge capacity for P/Ts when their capacities are overwhelmed
- Resources are deployed at P/T request
- 60% held at 11 Federal Reserve Warehouses across the country and 40% pre-positioned at 1300 P/T sites across Canada (currently)
- In addition to emergency deployments, NESS prepositions assets at large scale planned events, such as the G8/G20 Summits and the 2010 Olympic Games

History

Origins

- 1952: NESS established in a Cold War context
- 1960s: Mobile hospital program
- 1965: Authority to respond to floods and fires

Focus Change

- 2001: 9/11 Terror attacks adds to NESS focus
 - Medical Countermeasures
- 2003: SARS crisis again adds to focus
 - Pandemic response supplies

Results:

- 2009: H1N1 demonstrates the value of NESS

Current Holdings

Medical Equipment:

- Mini Clinics, x-ray machines, Casualty Collection Units
Quarantine Units, Emergency Hospitals, etc.

Medical supplies:

- stretchers, wound dressings, bandages, etc.

Pandemic Supplies:

- personal protective equipment, masks, gloves, disposable blankets, etc.

Pharmaceutical Stockpile:

- antivirals, antibiotics and chemical, biological and radio-nuclear countermeasures, etc.

Social Services Supplies:

- reception centres, generators, beds, blankets, towels, etc.

Need for Modernization

- Reviews
 - 2005: OAG Report
 - 2006: NESS Strategic Review
 - 2008: Senate Committee Study
 - 2010: Internal Audit of Emergency Preparedness and Response
 - 2011: Relevancy Evaluation of NESS (May 2012 release)
- The context of health emergency management has changed in Canada
- Some assets do not align with the current risk environment
- Other assets do not meet current standards of care
- Ongoing issues with disposal

NESS Modernization

From	To
<ul style="list-style-type: none"> • General response to peacetime disasters 	<ul style="list-style-type: none"> • Focused on strategic health emergency assets
<ul style="list-style-type: none"> • A single point for P/T surge capacity 	<ul style="list-style-type: none"> • Part of a larger, collaborative system (OGD, NGOs)
<ul style="list-style-type: none"> • Reactive decision making 	<ul style="list-style-type: none"> • Risk informed and evidence based decision making
<ul style="list-style-type: none"> • Designed for mass casualties 	<ul style="list-style-type: none"> • Adapted for response to CBRN events and pandemics
<ul style="list-style-type: none"> • 11 federal warehouses and 1300 prepositioned P/T sites 	<ul style="list-style-type: none"> • Half the warehouses and a few prepositioned sites
<ul style="list-style-type: none"> • Generalized role in providing emergency social service supplies 	<ul style="list-style-type: none"> • Strategic role in emergency surge social service supplies

Considerations

- NESS is insurance against negative outcomes during health events
- Disposal at the end of product lifecycles is necessary
- More strategic acquisition will reduce disposals
- Many NESS drugs are not ordinarily used in Canada (e.g. antivirals) so there is no market for their use
- Outdated equipment will be disposed in accordance with Treasury Board policies
- Disposal of drugs is more problematic as their limited shelf life results in more frequent replacement
- Lifecycle management is a a major component of the ongoing development of the NESS strategic and operational plans

Options for Drug Disposal

Process	Pros	Cons
Vendor Managed	<ul style="list-style-type: none">• No disposal• Can be more cost effective	<ul style="list-style-type: none">• Vendors are not often interested (less profit)• Limited to drugs stored in Canada
Donate	<ul style="list-style-type: none">• No disposal• Can be in the public interest	<ul style="list-style-type: none">• Authorities require Minister to declare drugs surplus• No market for some of the NESS drugs• Manufacturers may not appreciate the sudden excess supply
Incineration	<ul style="list-style-type: none">• Does not require recipient	<ul style="list-style-type: none">• Wasteful• Can carry significant costs

Moving Forward

- PHAC to continue addressing recommendations to modernize NESS stockpile
 - on-going development of a strategic plan, operational plan and disposal strategy
- Opportunities will be explored for delegated authorities or annual approval for surplus drugs with upcoming expiries.
- Provinces and territories will be provided with an update on the Evaluation of NESS and modernization.
- A communications strategy will be developed to inform P/Ts and other government departments of the new strategic direction of the NESS, including the closure of unneeded warehouses.

Public Health Agency of Canada Briefing for Minister's Office

The National Emergency Stockpile System
May 3, 2012



Purpose

To provide an overview of the National Emergency Stockpile System (NESS) and considerations for emergency social service supplies in the context of the recent evaluation



Mandate and Authorities

- 1952: NESS established in a Cold War context
 - Minister of Health granted Cabinet authority for stockpiling “essential health supplies for civil defence purposes”
- 1960, 1964: Funding for the emergency hospital program
- 1965: Authority to use health and welfare supplies for peacetime disasters
 - Cabinet approved, “in the event of a peacetime disaster, the use of emergency health and welfare supplies stockpiled regionally in Canada”

Focus Change

- 2001: 9/11 Terror attacks add to NESS focus
 - Medical countermeasures (e.g. smallpox vaccine)
- 2003: SARS crisis again adds to focus
 - Pandemic response supplies (e.g. antivirals)

Role

- 24/7 emergency surge capacity for P/Ts when their capacities are overwhelmed
- Resources are deployed at P/T request
 - holdings include pharmaceuticals, medical countermeasures, pandemic supplies, portable health units and social service supplies
- 60% held at 11 federal reserve warehouses and 40% pre-positioned at 1300 P/T sites across Canada
- In addition to emergency deployments, NESS pre-positions assets at large-scale planned events, such as the G8/G20 summits and the 2010 Olympic Games

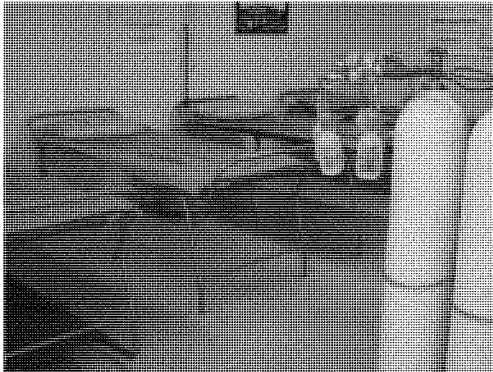
Pre-positioned Sites



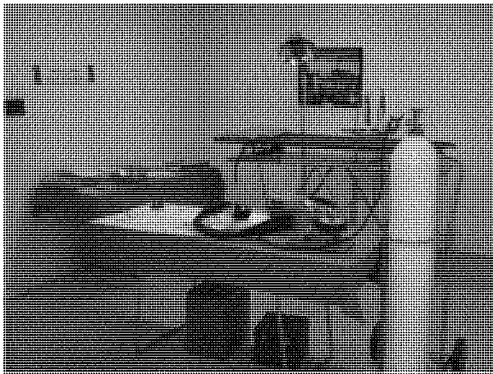
- Some medical supplies can be classified as social service supplies
 - e.g. stretchers/cots
- Most of the medical equipment is outdated
 - e.g. from the early 1960s
- Most of the outdated equipment still has social service value

1960 “Emergency field hospital” (MASH unit)

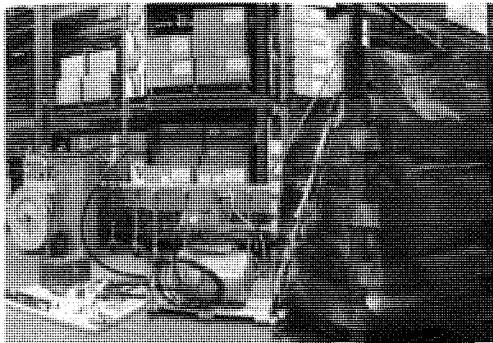
ward



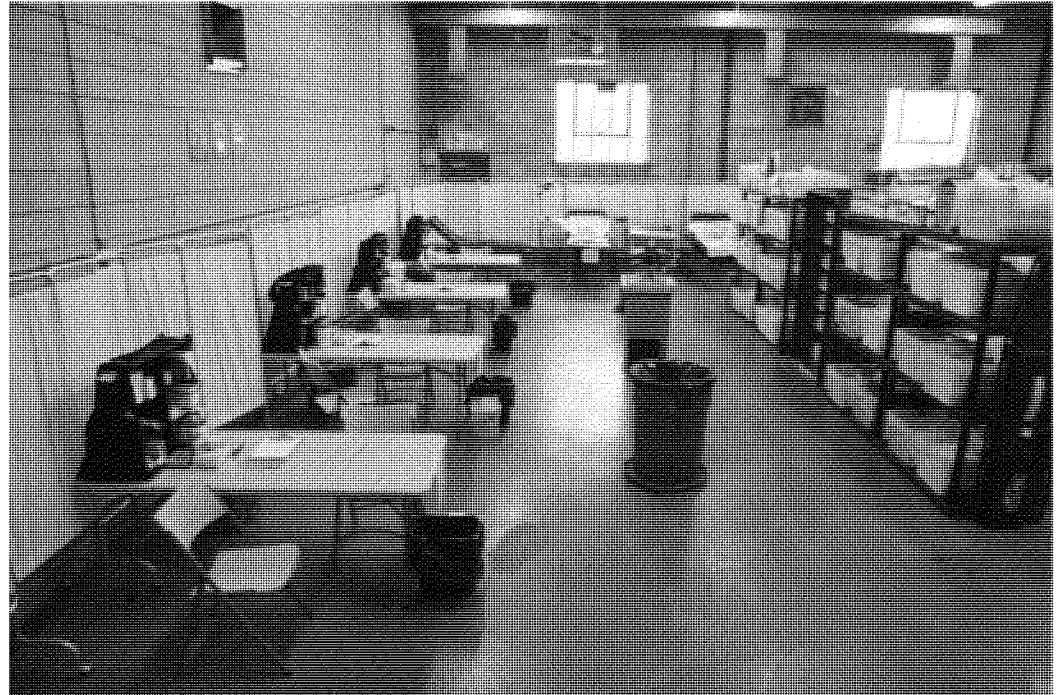
operating
room



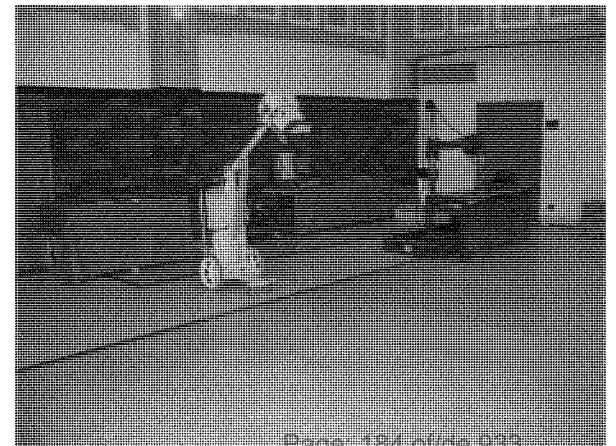
water tank
and pump



2010 mini-clinic (triage and treatment)



new versus old
x-ray machines

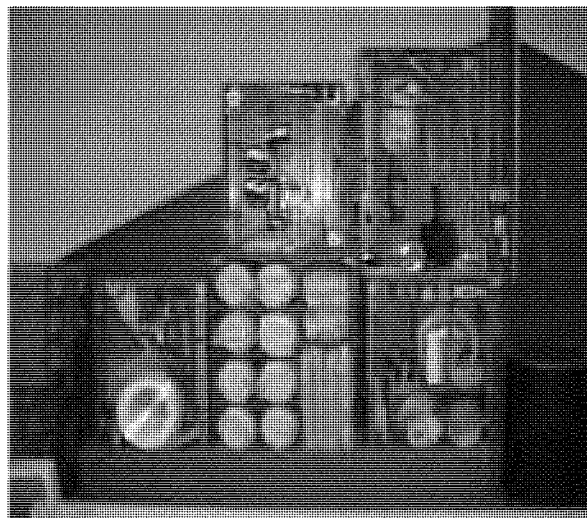


Emergency Social Service Holdings

- blankets [REDACTED], stretchers/cots ([REDACTED]), beds ([REDACTED]), pillows ([REDACTED])
- face cloths, towels, toiletries, diapers
- propane lanterns, flashlights, batteries, candles
- generators, garbage bags, water bottles
- registration and inquiry cards



Reception centre kits



Mobile feeding units

Limited P/T Demand and Use

- Historically, the demand for social service supplies has been far below the volume of supplies held in the NESS.
- The last simultaneous request for social service supplies (mostly beds and blankets) was for forest fires and floods in 2011.
 - These deployments represented approximately 6% of the beds and 0.7% of the blankets held in NESS.
- Some deployments are requested by a P/T but are not used.
- The only substantial social service deployment was during the 1998 Ontario/Quebec ice storm, where 80% of NESS beds/cots were deployed.
- In response to the 2001 9/11 incident (redirected aircraft), 10% of NESS beds and blankets were deployed.

Reviews Have Suggested the Need for NESS to Evolve

- Reviews
 - 2005: Office of the Auditor General report
 - 2006: PHAC-led *NESS F/P/T Subject Matter Expert Review*
 - 2010: *Internal Audit of Emergency Preparedness and Response*
 - 2011: Evaluation of NESS (May 2012 release)
 - First recommendation on social service supplies
- The context of health emergency management has changed in Canada
- Some assets do not align with the current risk environment
- Other assets do not meet current medical standards

Evolution of the NESS Could Involve...

From	To
<ul style="list-style-type: none">• general response to peacetime disasters	<ul style="list-style-type: none">• focused on strategic health emergency assets
<ul style="list-style-type: none">• a single point for P/T surge capacity	<ul style="list-style-type: none">• part of a larger, collaborative system (OGD, NGOs)
<ul style="list-style-type: none">• reactive decision making	<ul style="list-style-type: none">• Risk-informed and evidence-based decision making
<ul style="list-style-type: none">• designed for mass casualties	<ul style="list-style-type: none">• adapted for response to chemical, biological and radio-nuclear events and pandemics
<ul style="list-style-type: none">• 11 federal warehouses and 1300 pre-positioned sites	<ul style="list-style-type: none">• an optimal number of warehouses and pre-positioned sites based on risk and need
<ul style="list-style-type: none">• general role in providing emergency social service supplies	<ul style="list-style-type: none">• strategic role in emergency surge social service supplies

2011 PHAC Evaluation of the NESS

- The 2011 NESS evaluation was initiated in response to a recommendation in the 2010 *PHAC Internal Audit of Emergency Preparedness and Response*
- The purpose was to:
 - gain an understanding of the extent to which the program continues to be relevant (i.e. addresses a documented need) and reflects the roles/priorities of the Government of Canada and PHAC
 - examine program performance
 - explore opportunities for program realignment/refinement where appropriate

Evaluation and Response

- Evaluation recommendation: “Consider eliminating social service supplies from the NESS asset mix while ensuring their continued availability.”
- **PHAC is of the view that social service supplies should not be eliminated from the NESS**
 - However, there may be opportunities to adjust current inventory volume and management practices based on risk and historic use.
 - A complete analysis is underway and will come to the Minister with our advice and options for consideration.
- NESS will continue to ensure sufficient emergency response capacity is maintained in Canada and not make any significant decisions without consultations with P/Ts and other relevant stakeholders
- **The Minister will be briefed regularly on modernization efforts and approval will be sought at all key decision points**



AUG 03 2012

FOR INFORMATION

Your file Votre référence

12-109405 - 344

Our file Notre référence

MEMORANDUM TO THE MINISTER

Posting of the National Emergency Stockpile System Evaluation Report and Management Response and Action Plan

SUMMARY

- The Public Health Agency of Canada's National Emergency Stockpile System (NESS) is a system of 11 federal warehouses and approximately 1,000 pre-positioned sites containing medical equipment and supplies, pharmaceuticals, social service supplies (e.g. beds and blankets) and various units, such as casualty collection units and mini medical clinics.
- The NESS offers surge capacity by providing emergency supplies to provinces and territories upon request. A request to access NESS supplies is triggered when provinces and territories have exhausted their own emergency supplies. In some instances (e.g. highly specialized drugs or certain medical countermeasures), the federal government is the sole holder of the supply in Canada.
- An evaluation of the NESS was conducted to respond to a recommendation in the Agency's 2010 *Audit of Emergency Preparedness and Response*. Of note, one of the recommendations in the evaluation report was that the Agency consider eliminating the social service supplies (e.g. beds and blankets) in the NESS. Since 1985, approximately half of NESS deployments have included social service supplies. The management response and action plan (MRAP) for the evaluation elected to retain social service supplies, respecting the original Cabinet mandate. The MRAP also includes the development of a NESS policy frame, which will be submitted for your consideration. Following this, an optimization plan will be implemented.
- The attached evaluation report (Appendix A) and accompanying MRAP (Appendix B) will be posted in both official languages on the Agency's website during the week of August 27, 2012.

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BACKGROUND:

The NESS program was created almost 60 years ago by Cabinet decision. [REDACTED]
[REDACTED]

The main purpose of the evaluation was to assess program relevance. The evaluation also explored the challenges faced by the program and examined public health stockpiles in other jurisdictions.

CURRENT STATUS:

The NESS evaluation report and MRAP have received my approval. The Agency's Evaluation Committee will continue to monitor progress toward the completion of all deliverables noted in the MRAP.

CONSIDERATIONS:

A key recommendation of the NESS evaluation was to concentrate on supplies that are aligned with the Agency's current mandate. The Agency should continue to ensure that the following stock is available for provincial/territorial surge capacity: pandemic preparedness supplies; chemical, biological, and radio-nuclear countermeasures; and medical and pharmaceutical supplies for planned mass gatherings of national significance and unplanned natural or man-made disasters.

The evaluation also recommended that the Agency consider eliminating social service supplies in the stockpile, since some provinces and territories turn primarily to non-governmental organizations for social service support during emergencies. In addition, the evaluation also recommended that the Agency develop and implement a disposal strategy for those items in the NESS that are outdated, of poor quality, or do not meet current medical care standards.

In keeping with Treasury Board Secretariat guidance, the Agency prepared an MRAP to accompany the evaluation, which gives management scope to agree, agree with conditions, or disagree with the recommendations.

Agency management did not accept the recommendation to consider the elimination of social service supplies from the asset mix, nor to develop a disposal strategy for such supplies. Rather, the Agency is developing a policy frame for the NESS that clearly lays

.../3

out the vision, principles, roles, and objectives of the national stockpile. This policy frame will also consider today's risk environment, how the government can best provide effective surge capacity, and how the NESS can and should evolve. This policy frame will be developed for your consideration and will include a social services element based on current risks and needs in Canada. A plan will then be developed to optimize the policy frame, and lay out details for the acquisition, disposal, and renewal of NESS supplies.

PORTFOLIO CONSIDERATIONS:

Other government departments, particularly Health Canada's First Nations and Inuit Health Branch, are considered to be key stakeholders in both the development of the policy frame and the communications strategy. This strategy ensures that Health Canada, as well as other government departments such as Public Safety Canada and Foreign Affairs and International Trade Canada, have a clear understanding of the Agency's role in stockpiling.

NEXT STEPS:

The Agency's Evaluation Committee will continue to monitor progress toward the completion of all deliverables noted in the MRAP. The Agency will be posting the NESS evaluation report and MRAP in both official languages on its website during the week of August 27, 2012, and will be prepared to respond should there be any media enquiries about the NESS following the posting of the report.

We expect to be in a position to share the NESS policy frame with you in late summer/early fall. Should you or your office require further details, Agency officials are available to discuss this report and the management actions underway.



MECS# 12-109405 - 344

.../4

Contact: [REDACTED]
Telephone: [REDACTED]

Attachments

Appendix A – Evaluation of the National Emergency Stockpile System Report

Appendix B – National Emergency Stockpile System MRAP

Routing Slip / Bordereau d'envoi

☒ Minister / Ministre ☐ CPHO / ACSP ☐ Associate DM / SM déléguée ☐ ADM / SMA adjoint(e)

PHAC Tracking/Docket Management/Suivi de l'ASPC/Gestion des dossiers

Correspondence - Briefing / 
Correspondance - Section de l'information

Approved / Approuvé


Aug 3/12
June 21/12

Program Contact /
Responsable de programme



Date June 8th, 2012

Tel: 

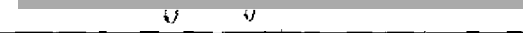
Director / Directeur



Aug 2, 2012
Date June 8th, 2012

Tel: 

Director General / Directeur général



20
Date June 8th, 2012

Tel: 

Cleared With / Avec l'accord de (if applicable/s'il y a lieu)

☒ Communications



Date

June 13/12

☐ Finance/Finances



Date

☐ HR/RH



Date

☐ Others/Autres



Date

Approved/Noted - Approuvé/Noté



Date





Date





Date



Infectious Disease Prevention and Control /
Prévention et contrôle des maladies infectieuses



Date



Health Promotion and Chronic Disease Prevention /
Promotion de la santé et de la prévention
des maladies chroniques



Date



Emergency Management & Corporate Affairs /
Affaires organisationnelles et gestion des urgences



Date



Office of Public Health Practice / Bureau de la pratique
en santé publique

Public Health Agency of Canada: Management Response and Action Plan

Evaluation of the National Emergency Stockpile System (NESS)

[illegible]

Evaluation of the National Emergency Stockpile System (NESS)
Management Response and Action Plan

	Evaluation Recommendations	Management Response	Management Action Plan	Deliverables	Expected Completion Date	Responsibility	Accountability	Resources
		direction to the NESS asset inventory.	(NGOs, municipalities, first responder communities) on the policy frame and inventory plans for NESS.					
2	<p>Develop, resource and implement a disposal strategy to allow for the disposition of:</p> <p>(a) equipment and supplies that are outdated, no longer meet current medical standards, or are of poor quality (i.e. emergency hospitals, casualty collecting units, etc.)</p> <p>(b) individual social services items (cots and blankets) and social services units (i.e. mobile feeding units, reception centre kits, etc.) (contingent on the outcome of recommendation 1b)</p>	Do Not Agree The renewed policy frame and operational plan will provide direction to the NESS asset inventory.	Consistent with the policy frame and optimization plan, develop strategies for acquisition, disposal and renewal of the NESS asset mix.	Implementation Plan	June 2013	DG, EMRA	DG, EMRA	<p>Existing budget</p> <p>2 FTEs</p> <p>NESS has significant outdated equipment spread across the country.</p> <p>Disposal costs could be significant depending on the disposal strategy and possible uses of the materials. e.g. destruction, transfer or sale.</p>

Evaluation of the National Emergency Stockpile System (NESS)
Management Response and Action Plan

	Evaluation Recommendations	Management Response	Management Action Plan	Deliverables	Expected Completion Date	Responsibility	Accountability	Resources
3	<p>Develop, implement and monitor a strategy to help communicate the Public Health Agency of Canada's role in stockpiling supplies for public health responses, considering the following target groups:</p> <ul style="list-style-type: none"> - Other federal government departments and agencies - Provinces/territories, including specialized areas: <ul style="list-style-type: none"> o End users (health practitioners) o Materiel management specialists o Logistical teams 	Agree	The DG of Communications will develop a comprehensive communications strategy that will detail various communications initiatives and outline necessary resource investments to communicate with NESS's stakeholders and partners and meet the communications objectives for NESS.	Communications strategy	January 2013	DG, EMRA in collaboration with DG, Communications	DG, EMRA	<p>Existing budget</p> <p>\$60K O&M - includes information products, website, and stakeholder survey.</p>
4	Include specific consideration of the NESS in the Agency's broader discussions of its international role.	Agree	Based on the H1N1 vaccine donation experience, the Agency has undertaken research and analysis on international donations. A PHAC policy and decision-making framework has been developed that includes NESS considerations.	PHAC policy and decision-making framework on international donations	December 2011	ADM, SPPIAD in collaboration with DG, EMRA	ADM, SPPIAD DG, EMRA	<p>Existing budget</p> <p>.5 FTE</p>



AUG 21 2012

INFORMATION NOTE

Your file Votre référence

12-114907 - 221

Our file Notre référence

INFORMATION NOTE TO THE MINISTER'S OFFICE

National Emergency Stockpile System Policy Frame

KEY POINTS

- Stemming from the recent National Emergency Stockpile System (NESS) evaluation and Management Response Action Plan (MRAP), a policy frame has been developed to guide NESS transformation (Appendix A).
- The last 60 years have seen the emergence of new threats to public health, enhanced capacity among partners, technological advances in pharmaceuticals and medical equipment, and improved transportation infrastructure. While the acquisition of NESS assets has been guided by this changing context, a more strategic approach to modern stockpile management is required to ensure that the asset base remains relevant and responsive to the risk environment.
- The policy frame articulates a policy direction for the program and situates it within the broader health emergency management context in Canada. The policy frame describes roles and responsibilities of the Government of Canada, the provinces and territories (P/Ts), and non-governmental organizations (NGOs), and articulates a renewed role for the NESS, including a vision statement, principles, and objectives.
- The proposed role for the NESS is to provide surge capacity when local and provincial/territorial resources have been exhausted, and where the federal government is the sole provider of health emergency supplies nationally. This role is within the current Cabinet authorities approved in 1965. The risk and evidence-informed inventory will also consider the capacity of other players.
- The policy frame will inform the development of the next phase of work, an optimization plan, which will be used as a consultation document with other government departments, P/Ts, and NGOs. This will further inform changes to the NESS and ultimately inform the development of an implementation plan.
- Ministerial approval will be sought prior to external engagement.

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MECS# 12-114907 - 221

Contact: [REDACTED]
Telephone: [REDACTED]

Attachment
Appendix A – National Emergency Stockpile System Policy Frame

Routing Slip / Bordereau d'envoi

Program Contact / Responsable du programme	Date <i>August 16/12</i>	Tel
Director / Directeur(trice)	Date	Tel
Director General / Directeur(rice) général(e)	Date	Tel

Cleared With / Avec l'accord de (if applicable/s'il y a lieu)

<input type="checkbox"/> Communications	Date
<input type="checkbox"/> Finance/Finances	Date
<input type="checkbox"/> HR/RH	Date
<input checked="" type="checkbox"/> Other/Autre	Date <i>Aug 13/12</i>

Approved/Noted - Approuvé/Noté

<input type="checkbox"/>		Date
<input type="checkbox"/>		AUG 21 2012
<input type="checkbox"/>		Date
<input type="checkbox"/>		Date
<input type="checkbox"/>	Infectious Disease Prevention and Control / Prévention et contrôle des maladies infectieuses	Date
<input type="checkbox"/>	Health Promotion and Chronic Disease Prevention / Promotion de la santé et de la prévention des maladies chroniques	Date
<input type="checkbox"/>	Strategic Policy, Planning and International Affairs / Politique stratégique, planification et affaires internationales	Date
<input type="checkbox"/>	Office of Public Health Practice / Bureau de la pratique en santé publique	Date
<input type="checkbox"/>		AUG 16 2012
<input type="checkbox"/>	Emergency Management and Regulatory Affairs / Gestion des urgences et affaires réglementaires	Date

PHAC Tracking/Docket Management/Suivi de l'ASPC/Gestion des dossiers

Correspondence - Briefings / Correspondance - Services ministériels

Approved / Approuvé

Aug 17/12

NATIONAL EMERGENCY STOCKPILE SYSTEM POLICY FRAME

Preamble

- There have been significant shifts in the health emergency management context since the inception of the National Emergency Stockpile System (NESS), such as:
 - the emergence of new threats to public health;
 - enhanced capacity among partners;
 - technological advances in pharmaceuticals and medical equipment; and
 - improved transportation infrastructure and more options for acquisition of supplies.
- While the acquisition of NESS assets has been guided by this changing context, a more strategic approach to modern stockpile management is required to ensure that the asset base remains relevant and responsive to the risk environment (e.g. clear acquisition and life cycle management policies; clear articulation of criteria for NESS deployment).
- In order to modernize the NESS and ensure that it is sustainable going forward, there is a need to articulate a policy direction for the program and situate it in the broader health emergency management context in Canada.

NESS Policy Direction

Vision

- The NESS provides surge capacity in a reliable and timely manner, ensuring access to a relevant stockpile of health emergency assets in response to public health threats and emergencies.

Principles

1. Provision of health emergency assets for surge capacity when local and P/T resources have been exhausted
2. Provision of niche assets where the federal government is the sole provider in the national emergency management system
3. Risk-informed and evidence-based decision-making on strategic asset composition
4. Responsive and adaptable to the ongoing evolution of emergency management in Canada
5. Collaboration and coordination among government and NGO partners
6. Effective and efficient stewardship of stockpile including asset lifecycle management
7. Domestic focus; international role on exceptional basis at direction of government
8. For use in exceptional circumstances; not intended to address health care system requirements

Objectives for the NESS

1. To clarify and define NESS mandate, roles and responsibilities with partners

2. To clearly define level of capacity required to meet Government of Canada expectations of NESS
3. To position NESS as a store of specialty assets aligned with current risk environment that considers P/T and NGO capacity
4. To clarify NESS governance structure
5. To modernize stockpile management practices and inventory systems
6. To enhance communications and establish networks with key partners

NESS Background

- The NESS program provides emergency supplies to P/Ts as surge capacity, upon request. It was created through a Cabinet decision in 1952 as a stockpile of essential medical supplies in response to the Cold War. It was further expanded in the early 1960s to include portable medical facilities, which included assets currently repurposed as social service supplies (e.g. beds and blankets).
- The program was authorized by Cabinet to assist with emergency responses to domestic peacetime disasters in 1965.
- The NESS has since evolved to address the broader range of public health threats that have emerged in the 21st century, in aligning with the Government of Canada's all-hazards approach (a scalable and flexible generic plan able to address all types of events). Consistent with Cabinet direction, [REDACTED]
- Currently, NESS holdings include:
 - Medical equipment and supplies (e.g. mini-clinics, x-ray machines, ventilators, stretchers, wound dressings);
 - Pandemic supplies (e.g. antivirals and personal protective equipment including masks, gloves and disposable gowns);
 - Pharmaceuticals (e.g. antibiotics, analgesics, anesthetics, and chemical, biological and radio- nuclear countermeasures); and
 - Social service supplies (e.g. reception centre kits, generators, beds, blankets, towels).
- Sixty percent of NESS assets are held at 11 Federal Reserve warehouses across Canada, and forty percent are pre-positioned at approximately 1000 P/T-managed sites across the country.
- It is estimated that the NESS inventory carries an asset book value of approximately [REDACTED] (see Appendix A for the current asset mix breakdown). Annual operating costs include lease costs of \$3M, salary costs of \$1.5M, and O&M costs of \$2.2M.
- NESS materials were deployed for 139 domestic events and 23 international events between 1985 and 2011, in response to a variety of public health events and other emergencies, and in preparation for mass gatherings such as the Olympics (see Appendix B).

Governance

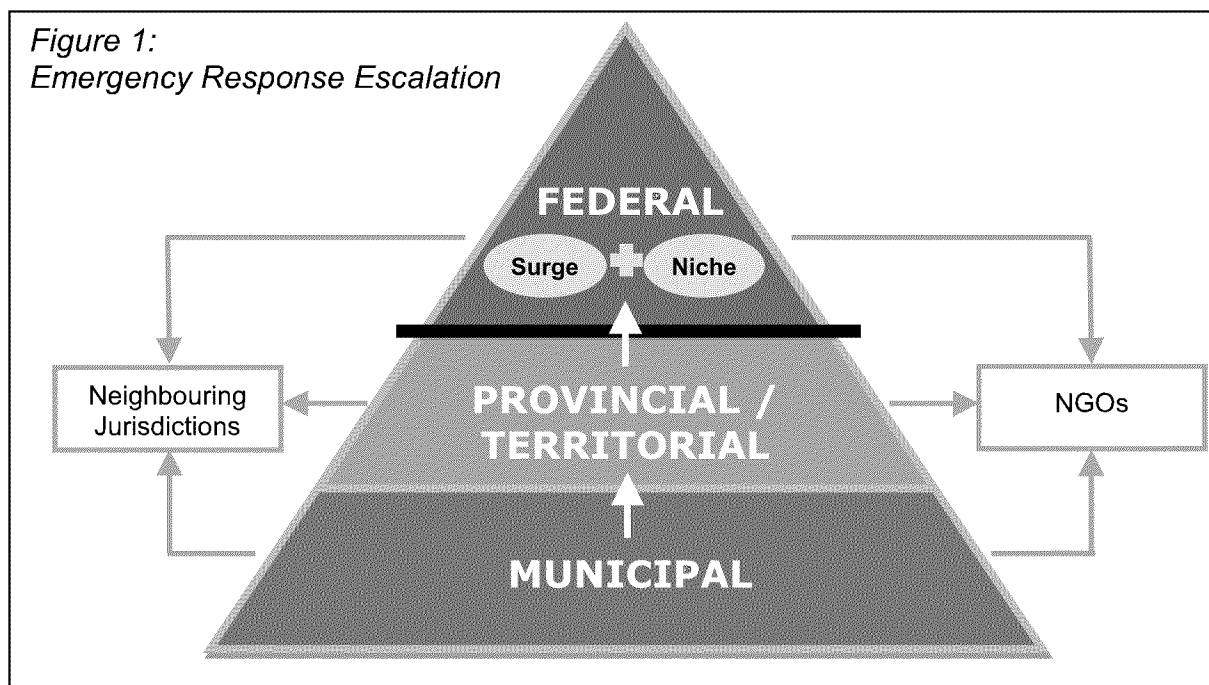
- The Minister of Health has authority to deploy assets to P/Ts, as granted by Cabinet in 1965. In practice, to ensure timely response, the authority for domestic deployments lies with the Director responsible for NESS. The Deputy Head and the Minister's Office are notified of deployment of NESS assets.
- Emergency social service and pandemic supplies are typically deployed in this manner; however, additional criteria is imposed and Deputy Head or Ministerial approval is requested on a case-by-case basis such as:
 - deployments that include pharmaceuticals;
 - deployments that include assets with particularly high values; and / or significant impact on response capability
 - deployments that fall outside of surge capacity for emergency response (e.g. filling a market shortage).
- The Minister of Health and Deputy Head do not have the authority to deploy assets internationally without Cabinet approval. International deployments can be made on a case-by-case basis in cooperation with federal partners who have international mandates, and are guided by PHAC's policy on donations (outlined below).
- Operational purchasing and disposal decisions are made by the Director responsible for NESS, following federal Treasury Board Crown asset and financial policies. Direction from the Deputy Head is sought when dealing with high volumes or assets with high values.
- Key strategic direction changes for the NESS require approval by Cabinet.

Government of Canada's Roles and Responsibilities

Domestic Federal Role

- While public health in Canada is a shared responsibility among local, P/T, and federal governments, there is a clear federal role in public health and emergency management. The fundamental assumption underpinning emergency management is that local and P/T jurisdictions are prepared to a reasonable extent for the most common emergencies (e.g. natural disasters). The federal role is twofold, providing surge capacity to P/Ts at their request when their own resources are not sufficient, and being the sole provider of certain assets required for rare public health emergencies (Figure 1). As well, the federal government provides leadership and coordination when public health events span multiple jurisdictions.
- In terms of the federal response, the *Emergency Management Act* (2007) sets out clear roles and responsibilities for all departments across the full spectrum of emergency management. In accordance with this Act, the *Federal Emergency Response Plan* (FERP) (2009) forms the all-hazards plan for a coordinated federal response to emergencies.

*Figure 1:
Emergency Response Escalation*



- Under this legislation and FERP, the Minister of Health has the primary responsibility for FERP's Emergency Support Function #5, "Public Health and Essential Human Services," and is required to identify risks and plan for national public health threats.
- This emergency support function identifies the Public Health Agency of Canada (PHAC) as the principal public health advisor to the Minister of Health, with emergency management responsibilities in areas relating to (among others): public health emergencies involving natural and intentional disasters, including infectious disease outbreaks; and deployment of NESS assets and mobilization of federal expertise (e.g. field epidemiologists and the Microbiology Emergency Response Team).
- As well, as outlined in the *Canadian Pandemic Influenza Plan for the Health Sector* (2006), PHAC is the lead federal agency responsible for addressing pandemic influenza preparedness and response; key activities include stockpiling pharmaceuticals, equipment and supplies to provide surge capacity to P/Ts.
- The Agency's NESS program is also consistent with the *International Health Regulations* (2005), which stipulate that the federal government must provide support for logistical assistance (e.g. supplies and equipment) during a domestic public health event.

Other Government Departments

- Federal departments are responsible for developing emergency plans with respect to risks in areas for which they are accountable; these plans directly or indirectly support the FERP's strategic objectives and contribute to the integrated Government of Canada response. Public Safety Canada administers the FERP and is the overall lead for coordinating the federal government's response to emergencies in Canada, including response to terrorist threats. Under the FERP, different federal departments play lead or

supporting roles in response to emergencies, depending on the scope and nature of the event.

- Of particular relevance to the Health Portfolio, Aboriginal Affairs and Northern Development Canada (AANDC) supports on-reserve First Nation communities in emergency management when the local community's capacity to respond has been exceeded. The AANDC's role is to provide advice and support as requested by P/Ts, while the P/T emergency measures organization provides front-line emergency response service (costs related to emergency assistance in First Nation communities are funded by AANDC).
- Additionally, in accordance with its Canada First Defence Strategy, the Department of National Defence (DND) provides support for civilian authorities during a crisis in Canada such as a natural disaster, and may also assist in responding to international crises.
- While the NESS is the only federal stockpile of surge health supplies intended for the general Canadian population, other federal departments (e.g. FNIHB, CFIA, CSC, DND, DFAIT) maintain modest stockpiles of mostly pandemic supplies intended to fulfill their respective departmental requirements and meet the needs of their federal populations. For example, DFAIT stockpiles personal protective equipment intended for employees in the NCR and on missions abroad.
- The NESS has agreements to stockpile certain supplies of other departments, including CFIA antivirals and a portion of DND smallpox vaccine.
- At times, assets are shared between departments; decisions to provide NESS assets to other federal departments on a small scale are made on a case-by-case basis under the provision that NESS capacity is not significantly compromised.

International Federal Role

- PHAC may be called upon by the international community (e.g. foreign governments, multilateral organizations) and/or other federal departments to provide international assistance with public health event management, capacity building and disaster response.
- As PHAC has a domestic mandate, the provision of PHAC supplies internationally is the exception rather than the rule and requires Cabinet authority. International deployments have occurred only in response to events of catastrophic proportions associated with high morbidity and injury rates. As a result of such events, PHAC has been called upon to provide emergency health supplies from the NESS.
- Generally, these assets have been deployed through other government departments that have international mandates (such as DFAIT and CIDA), and Cabinet authorities have been sought as needed on a case-by-case basis.
- In order to clarify how supplies are donated on an international basis, PHAC created the *Policy on the Donation, Loan, and Sale of PHAC Supplies to Foreign Governments and International Health Organizations and the Provision of PHAC Supplies to the Department of Foreign Affairs and International Trade*, approved by PHAC EC in 2011. This policy is intended to guide international donations, providing a framework for the management of requests by foreign governments and international health organizations for PHAC supplies.

It allows for supplies to be provided under exceptional circumstances if they are not otherwise available or where mitigating the spread of diseases protects the health of Canadians.

- The policy also features guidelines regarding when a donation, loan or sale of PHAC supplies can be made, and describes various factors that must be taken into consideration when assessing a request (e.g. PHAC's capacity to respond to domestic emergencies must be maintained, the deployment must support rather than duplicate multilateral efforts and align with Government of Canada policies regarding foreign and development assistance).

Municipal and P/T Context

- Responsibility for the delivery of health care and social services generally lies at the municipal and P/T levels. Municipalities are the first responders in emergencies; if their health and emergency social services capabilities become overwhelmed, they can request assistance from P/Ts. Each P/T has emergency legislation and is responsible for their own emergency preparedness and response activities.
- In the event that P/Ts require further assistance, depending on the circumstances and magnitude of the disaster, they may request aid from NGOs, neighbouring P/Ts and border states (if agreements are in place), and/or the federal government (e.g. NESS).
- With respect to mutual aid, the *Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public* was approved by F/P/T Ministers of Health in 2009. This MOU outlines common principles for providing inter-jurisdictional assistance during emergencies that threaten the health of the public; while it has not yet been operationalized, work is ongoing in this area.
- Jurisdictions rely to varying degrees on federal assistance, because they have different capacity levels and different relationships with other players (due to past histories requesting surge capacity and political factors). For example, when a jurisdiction is faced with a natural disaster, one might approach the federal government directly for emergency supplies, while another would be more likely to request assistance from the Canadian Red Cross.
- PHAC's broader emergency preparedness and response efforts focused on building capacity recognize that capacity will vary based on individual jurisdictions' circumstances over time.
- The renewed emphasis on emergency management capacity building will help to bring P/T capacity levels up to a consistent threshold, as will other emergency management tools and protocols in place, such as the 2009 *FPT MOU on Mutual Aid* and Public Safety's national disaster mitigation strategy. Enhancing P/T capacity will help to ensure a more consistent approach to emergency management escalation.
- The composition and level of municipal and P/T stores of supplies have not been formally disclosed to the federal government. Further information on the capacity of P/Ts will be sought as part of formal consultations at a later date. Additionally, more detailed information on federal initiatives to build capacity among P/Ts is needed.

NGO Context

- NGOs tend to focus on the provision of social service supplies, shelter, and general medical supplies, as opposed to medical countermeasures, antivirals, or specialized medical equipment. The capacity of NGOs is inconsistent across the country. For example, organizations such as St. John's Ambulance and the Salvation Army have some emergency response capacity; however, this is limited to the local level.
- The NGO with the greatest capacity to provide national surge capacity is the Canadian Red Cross. Public authorities at any level of government (municipal, provincial or federal) may request urgent assistance from the Canadian Red Cross, which works in partnership with first responders, emergency managers, and public officials to support their response activities. The Canadian Red Cross is well-positioned to act quickly in responding to emergencies as a result of its established networks and partnerships at the national, P/T, and community level; it has a Memorandum of Understanding with Public Safety Canada as well as agreements with 8 P/Ts and 800 municipalities. The organization is currently taking measures to expand the number of agreements with P/Ts and municipalities, which will contribute towards a more consistent emergency management escalation approach across Canada.
- NGO capacity has increased since the inception of the NESS. Agreements currently in place with the Canadian Red Cross (and potentially other NGOs) essentially represent contracted emergency surge capacity, bolstering P/T capacity. Improved engagement with these partners is needed going forward, as their local infrastructure supports quicker mobilization to provide a better response to a public health event.
- There is also a need for more information regarding the capacity of NGOs, their agreements with jurisdictions across the country, and a need to refine their roles and responsibilities in the F/P/T emergency management context.

Proposed Role of the NESS

- There will always be the expectation that the Government of Canada will play a leadership role in supporting Canadians in times of emergency, while respecting jurisdictional authority. During an emergency, Canadians expect that their governments will provide them with the supplies they need. It is unlikely that Canadians view each level of government as having a specific mandate with respect to the provision of emergency supplies, although the degree to which an emergency is localized is likely to determine expectations of federal involvement. However, regardless of the emergency, if P/T supplies were exhausted or proved to be insufficient, Canadians would likely look to the federal government to supplement capacity. The absence of federal surge capacity in times of need may be seen as the Government of Canada not following through on its commitment to the health and safety of Canadians.
- However, it is important that the scope of the federal role is well-defined as it is not feasible to expect that the federal stockpile represent preparation for every eventuality. The future role of the NESS must take the evolving landscape of key players into consideration. Given the ongoing efforts of the government to build P/T emergency management capacity, there is an expectation that P/Ts be prepared to respond to public health events that occur on a

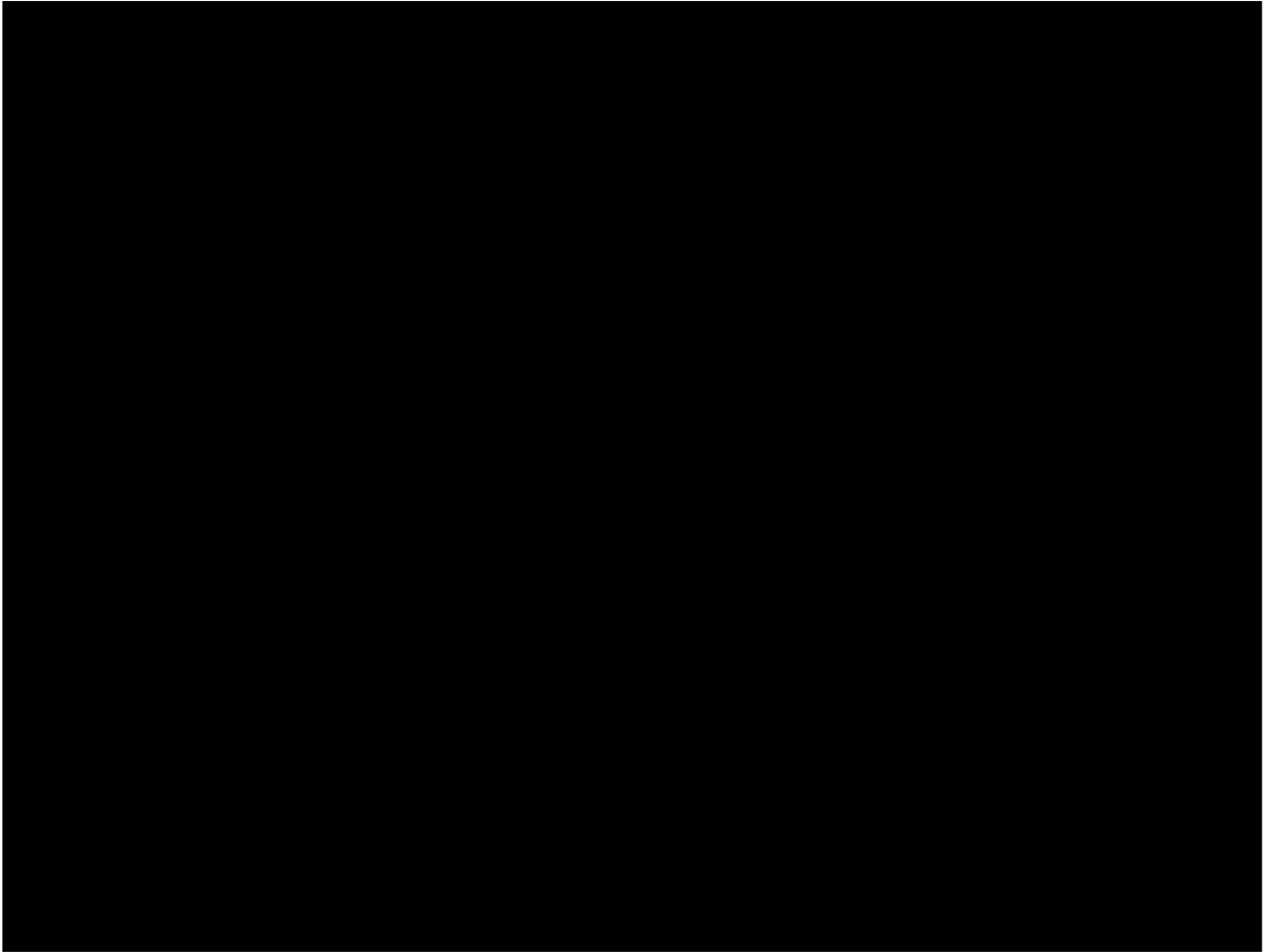
frequent basis (e.g. annual flooding in certain parts of the country). Federal assistance should represent the last resort and should only be requested when all other avenues of aid (and P/Ts' own capacity levels) have been exhausted.

- This is particularly relevant for emergency social service supplies, which are more easily accessible and may be provided by NGO partners. However, in the case of a major public health event requiring large quantities of these supplies, the NESS may be required to provide assistance. Therefore, in keeping with the current risks and needs in Canada, surge capacity for a social service response has a role in federal emergency management and the NESS asset mix.
- While the NESS has a role in surge capacity, it should be focused on being a primary supplier of niche assets which are not stockpiled by P/Ts and NGOs. It may not be feasible for all P/Ts to be prepared for low probability, high impact events. For example, an outbreak of smallpox is very unlikely; however, it is prudent for smallpox vaccine to be available for the Canadian population as a medical countermeasure in the case of bioterrorism. The NESS is also likely to be the sole provider of medical countermeasures that are not approved for general use in Canada, [REDACTED]
[REDACTED]
- It falls to the federal government to be prepared for such events, arranging for the continued availability of niche pharmaceuticals, medical supplies, and equipment that are rare and difficult for P/Ts and NGOs to obtain. Many of these niche assets do not exist in the hospital systems in Canada and are challenging to acquire during an emergency (few manufacturers, licensing restrictions, not licensed for sale in Canada, long lead time for procurement).
- This is consistent with international practices, as the national stockpiles in both the United States and Australia have a twofold purpose, in that they provide both surge capacity and capacity for low probability, high impact events, storing essential medicines and equipment for chemical, biological and radio-nuclear terrorism or major communicable disease outbreaks.
- It is important that NESS assets meet current standards of care, are medically-relevant, and use the latest technologies where appropriate. Outdated and irrelevant asset holdings impede the ability of the NESS to respond effectively to public health emergencies.

Moving Forward

- Going forward, the policy frame will be refreshed at regular 5-year intervals (with concurrence from MO), followed by a corresponding realignment of the NESS asset mix.

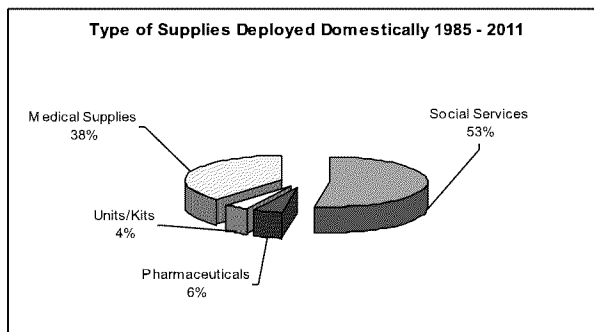
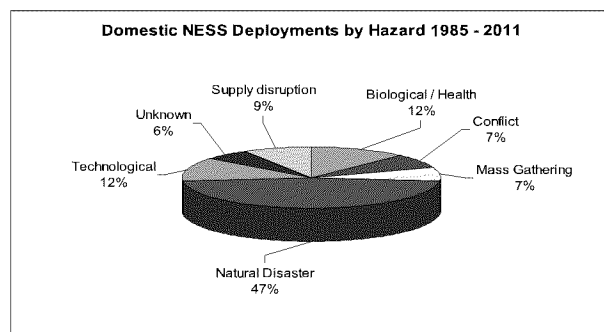
Appendix A – NESS Asset Mix



Appendix B – NESS Deployments

Domestic Deployments

- Nearly half of NESS deployments have been in response to natural disasters¹; for instance, the Red River floods in Manitoba (late 1990s), and ice storm in Ontario and Quebec (1998).
- Technological deployments have included responses to industrial fires (1990), power outages (2003) and the Swiss Air crash off the coast of Nova Scotia (1998).
- Deployments to biological events have primarily been responses to the SARS (2003) and H1N1 (2009) outbreaks.
- There have also been deployments during times of conflict such as during the Oka crisis (1990) and the “9-11” attacks that stranded airline passengers in eastern Canada (2001).
- Deployments of the stockpile have also included a surge capacity role for mass gatherings; for example, the use of the mini-clinic at the 2010 Winter Olympic Games in Vancouver.
- Supply disruption deployments are primarily to support other organizations when their own supplies have been depleted due to an event or a disruption in the supply chain. For example, Oseltamivir (an antiviral) was issued as replacement stock to the CFIA after an outbreak of avian flu was detected at a farm in 2004.



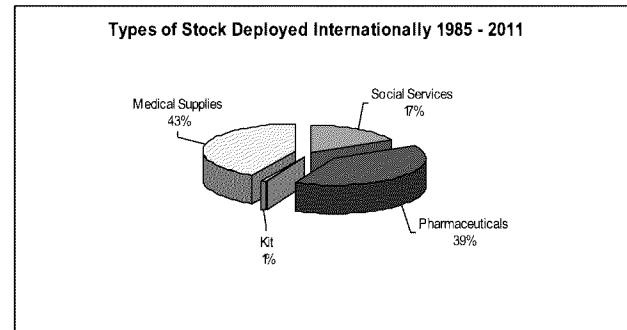
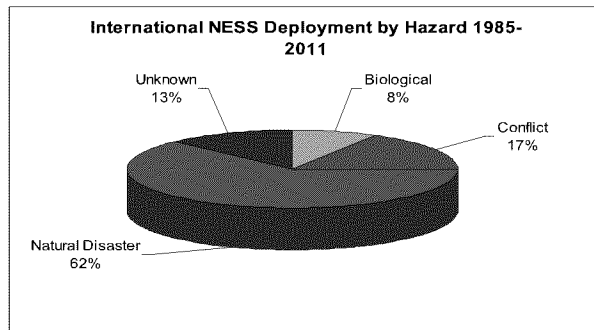
- For example: Approximately 37,200 Tamiflu capsules have been deployed since 2004, and approximately 136,907 blankets for incidents such as floods or forest fires (likely a smaller number of blankets re-used on multiple occasions).

International Deployments

- Internationally, there has been a greater need for health supplies in response to conflicts or geological events.
- Deployments have included support for the response to the tsunami in Southeast Asia (2005) and after Hurricane Katrina in the United States (2005) and, more recently, the

¹ Public Safety is currently drafting a mitigation strategy focused on natural disasters and building resilience in P/T jurisdictions; work will need to be undertaken to determine the role of the NESS in this plan.

earthquake that occurred in Haiti in 2009 (supplies were distributed in 2010) and Japan (2011).



- For example: Since 2000, NESS has deployed 27,604 [REDACTED], approx. 4 million units of antibiotics (Maldives, Philippines, through CIDA), and approx. 120,000 units of bandages, gloves, needles, gowns, etc. (New Orleans, sent directly).

Minister's Office Request

ISSUE:

A letter was received from Mid-Island Emergency Coordinators and Managers regarding a reduction in the National Emergency Stockpile System (NESS). The Minister's Office is requesting talking points on the subject that could be shared with a Member of Parliament's office.

BACKGROUND:

The Public Health Agency of Canada manages the National Emergency Stockpile System (NESS), which includes medical equipment and supplies, pharmaceuticals and social service supplies. These supplies can be deployed to provinces and territories upon request in times of emergency.

The NESS includes approximately 1000 pre-positioned sites that are managed by provinces or territories. Work is underway to review the NESS to ensure that it meets current and future needs in collaboration with provinces, territories and non-governmental organizations.

TALKING POINTS:

- The National Emergency Stockpile System, also known as “the NESS,” is a federal stockpile of medical equipment and supplies, and pharmaceutical and social service supplies (such as beds and blankets) that can be deployed as surge capacity to provinces and territories in times of emergency.
- The NESS includes over 1,000 pre-positioned sites, including some in your area.
- We want the NESS to be the best it can be – to ensure it meets current and future needs.
- I can assure you that the continued need for the NESS is not in question.
- However, there may be opportunities to make improvements.

.../2

- The Public Health Agency of Canada has assured me that any decisions made about pre-positioned sites would be undertaken in consultation with the provinces and territories.
- Any adjustments would only be made if the province or territory agrees and would not have an impact on required emergency response capacity. Provinces and territories will continue to be responsible for the location of pre-positioned sites, including those in rural and isolated communities.
- I understand that a formal federal/provincial/territorial consultation process *is tentatively planned for winter 2013.*

Contact: [REDACTED]
Telephone: [REDACTED]

SUBJECT / SUJET PREPAREDNESS AND RESPONSE FOR HEALTH EMERGENCIES
SYNOPSIS / SOMMAIRE The Health Portfolio is responsible for leading the federal response to public health emergencies.
ANTICIPATED QUESTION/QUESTION PRÉVUE What is the Government of Canada doing to protect Canadians from emergencies that affect public health?
<ul style="list-style-type: none">• The Public Health Agency of Canada is prepared to respond to a range of public health emergencies and is committed to protecting the health and well-being of Canadians.• As the lead for the Federal Health Portfolio, and in accordance with the Federal Emergency Response Plan, the Minister of Health is responsible for coordinating a national response to public health events or emergencies involving more than one province or territory.• In this capacity, the Minister of Health has signed agreements with provincial and territorial governments to improve information sharing and mutual aid during emergencies.• In responding to emergencies, the Agency has a National Emergency Stockpile System (NESS) to provide assistance to provinces and territories when their own resources have been exhausted. NESS materials were deployed for 139 domestic events and 23 international events between 1985 and 2011 in response to a variety of public health events.• The Agency also has a world class Microbiological Emergency Response Team equipped with a mobile laboratory capable of identifying biological agents, on-site, during an outbreak. The MERT has been deployed five times domestically and thirteen times internationally since 2002.• Internationally, the Agency maintains a strong link to the World Health Organization as part of Canada's commitment to the International Health Regulations (IHRs). The IHRs contribute to global public health security by improving the capacity of all countries to detect, assess, notify and respond to public health threats.• Based on lessons learned from past events, the Government continues to enhance situational awareness, risk assessment, planning, training and exercises in order to advance emergency management in Canada.
IMPACT OF ECONOMIC ACTION PLAN (IF PRESSED) <ul style="list-style-type: none">• Emergency preparedness and response is a core function of the Public Health Agency. Changes resulting from Budget 2012 underscore this role, and strengthen the Health Portfolio's capacity in this

<p>area.</p> <ul style="list-style-type: none">• The emergency management functions at Health Canada and the Agency have been consolidated into a single operating body to be housed at PHAC. This will enhance the efficiency and effectiveness of emergency management and allow for savings of close to \$1 million.• By creating a single team for emergency management, the Health Portfolio will improve its ability to coordinate emergency preparation and response activities and provide stakeholders with a single point of contact in case of a health emergency.• While PHAC and Health Canada have cooperated effectively to prepare and respond to emergencies, the consolidation of the emergency management functions will enhance coordination, strengthen capacity, and eliminate overlapping administration between the departments.• The same high standard of support to Canadians will continue to be provided through the consolidation of functions.
FINANCIAL INFORMATION (IF APPLICABLE) N/A
BACKGROUND <p>Most domestic emergencies are local in nature and are managed at the community or provincial/territorial level. The federal government may become involved in a health emergency when a request for assistance is received from a provincial, territorial or local government due to capacity limitations, or when the emergency is multi-jurisdictional in nature.</p> <p>The Public Health Agency of Canada (the Agency) manages and maintains the Health Portfolio Operations Centre (HPOC), which serves as the single window for the coordination of response activities to significant public health events. The HPOC is an important resource that supports and facilitates emergency operations by expediting and facilitating federal, provincial, territorial (FPT) sharing of information, coordination of response activities and communications. To ensure a coordinated response, the HPOC maintains a 24/7 situational awareness function and routinely communicates and shares information with Public Safety's Government Operations Centre, which provides the platform for the coordination of activities for a whole-of-government response during an emergency and is Canada's strategic-level operations centre.</p> <p>The Agency has epidemiological, laboratory and other public health experts, together with equipment and supplies that can be deployed to support provinces and territories as needed in response to outbreaks, health emergencies and natural disasters. PHAC's Canadian Field Epidemiology Program can deploy field epidemiologists to help investigate the cause of an outbreak and determine how to control it.</p> <p>The National Microbiology Laboratory, Canada's leading public health infectious disease laboratory, is responsible for the identification, control, and prevention of infectious diseases and plays an important role in emergencies related to infectious disease outbreaks.</p> <p>The Agency's Microbiological Emergency Response Team (MERT) is equipped with a mobile laboratory that can be set up onsite to identify biological agents and provide laboratory testing during an outbreak. The MERT has been deployed five times domestically (Olympics, G8, G20, New Brunswick anthrax, Toronto legionella) and 13 times internationally (Ebola virus X 6, Marburg haemorrhagic fever, Nipah virus, Severe acute respiratory syndrome (SARS) X 2, Crimean-Congo hemorrhagic fever (CCHF), Rift Valley Fever X 2) since 2002.</p> <p>Additionally, the Agency is responsible for the control and maintenance of the National Emergency Stockpile System (NESS). The NESS contains a reserve of medical resources such as hospital equipment, pharmaceuticals and medical countermeasures to counteract biological threats. It provides surge capacity to P/Ts, as required, in times of emergency.</p> <p>To support public health capacity building on emergency management, the Agency develops and provides training of Health Portfolio staff, chemical, biological, radiological, nuclear and explosive (CBRNE) first responders (in terms of biologic incidents preparedness), and front line emergency health and social services responders. In addition, the Agency develops emergency exercises to test and train on the Federal Emergency Response Plan, the Health Portfolio Emergency Response Plan, and disease-specific plans and protocols.</p> <p>The Agency has led the development of a Health Portfolio-wide Public Health Risk Assessment, which involved systematically assessing threats and risks related to public health emergencies that might necessitate a response from the Health Portfolio, including risks related to bioterrorism. The results of the risk assessment will be used to inform emergency management decision-making across the Health Portfolio. The Agency also participates in interdepartmental fora for sharing of intelligence on threat assessments.</p>

As communication plays a key role in the coordination and collaboration of an effective response, the Health Portfolio has established Crisis Communications Protocols that guide effective communications in the event of an emergency and emphasize the importance of the Health Portfolio's many stakeholders and F/P/T partners in the delivery of a public health response.

CONTACT INFORMATION	
Primary: <input type="text"/>	Telephone: <input type="text"/>
Alternate: <input type="text"/>	Telephone: <input type="text"/>
Approved by:	Telephone: <input type="text"/>

ADVICE TO THE MINISTER

SUBJECT - SUJET

English:

SEVERE ACUTE RESPIRATORY SYNDROME (SARS) — 10 YEARS LATER

SYNOPSIS - SOMMAIRE

English:

On March 7, 2013, a retrospective article on Severe Acute Respiratory Syndrome (SARS) appeared in the Canadian Press wire service and was picked up by the Montreal Gazette. 2013 marks the 10 year anniversary of the virus's spread to Canada, which resulted in 44 Canadian fatalities.

ANTICIPATED QUESTION - QUESTION PRÉVUE

English:

What has the government done to protect Canadians from another SARS pandemic?

KEY MESSAGES - MESSAGES CLÉS

English:

- Since the SARS outbreak in 2003, the Government of Canada has taken great strides to improve how it protects Canadians from infectious disease outbreaks and public health emergencies.
- Over the past 10 years, the Public Health Agency of Canada has taken a leadership role working with its public health partners to strengthen Canada's capacity to prepare for and respond to infectious diseases outbreaks and public health emergencies.
- We have put new structures in place to improve how governments work together, developed comprehensive plans to prepare and respond to public health emergencies, and enhanced our alert systems and disease prevention and management

capabilities.

Français:

SUPPLEMENTARY MESSAGES / MESSAGES SUPPLÉMENTAIRES

English:

- Canada's response to the H1N1 Pandemic was built on lessons learned from SARS.
- While the Agency has achieved a great deal over the past decade, it continues to review practices and apply lessons learned from incidents and outbreaks of infectious diseases, such as the H1N1 pandemic.
- The Public Health Agency of Canada and Health Canada have strengthened their business continuity processes to support and ensure the continued delivery of critical services to Canadians during a time of a critical incident such as SARS.
- CIHR's Institute of Infection and Immunity focuses on infectious disease and the body's immune system. The Institute also supports capacity building so that the research community is well structured and mobilized in preparation for any future pandemics.

Français:

BACKGROUND - CONTEXTE

On March 7, 2013, a retrospective article on Severe Acute Respiratory Syndrome (SARS)

appeared in the Canadian Press wire service and was picked up by the Montreal Gazette. 2013 marks the 10 year anniversary of the virus's spread to Canada, which resulted in 44 Canadian fatalities.

SARS is a part of the family of coronaviruses. Coronaviruses were first identified in the mid-1960s. Various strains of coronavirus affect animals and humans. The human strains are responsible for ailments such as the common cold, viral gastroenteritis and Severe Acute Respiratory Syndrome (SARS). The various strains of coronavirus can cause an array of symptoms, from coughing, sneezing and sore throat to lower- and upper-respiratory infections, as well as gastrointestinal illness.

In late 2002, the SARS outbreak began, most likely in China's southern Guangdong Province. By early 2003, the virus had spread across the globe, eventually resulting in 44 Canadian fatalities and 775 fatalities worldwide. Globally, 20% of confirmed SARS cases were found in healthcare workers. However, in Canada, healthcare workers accounted for 43% of all SARS cases.

Since 2003, the Agency has put in place or enhanced a number of tools to help us respond quickly and effectively to infectious disease outbreaks-- both internationally and domestically.

In 2012, a new coronavirus emerged in the Arabian Peninsula and the World Health Organization (WHO) issued a Global Alert and Response (GAR) concerning laboratory-confirmed cases of human infections with the new coronavirus. To date, the new coronavirus has resulted in confirmed cases in Qatar (2 cases), Saudi Arabia (7 cases, including 5 deaths) and Jordan (2 cases, including 2 deaths) and the United Kingdom (3 cases, including 1 death). All patients were severely ill and eight in total have died.

In response to this new virus, the Agency has undertaken a risk assessment of this new coronavirus including scenario testing. The risk assessment has determined that, for some individuals (e.g., persons with underlying medical conditions/laboratory workers), the new coronavirus is a high-risk pathogen for severe respiratory illness but presents a low risk to the community at large. The Agency has issued an alert through the Canadian Network for Public Health Intelligence Network (CNPHI) to our provincial and territorial public health partners about the novel coronavirus cases and has provided them with laboratory and infection prevention and control guidelines.

This new virus is different from any that have previously been identified in humans and is also not genetically similar to SARS.

PHAC's Response Activities

The Canadian Pandemic Influenza Plan for the Health Sector:

In response to the 2003 SARS outbreak, the Government of Canada collaborated with provinces and territories to develop the Canadian Pandemic Influenza Plan for the Health Sector (CPIP). Canada's response to the H1N1 pandemic was guided by the CPIP. First released in 2004 and then revised in 2006, the CPIP provides a national framework for pandemic influenza preparedness and response focused on the health sector. It is the result of a collaborative effort by the federal, provincial and territorial (F/P/T) governments, and outlines the roles and responsibilities of all levels of government for a consistent and coordinated response in the event of an influenza pandemic.

Surveillance:

The Canadian Network for Public Health Intelligence Network (CNPHI) was developed in 2004, following the SARS outbreak. It allows for the timely sharing and strategic dissemination of public health intelligence between local/regional, provincial/territorial and national public health stakeholders. Issuing a CNPHI alert allows for public health partners to be aware of the details of the infection in case it shows up in their region.

Canada collaborates and shares information with the WHO in support of its surveillance activities. The Global Public Health Intelligence Network (GPHIN), for example, is a primary source of information for the WHO as well as international governments and other non-government organizations. Managed by PHAC's Centre for Emergency Preparedness and Response, it is an internet-based, early warning system that gathers preliminary media reports of public health significance 24 hours a day, 7 days a week. The information is filtered, analysed and made available to subscribers.

Pandemic Vaccine Strategy:

In 2001, the Government of Canada put in place a 10-year domestic pandemic vaccine contract with ID Biomedical GSK to manufacture, domestically, pandemic virus-specific vaccine in the event of an influenza pandemic and to supply Canada with pandemic influenza vaccine on a priority basis if needed. This contract facilitated the procurement of vaccines during the H1N1 pandemic. In February 2011, the federal government secured a new 10-year pandemic influenza vaccine supply contract with a domestic manufacturer – GlaxoSmithKline (GSK) – as the primary supplier of pandemic influenza vaccine with a responsibility to provide vaccine for all Canadians on a priority basis.

A contract for a backup supply of a pandemic influenza vaccine from Sanofi Pasteur Ltd. is also in place to mitigate the risk of the primary domestic supply being disrupted or delayed. If needed, this backup supply will be available in sufficient quantity to immunize up to [REDACTED] Canadians and would likely be used to target priority vaccination groups, such as pregnant women and individuals with chronic diseases.

National Antiviral Stockpiles:

In 2004, F/P/T governments collaborated to establish the NAS to ensure equitable access to a government-controlled supply of antivirals across Canada in the event of an influenza pandemic. The NAS is an FPT cost shared (60% federal: 40% P/T) resource that is held and managed by PTs. A second national antiviral stockpile, funded solely by the federal government, is held within the National Emergency Stockpile System (NESS), and is intended to provide surge capacity to P/Ts during an influenza pandemic. NESS currently holds sufficient antivirals to treat [REDACTED] of the population.

Influenza Surveillance:

The Government of Canada participates in both national and international programs to protect Canadians and monitor the spread of seasonal influenza, animal influenza and other illnesses. These include surveillance and diagnostics to detect and report circulating influenza viruses at both the national and international level.

Current national human influenza surveillance includes laboratory analysis of influenza viruses on a regular basis by the Agency and ongoing monitoring of the spread of flu and flu-like illnesses through FluWatch, Canada's national surveillance system.

The Agency, as well as CFIA, will continue to work closely with international partners to monitor influenza risks globally, and to better understand any potential risks to Canadians.

Pathogen control in Canada:

Canada has developed a robust pathogen control regime, and is a world leader in the approach to the oversight of pathogens. The current Human Pathogens Importation Regulations requires that all facilities in Canada that import human pathogens (risk groups 2, 3 and 4), work with them at the appropriate level of safety.

Quarantine Act:

In 2005, the Government of Canada passed the *Quarantine Act* to protect public health by taking comprehensive measures to prevent the introduction and spread of communicable diseases. The Act was designed to complement existing P/T public health legislation and will assist Canada in meeting its obligations under the new International Health Regulations, which came into effect in 2007.

Quarantine measures are administered and enforced by the Public Health Agency of Canada and Health Canada at Canadian points of entry and departure. The Act offers protection to Canadians by providing authority and modern tools to respond rapidly and effectively to the changing threat and risk environment in global public health.

International Collaboration:

The Government of Canada and other government departments have been working with international partners to strengthen global pandemic preparedness and response. We are engaging with the United States and Mexico to implement the revised North American Plan for Animal and Pandemic Influenza (NAPAPI). The revised plan will strengthen cooperation to prepare for future animal and pandemic influenza, and enhance the health and safety of residents in all three nations. Additionally, there is ongoing collaboration with the World Health Organization and the Global Health Security Action Group, which includes G7 nations and Mexico.

Since 2007 Canada has had in place a National Focal Point (NFP) located at the Agency in collaboration with the member countries of the World Health Organization (WHO) in compliance with the International Health Regulations. The NFP at the Agency serves as a framework to coordinate and manage public health events of national and international concern within and outside Canada.

CIHR Response Activities

Pandemic Influenza Preparedness is one of the five research priorities outlined in the Institute of Infection and Immunity 2007-2012 Strategic Plan. Specifically, it is focused on research related to prevention, therapy, and public health challenges. Influenza and pandemic research is also a priority for CIHR. In 2011/12, CIHR funded approximately \$9.7 million in research

related to pandemic preparedness.

In 2005, following an allocation from the Government of Canada, the CIHR Institute of Infection and Immunity (CIHR-III) created the Pandemic Preparedness Strategic Research Initiative (PPSRI) to develop a coordinated and focused pandemic preparedness research program, and to build national research capacity in this area. By forming partnerships with other federal and provincial agencies, CIHR-III increased the total funds available to \$45.7 million over five years. Ninety-two research projects in total were funded to address the strategic priority areas of the initiative. This initiative sunset in March 2011 however the PHAC-CIHR Influenza Research Network (PCIRN), a national network composed of more than 100 investigators at 30 institutions that develops and tests procedures for seasonal and pandemic vaccines, was renewed until 2015.

Recently, the UK Health Protection Agency acknowledged that the Canadian leadership and quick response to SARS and Canada's ability to share data had taught them a great deal and that this knowledge has guided initiatives in the UK since then.

ATTACHMENTS / PIÈCE(S)-JOINTE(S)

CONTACT INFORMATION / PERSONNES-RESSOURCE

Subject Matter Expert/ Expert(e) en la matière:	Telephone/ Téléphone:	Approved by/	Telephone/ Téléphone:
	Mobile/ Cellulaire:	Title/ Titre:	Mobile/ Cellulaire:
Alternate/ Secondaire:	Telephone/ Téléphone:		
	Mobile/ Cellulaire:		

Verification/ Vérification par le : Centre for Immunization and Respiratory Infectious Diseases
Date Verified/ Date vérifié par le : 2013-03-07
Division : Immunization Program Division
Directorate/ Direction : Centre for Immunization and Respiratory Infectious Diseases

Approved/ Approbation par : Approved / Approuvé
Branch/ Direction générale : Infectious Disease Prevention & Control

CFO Approved/
Approbation par
CSF :

Branch/ Direction
générale :

☐ CFO Approved / Approuvé CSF

[REDACTED]

From: [REDACTED] on behalf of [REDACTED]
Sent: 2020-07-13 3:47 PM
To: [REDACTED] (PHAC/ASPC)
Subject: Fw: NESS Response - Flooding AB SK

[REDACTED]
[REDACTED]
Public Health Agency of Canada / Government of Canada

[REDACTED] | [REDACTED]
Follow me on [Twitter](#)

[REDACTED]
Agence de la santé publique du Canada / Gouvernement du Canada

[REDACTED] | [REDACTED]
Suivez-moi sur [Twitter](#)

----- Forwarded by [REDACTED] on 2020-07-13 03:46 PM -----

From [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Date: 2013-06-23 01:22 PM
Subject: Re: NESS Response - Flooding AB SK

Thanks [REDACTED] I will pass on your message.
A lot of late night logistics!

▼ [REDACTED] 2013-06-23 11:05 AM EDT---Thank you for the updates. And thanks to the staff working on this, including you, [REDACTED]

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Date: 2013-06-23 11:05 AM EDT
Subject: Re: NESS Response - Flooding AB SK

Thank you for the updates. And thanks to the staff working on this, including you, [REDACTED]

▼ [REDACTED] ---2013-06-23 10:40 AM EDT---Fyi - more NESS deployments. Beds and blankets to Cumberland House First Nations, City of Calgary,

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Date: 2013-06-23 10:40 AM EDT
Subject: Fw: NESS Response - Flooding AB SK

Fyi - more NESS deployments. Beds and blankets to Cumberland House First Nations, City of Calgary, Eden Valley, and High River. We are also prepositioning stuff from our [REDACTED] warehouse to Calgary.

----- Original Message -----

From: [REDACTED]
Sent: 2013-06-23 06:33 AM EDT
To: [REDACTED]
Cc: [REDACTED]; HPOC_COPS
Subject: Fw: NESS Response - Flooding AB SK
This is the table I sent last night cut and pasted.

▼ HPOC_COPS

----- Original Message -----

From: HPOC_COPS
Sent: 2013-06-23 12:05 AM EDT
To: [REDACTED]
Cc: [REDACTED]
Subject: NESS Response - Flooding AB SK

SASKATCHEWAN				
June 22,2013	Cumberland House and the Cumberland House First Nation flooded(approximately 2200 people)	Relocated to Henk Ruys /Kinsmen Soccer Centre in Saskatoon to supplement existing Red Cross assets	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 324 Blankets: 620 Bedding: 700 Pillows: 900 Towels (variety): 900
ALBERTA FLOOD				
June 21,2013	City of Calgary evacuation	Relocated City of Calgary Fire Training Centre	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds : 1,008 Blankets:1,200 Pillows, towels , face cloths: 1,000 each Bedding: 640
June 22, 2013	400 people being evacuated from the Eden Valley area	200 are going to the Eden Valley School and the other 200 to the old school in Morely, Alberta	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 420 Blankets: 480 Pillows: 400 Towels (variety): 400
June 22, 2013	Citizens from High River being evacuated	Relocated to the Okotoks Recreation Centre	Social Services supplies taken from [REDACTED] NESS	Beds: 72 Blankets: 100

			Federal warehouse	
June 22, 2013	More requests are anticipated and numbers unknown. To save on movement beds and blankets are being prepositioned in Calgary	Calgary warehouse identified as a distribution point by Alberta EOC.	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 216 Blankets: 240

Regards,

Health Portfolio Operations Centre | Centre des opérations du portefeuille de la Santé

[REDACTED]

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[REDACTED]

From: [REDACTED] on behalf of [REDACTED]

Sent: 2020-07-13 4:01 PM

To: [REDACTED]

Subject: Fw: ETA [REDACTED] NESS assets arriving in Calgary

[REDACTED]
[REDACTED]
Public Health Agency of Canada / Government of Canada

[REDACTED] | [REDACTED]
Follow me on [Twitter](#)

[REDACTED]
Agence de la santé publique du Canada / Gouvernement du Canada

[REDACTED] | [REDACTED]
Suivez-moi sur [Twitter](#)

----- Forwarded by [REDACTED] on 2020-07-13 04:01 PM -----

From: [REDACTED]

To: [REDACTED]

Cc: "HPOC_COPS", [REDACTED]

Date: 2013-06-24 03:47 PM

Subject: ETA for [REDACTED] NESS assets arriving in Calgary

Expected time of arrival (ETA) in Calgary for the first of 3 trucks of social service supplies from [REDACTED] NESS is between 19:00 and 20:00 local time.

We will have PHAC staff on the ground to "inspect" the supplies as they are being opened by the province.

[REDACTED]
[REDACTED] ---2013-06-24 09:48 AM EDT---The trucks are on their way to the [REDACTED] warehouse. Will provided update on time of arrival when th

From: [REDACTED]

To: [REDACTED]

Cc: [REDACTED]

Date: 2013-06-24 09:48 AM EDT

Subject: Re: could you find out when NESS assets will arrive in Calgary and Medicine Hat today

The trucks are on their way to the [REDACTED] warehouse. Will provided update on time of arrival when the trucks leave for the [REDACTED] drive to Calgary.

When and where the province further deploy from Calgary is not known at this time.

Of note, a lot of coordination is being made to look at the best routes from [REDACTED] to Calgary given the flooding en route.

---2013-06-24 09:35 AM EDT--- do you know?

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Date: 2013-06-24 09:35 AM EDT
Subject: Fw: could you find out when NESS assets will arrive in Calgary and Medicine Hat today

[REDACTED], do you know?

O: [REDACTED]
BB: [REDACTED]
H: [REDACTED]

----- Original Message -----

From: Nathalie Theriault
Sent: 2013-06-24 09:32 AM EDT
To: [REDACTED]
Subject: could you find out when NESS assets will arrive in Calgary and Medicine Hat today
MO would like to know when assets are scheduled to arrive.

Thanks.

Nathalie Thériault
Departmental Liaison/ Liaison ministerielle
Public Health Agency of Canada/ Agence de la santé publique du Canada
Canadian Institutes of Health Research / Instituts de recherche en santé du Canada
Office of the Minister of Health / Cabinet du ministre de la santé
Tel/Tél 613-957-0200
Blackberry: 613-608-9216
Fax/Télécopieur: 613-952-1154
nathalie.theriault@phac-aspc.gc.ca

2013-06-23 11:29:53 PM---FYI ----- Original Message -----

From: [REDACTED]
To: [REDACTED], "Nathalie Theriault", [REDACTED]
Cc: "HPOC_COPS", [REDACTED]
Date: 2013-06-23 11:29 PM
Subject: Update re NESS support to AB and SK, 23:30, June 2013

FYI

----- Original Message -----

From: [REDACTED]
Sent: 2013-06-23 10:47 PM EDT
To: [REDACTED]
Cc: HPOC_COPS; [REDACTED]
Subject: Re: AB request

Update to the AB supply distribution situation:

The beds from the [REDACTED] NESS warehouse deployed on June 21, 2013 to support the City of Calgary, were deemed not suitable for use; alternative arrangement has now been made for the NESS [REDACTED] warehouse to supply the same quantity of beds as per initial request i.e. approx 1000. The deployment will occur June 24, 2013. The remaining social services supplies provided with the beds are suitable.

Alberta has also requested additional blankets, pillows, towels (variety) and bedding. These will also be shipped from the [REDACTED] warehouse on June 24.

The Saskatchewan Health authority indicated that they do not anticipate the need for all of the social services assets on hand and agreed to the transfer of the NESS [REDACTED] assets to AB.

ALBERTA FLOOD				
June 21,2013 UPDATE JUNE 24, 2013 To be shipped	City of Calgary evacuation	Relocated City of Calgary Fire Training Centre Replacement beds requested by Alberta will be delivered to the pre positioned site identified by Alberta EOC and will be distributed to different reception centres in the affected areas due to many requests. Return the 1000 beds deemed unusable to NESS [REDACTED]	Social Services supplies taken from [REDACTED] NESS Federal warehouse Replacement beds being sent from the [REDACTED] NESS Federal warehouse. No change in quantities. All other social services provided are suitable.	Beds : 1,008 Blankets:1,200 Pillows, towels , face cloths: 1,000 each Bedding: 640
June 22, 2013	400 people being evacuated from the Eden Valley area	200 are going to the Eden Valley School and the other 200 to the old school in Morely, Alberta	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 420 Blankets: 480 Pillows: 400 Towels (variety): 400
June 22, 2013	Citizens from High River being evacuated	Relocated to the Okotoks Recreation Centre	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 72 Blankets: 100

June 22, 2013 UPDATE June 23, 2013	More requests are anticipated and numbers unknown. To save on movement beds and blankets are being prepositioned in Calgary	Calgary warehouse identified as a distribution point by Alberta EOC. All pre positioned beds have been distributed to two (2) reception centres one in Redcliff Alberta, the other in Calgary	Social Services supplies taken from [REDACTED] NESS Federal warehouse Taken from the Alberta EOC distribution point	Beds: 216 Blankets: 240
UPDATE NUMBERS NOT CONFIRMED ASSETS TO BE LOADED ON JUNE 24, 2013	Due to the number of requests being received, Alberta requested additional blankets, pillows, towels and bedding to support additional people being evacuated.	A Calgary warehouse was identified as a distribution point by Alberta EOC	Social Services supplies will be taken from [REDACTED] NESS Federal warehouse to the pre position site	Blankets: 1,200 Pillows: 1,000 Towels (variety): 1.000 each Bedding: 1,000

[REDACTED]
[REDACTED]
National Emergency Stockpile System/Réserve nationale d'urgence
Office of Emergency Response Services/Bureau des services d'interventions d'urgences
Public Health Agency of Canada / Agence de la santé publique du Canada
100 Colonnade Road/100, chemin Colonnade
Ottawa, Ontario K1A 0K9
Canada
[REDACTED]
[REDACTED]

▼ [REDACTED] ---2013-06-23 10:26:10 PM---I still find the first and the new last row of the AB table a bit confusing.
Are the blankets and be

From: [REDACTED]
To: [REDACTED]
Cc: HPOC_COPS/HC-SC/GC/CA@HWC, [REDACTED]

Date: 2013-06-23 10:26 PM
Subject: Re: AB request

I still find the first and the new last row of the AB table a bit confusing.

Are the blankets and bedding from [REDACTED] useable? The new request for [REDACTED] blankets and bedding will be in addition to the [REDACTED] deployed ones - correct?

I don't think we should use the term "new beds" as this may be interpreted as brand new beds which is not the case!

For the text:

Update to the AB supply distribution situation:

The beds from the [REDACTED] NESS warehouse deployed on June 21, 2013 to support the City of Calgary, were deemed not suitable for use; alternative arrangement has now been made for the NESS [REDACTED] warehouse to supply the same quantity of beds as per initial request i.e. approx 1000. The deployment will occur June 24, 2013.

Alberta has also requested additional blankets, pillows, towels (variety) and bedding. These will also be shipped from the [REDACTED] warehouse on June 24.

The Saskatchewan Health authority indicated that they do not anticipate the need for all of the social services assets on hand and agreed to the transfer of the NESS [REDACTED] assets to AB.

▼ [REDACTED] ---2013-06-23 09:57 PM EDT---Here is the updated table, I have added the new requests for blankets etc as a new entry at the bott

From: [REDACTED]
To: [REDACTED]
Cc: HPOC_COPS; [REDACTED]
Date: 2013-06-23 09:57 PM EDT
Subject: Re: AB request

Here is the updated table, I have added the new requests for blankets etc as a new entry at the bottom and Alberta was going to replace the beds at the location they were to be used but now will pre positioned them due to a lot of request from different reception centres and we will bring back the other beds to [REDACTED]

The beds deployed on June 21, 2013, were deemed not suitable for deployment; alternative arrangement had to be made from the NESS [REDACTED] warehouse to provide new beds as the supplies remaining in the NESS warehouse in [REDACTED] would not meet the quantity required. Additional blankets, pillows, towels (variety) and bedding will be shipped from the [REDACTED] warehouse due to the limited quantity remaining in the NESS warehouse in [REDACTED] and the request was received on June 23 when the replacement beds were requested.

The Saskatchewan Health authority was contacted and do not anticipate the need for all of the social services assets on hand and agreed to the transfer of the assets and feel comfortable with the quantity of social service remaining at the [REDACTED] NESS warehouse.

SASKATCHEWAN

June 22,2013	Cumberland House and the Cumberland House First Nation flooded(approximately 2200 people)	Relocated to HenkRuys /Kinsmen Soccer Centre in Saskatoon to supplement existing Red Cross assets	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 324 Blankets: 620 Bedding: 700 Pillows: 900 Towels (variety): 900
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ALBERTA FLOOD				
June 21,2013 UPDATE JUNE 24, 2013 To be shipped	City of Calgary evacuation	Relocated City of Calgary Fire Training Centre Relocate new beds to the pre positioned site identified by EOC Alberta to be distributed due to many requests and return the 1000 beds deemed un-usable	Social Services supplies taken from [REDACTED] NESS Federal warehouse NEW beds being sent from the [REDACTED] NESS Federal warehouse. No change in quantities.	Beds : 1,008 Blankets:1,200 Pillows, towels , face cloths: 1,000 each Bedding: 640
June 22, 2013	400 people being evacuated from the Eden Valley area	200 are going to the Eden Valley School and the other 200 to the old school in Morely, Alberta	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 420 Blankets: 480 Pillows: 400 Towels (variety): 400
June 22, 2013	Citizens from High River being evacuated	Relocated to the Okotoks Recreation Centre	Social Services supplies taken from [REDACTED] NESS Federal warehouse	Beds: 72 Blankets: 100
June 22, 2013 UPDATE June 23, 2013	More requests are anticipated and numbers unknown. To	Calgary warehouse identified as a distribution point by Alberta EOC.	Social Services supplies taken from [REDACTED]	Beds: 216 Blankets: 240

	save on movement beds and blankets are being prepositioned in Calgary	All pre positioned beds have been distributed to two (2) reception centres one in Redcliff Alberta, the other in Calgary	NESS Federal warehouse Taken from the Alberta EOC distribution point	
UPDATE NUMBERS NOT CONFIRMED ASSETS TO BE LOADED ON JUNE 24, 2013	Due to the number of requests being received additional blankets, pillows, towels and beddings are requested	Calgary warehouse identified as a distribution point by Alberta EOC	Social Services supplies will be taken from [REDACTED] NESS Federal warehouse	Blankets: 1,200 Pillows: 1,000 Towels (variety): 1.000 each Bedding: 1,000

[REDACTED]
[REDACTED]
National Emergency Stockpile System/Réserve nationale d'urgence
Office of Emergency Response Services/Bureau des services d'interventions d'urgences
Public Health Agency of Canada / Agence de la santé publique du Canada
100 Colonnade Road/100, chemin Colonnade
Ottawa, Ontario K1A 0K9
Canada

2013-06-23 07:49:39 PM---OK. So, an update has to be done to the first and last line of the table for Alberta.

From: [REDACTED]
To: [REDACTED], HPOC_COPS/HC-SC/GC/CA@HWC
Cc: [REDACTED]
Date: 2013-06-23 07:49 PM
Subject: Re: AB request

OK.

So, an update has to be done to the first and last line of the table for Alberta.

For the first line we will need to indicate UPDATE, bold the change to the date and the bold the change in origin of the supply to [REDACTED]. The amounts are staying the same. When will the [REDACTED] supply depart and arrive? Are the logistics worked out?

For the last line we need to indicate the now identified destination for the pre-positioned supplies.

We should add a paragraph before the table indicating that the supplies from the [REDACTED] NESS warehouse were deemed not suitable for deployment so alternative arrangements had to be made from Saskatoon [REDACTED] supplies have been reserved for potential needs as the floods move towards Southern SK.

Once this has been done I will review before you send. I will also send a PIN to provide a bit more detail.

▼ [REDACTED] ---2013-06-23 07:12 PM EDT---The additional 1000 beds being requested have never been reported in the table but the original 1000

From: [REDACTED]
To: [REDACTED] HPOC_COPS
Cc: [REDACTED]
Date: 2013-06-23 07:12 PM EDT
Subject: Re: AB request

The additional 1000 beds being requested have never been reported in the table but the original 1000 beds are reported in the table on June 21. The beds pre positioned going to Calgary and Redcliff are additional beds needed. These beds were reported in the table as being pre positioned

▼ [REDACTED] ---2013-06-23 07:04 PM EDT---Let me try to get the story straight. AB cannot use some of the social service supplies that were be

From: [REDACTED]
To: [REDACTED]; HPOC_COPS
Cc: [REDACTED]
Date: 2013-06-23 07:04 PM EDT
Subject: Re: AB request

Let me try to get the story straight.

AB cannot use some of the social service supplies that were being deployed to Calgary (from [REDACTED]). Hence they need another 1000 beds. We have never reported up on these ie they are not current part of the summary table of deployments- correct?

In the mean time they are using the pre positioned beds deployed last night for Calgary and Redcliff.

▼ [REDACTED] ---2013-06-23 06:42 PM EDT---Good evening Alberta Health requested an additional 1000 beds with blankets, towels and pillows. Th

From: [REDACTED]
To: HPOC_COPS
Cc: [REDACTED]
Date: 2013-06-23 06:42 PM EDT
Subject: AB request

Good evening

Alberta Health requested an additional 1000 beds with blankets, towels and pillows. They informed NESS that these assets can be shipped in the morning to Calgary and will be used for Calgary and Medicine Hat. NESS is currently assessing the logistics to ensure timely deployment.

Alberta health advised that the extra beds and blankets that were pre positioned on June 22, for future use, will be deployed to reception centres in both Redcliff and Calgary.

Thank you

[REDACTED]
[REDACTED]
National Emergency Stockpile System/Réserve nationale d'urgence
Office of Emergency Response Services/Bureau des services d'interventions d'urgences
Public Health Agency of Canada / Agence de la santé publique du Canada
100 Colonnade Road/100, chemin Colonnade
Ottawa, Ontario K1A 0K9
Canada
Tel: [REDACTED]
[REDACTED]



FOR CONCURRENCE

Your file *Votre référence*

Our file **13-110241 - 95**
Notre référence

MEMORANDUM TO THE MINISTER

National Emergency Stockpile System Modernization

SUMMARY

- As Minister of Health, you are the federal lead for public health emergencies; the National Emergency Stockpile System (NESS) is a key component of your response capability for providing emergency surge support to provinces and territories (P/Ts) upon request.
- In response to the 2012 NESS Evaluation, a Policy Frame has been developed to clarify the role and future direction for the NESS and situate it within the current Canadian health emergency management context (Appendix A). This Policy Frame confirms the principal roles of the NESS as surge capacity for P/Ts and the provider of assets for rare, high-impact public health emergencies.
- The Optimization Plan (Appendix B) and Engagement Plan (Appendix C) have been developed to facilitate the implementation of the new strategic direction described in the Policy Frame. Full implementation of both of these plans is key to the modernization of the program.
- Although no media attention is anticipated following the implementation of these plans, a communications strategy will be developed prior to engaging with P/Ts.
- Your concurrence is being requested with the Policy Frame and the implementation of the Optimization Plan and Engagement Plan.

BACKGROUND:

Through a Cabinet decision in 1952, the NESS was created as a stockpile of essential medical supplies in the context of the Cold War. It was further expanded in the 1960s, and in 1965 was authorized by Cabinet to assist P/Ts with emergency response to peacetime disasters. Cabinet authorized stockpile expansion in 2001 to include medical

.../2

countermeasures to respond to the risks of bioterrorism, and again in 2006 and 2009 to include pandemic response supplies.

The NESS currently maintains medical equipment and supplies, pharmaceuticals, pandemic response supplies, and outdated portable medical units that contain a significant number of hospital beds and blankets that can be used to supplement provincial/territorial social service capacity. NESS assets are held in 11 federal warehouses in nine cities across the country and in approximately 1000 sites managed by P/Ts.

CONSIDERATIONS:

A Policy Frame has been developed to articulate the strategic direction for NESS in the context of emergency management in Canada today. It forms the basis for NESS modernization efforts, and affirms the NESS as a complement to initial response activities within local or provincial/territorial responsibility.

A detailed Optimization Plan has been developed to build on the Policy Frame and outline the NESS modernization process. An Engagement Plan has also been developed to outline plans for informing federal partners and P/Ts of NESS modernization and clarify emergency management roles. The Optimization Plan outlines NESS governance and authorities, and describes NESS asset composition, life-cycle management options, and strategic optimization of the warehouse network.

A number of initiatives in the Optimization Plan have already been implemented, including lifecycle management, breakdown of obsolete medical equipment, and risk-informed and evidence-based decision-making to ensure strategic asset composition. In addition, over the last year, NESS governance has been fully clarified.

No new authorities are required for NESS modernization as all elements are consistent with existing Cabinet authorities.

Key Decision Points

Federal/provincial/territorial (F/P/T) emergency management and the NESS: Since the NESS was established, emergency response capacity in P/Ts and local authorities has increased, allowing them to provide first response to public health events that occur on a frequent or regular basis.

As such, the Policy Frame indicates the principal roles of the NESS going forward would be surge capacity when local and provincial/territorial resources are overwhelmed, and the provision of assets required for rare, high-impact public health emergencies (e.g. a smallpox or anthrax outbreak).

Asset composition and lifecycle management: Under the Policy Frame, the NESS asset mix would be adjusted through new acquisitions and declaring surplus those assets that do not address the current risk environment. The NESS would continue to hold social service assets in a volume appropriate to the risk environment and the federal role for surge capacity. Surplus assets would be managed in accordance with the Treasury Board *Directive on Disposal of Surplus Materiel*; overstocked assets, including a portion of beds and blankets, would be offered for donation to P/Ts to increase their capacity, and assets that no longer have an emergency management role would be sold or recycled.

Warehouses: An independent assessment of the federal warehouse network was undertaken. The assessment found that strategically moving from nine warehouse locations to six would increase management efficiency while effectively providing the same response capacity. The federal government would also save \$900K annually. The three warehouses that would be closed are not staffed; therefore, those closures would not result in any job losses. The average transportation time for deployments to non-remote locations would change from about five to six hours, and the same number of locations would be within the 24-hour deployment target. This change would have no impact on deployments to remote locations, given the current approach to reaching these locations is by air.

Pre-positioned sites: The condition of assets in the P/T-managed pre-positioned sites is generally unknown. The majority of these sites are out-of-date, have never been used, and duplicate warehouse capacity. Under NESS modernization, most of these sites would be closed; however, discussions with P/Ts would be undertaken to identify where updated pre-positioned sites could be maintained (e.g. in the North and other remote locations).

Program name: To reflect the new strategic direction for the modernized stockpile, the name of the program would be changed to the National Emergency Strategic Stockpile.

RESOURCE IMPLICATIONS:

No new resources are required for the implementation of the Policy Frame, the Optimization Plan, or the Engagement Plan.

.../4

COMMUNICATIONS IMPLICATIONS:

No media attention is anticipated for this initiative at this time. The Engagement Plan outlines the required discussions with the federal community and P/Ts. A communication strategy will be developed in advance of the discussions with P/Ts.

RECOMMENDATION:

It is recommended that you indicate your concurrence with the NESS Policy Frame, Optimization Plan and Engagement Plan, as well as their implementation, by signing the "I concur" block below.



AUG 23 2013

☐ I do not concur

☒ I concur

A large, stylized handwritten signature in black ink, appearing to read "R. Lalonde".
Minister

SEP 16 2013

Date

MECS# 13-110241 - 95

Contact:

Telephone:



Attachments

Appendix A – Policy Frame

Appendix B – Optimization Plan

Appendix C – Engagement Plan



NATIONAL EMERGENCY STRATEGIC STOCKPILE

Policy Frame

DRAFT

August 1, 2012

NATIONAL EMERGENCY STRATEGIC STOCKPILE
Policy Frame

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NATIONAL EMERGENCY STRATEGIC STOCKPILE POLICY FRAME

Preamble

- There have been significant shifts in the health emergency management context since the inception of the National Emergency Strategic Stockpile (NESS), such as:
 - the emergence of new threats to public health;
 - enhanced capacity among partners;
 - technological advances in pharmaceuticals and medical equipment; and
 - improved transportation infrastructure and more options for acquisition of supplies.
- While the acquisition of NESS assets has been guided by this changing context, a more strategic approach to modern stockpile management is required to ensure that the asset base remains relevant and responsive to the risk environment (e.g. clear acquisition and life cycle management policies; clear articulation of criteria for NESS deployment).
- In order to modernize the NESS and ensure that it is sustainable going forward, there is a need to articulate a policy direction for the program and situate it in the broader health emergency management context in Canada.

NESS Policy Direction

Vision

- The NESS provides surge capacity in a reliable and timely manner, ensuring access to a relevant stockpile of health emergency assets in response to public health threats and emergencies.

Principles

1. Provision of health emergency assets for surge capacity when local and P/T resources have been exhausted
2. Provision of niche assets where the federal government is the sole provider in the national emergency management system
3. Risk-informed and evidence-based decision-making on strategic asset composition
4. Responsive and adaptable to the ongoing evolution of emergency management in Canada
5. Collaboration and coordination among government and non-governmental organization (NGO) partners
6. Effective and efficient stewardship of stockpile including asset lifecycle management
7. Domestic focus; international role on exceptional basis at direction of the Government of Canada (GoC)
8. For use in exceptional circumstances; not intended to address health care system requirements

Objectives for the NESS

1. To clarify and define NESS mandate, roles and responsibilities with partners
2. To clearly define level of capacity required to meet Government of Canada expectations of NESS
3. To position NESS as a store of specialty assets aligned with current risk environment that considers P/T and NGO capacity
4. To clarify NESS governance structure
5. To modernize stockpile management practices and inventory systems
6. To enhance communications and establish networks with key partners

NESS Background

- The NESS program provides emergency supplies to P/Ts as surge capacity, upon request. It was created through a Cabinet decision in 1952 as a stockpile of essential medical supplies in response to the Cold War. It was further expanded in the early 1960s to include portable medical facilities, which included assets currently repurposed as social service supplies (e.g. beds and blankets).
- The program was authorized by Cabinet to assist with emergency responses to domestic peacetime disasters in 1965.
- The NESS has since evolved to address the broader range of public health threats that have emerged in the 21st century, in aligning with the Government of Canada's all-hazards approach (a scalable and flexible generic plan able to address all types of events). Consistent with Cabinet direction, the composition of the stockpiled supplies was expanded to include medical countermeasures to respond to the risk of bioterrorism (2001), and pandemic supplies (2006 and 2009).
- Currently, NESS holdings include:
 - Medical equipment and supplies (e.g. mini-clinics, x-ray machines, ventilators, stretchers, wound dressings);
 - Pandemic supplies (e.g. antivirals and personal protective equipment including masks, gloves and disposable gowns);
 - Pharmaceuticals (e.g. antibiotics, analgesics, anesthetics, and chemical, biological and radio- nuclear countermeasures); and
 - Social service supplies (e.g. reception centre kits, generators, beds, blankets, towels).
- Sixty percent of NESS assets are held at 11 federal warehouses across Canada, and forty percent are pre-positioned at approximately 1000 P/T-managed sites across the country.
- It is estimated that the NESS inventory carries an asset book value of approximately [REDACTED] (see Appendix A for the current asset mix breakdown). Annual operating costs include lease costs of \$3M, salary costs of \$1.5M, and O&M costs of \$2.2M.

- NESS materials were deployed for 139 domestic events and 23 international events between 1985 and 2011, in response to a variety of public health events and other emergencies, and in preparation for mass gatherings such as the Olympics (see Appendix B).

Governance

- The Minister of Health has authority to deploy assets to P/Ts, as granted by Cabinet in 1965. In practice, to ensure timely response, the authority for domestic deployments lies with the Director responsible for NESS. The Deputy Head of the Public Health Agency of Canada (PHAC) and the Minister's Office are notified of deployment of NESS assets.
- Emergency social service and pandemic supplies are typically deployed in this manner; however, additional criteria is imposed and Deputy Head or Ministerial approval is requested on a case-by-case basis such as:
 - deployments that include pharmaceuticals;
 - deployments that include assets with particularly high values; and / or significant impact on response capability
 - deployments that fall outside of surge capacity for emergency response (e.g. filling a market shortage).
- The Minister of Health and Deputy Head of PHAC do not have the authority to deploy assets internationally without Cabinet approval. International deployments can be made on a case-by-case basis in cooperation with federal partners who have international mandates, and are guided by PHAC's *Policy on the Donation, Loan, and Sale of PHAC Supplies to Foreign Governments and International Health Organizations and the Provision of PHAC Supplies to the Department of Foreign Affairs and International Trade* (described under International Federal Role below).
- Operational purchasing and disposal decisions are made by the Director responsible for NESS, following federal Treasury Board Crown asset and financial policies. Direction from the Deputy Head is sought when dealing with high volumes or assets with high values.
- Key strategic direction changes for the NESS require approval by Cabinet.

Government of Canada's Roles and Responsibilities

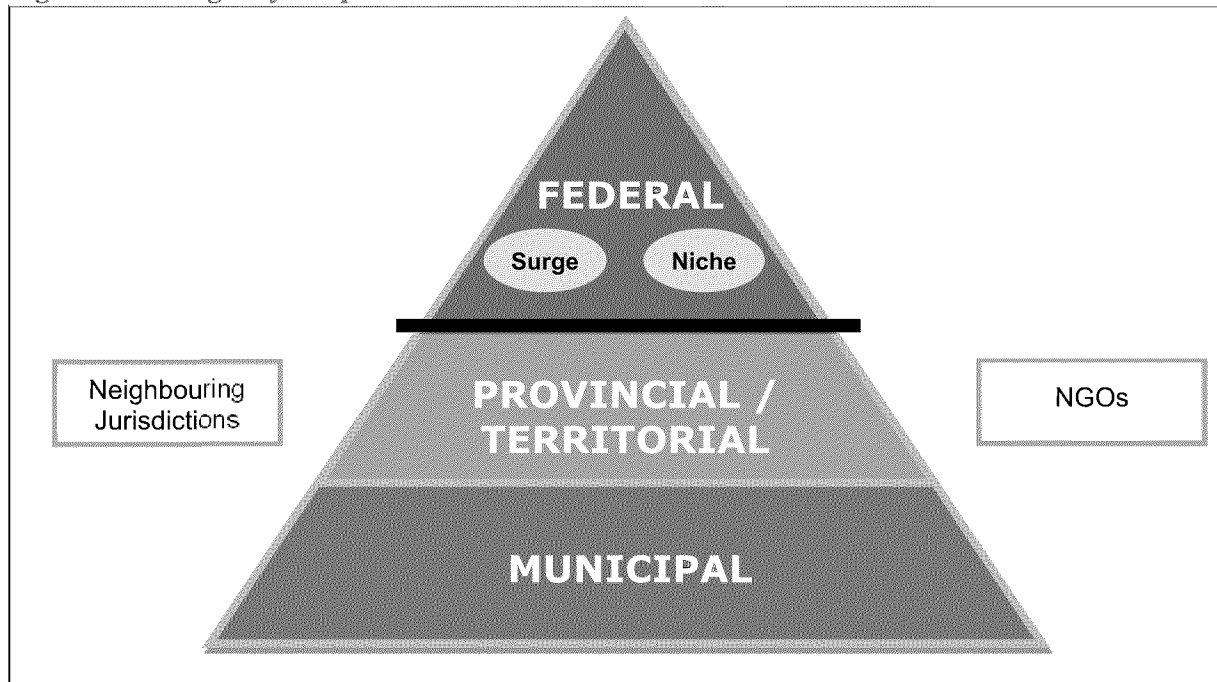
Domestic Federal Role

- While public health in Canada is a shared responsibility among local, P/T, and federal governments, there is a clear federal role in public health and emergency management. The fundamental assumption underpinning emergency management is that local and P/T jurisdictions are prepared to a reasonable extent for the most common emergencies (e.g. natural disasters). The federal role is twofold, providing surge capacity to P/Ts at their request when their own resources are not sufficient, and being the sole provider of certain assets required for rare public health emergencies (Figure 1). As well, the federal

government provides leadership and coordination when public health events span multiple jurisdictions.

- In terms of the federal response, the *Emergency Management Act* (2007) sets out clear roles and responsibilities for all departments across the full spectrum of emergency management. In accordance with this Act, the Federal Emergency Response Plan (FERP) (2009) forms the all-hazards plan for a coordinated federal response to emergencies.

Figure 1: Emergency Response Escalation



- Under this legislation and FERP, the Minister of Health has the primary responsibility for FERP’s Emergency Support Function #5, “Public Health and Essential Human Services,” and is required to identify risks and plan for national public health threats.
- This emergency support function identifies the PHAC as the principal public health advisor to the Minister of Health, with emergency management responsibilities in areas relating to (among others): public health emergencies involving natural and intentional disasters, including infectious disease outbreaks; and deployment of NESS assets and mobilization of federal expertise (e.g. field epidemiologists and the Microbiology Emergency Response Team).
- As well, as outlined in the Canadian Pandemic Influenza Plan for the Health Sector (2006), PHAC is the lead federal agency responsible for addressing pandemic influenza preparedness and response; key activities include stockpiling pharmaceuticals, equipment and supplies to provide surge capacity to P/Ts.

- The Agency's NESS program is also consistent with the International Health Regulations (2005), which stipulate that the federal government must provide support for logistical assistance (e.g. supplies and equipment) during a domestic public health event.

Other Government Departments

- Federal departments are responsible for developing emergency plans with respect to risks in areas for which they are accountable; these plans directly or indirectly support the FERP's strategic objectives and contribute to the integrated Government of Canada response. Public Safety Canada administers the FERP and is the overall lead for coordinating the federal government's response to emergencies in Canada, including response to terrorist threats. Under the FERP, different federal departments play lead or supporting roles in response to emergencies, depending on the scope and nature of the event.
- Of particular relevance to the Health Portfolio, Aboriginal Affairs and Northern Development Canada (AANDC) supports on-reserve First Nations communities in emergency management when the local community's capacity to respond has been exceeded. The AANDC's role is to provide advice and support as requested by P/Ts, while P/T emergency management organizations provide front-line emergency response service (costs related to emergency assistance in First Nations communities are funded by AANDC and Public Safety).
- Additionally, in accordance with its Canada First Defence Strategy, the Department of National Defence (DND) provides support for civilian authorities during a crisis in Canada such as a natural disaster, and may also assist in responding to international crises.
- While the NESS is the only federal stockpile of surge health supplies intended for the general Canadian population, other federal departments (e.g. Health Canada, Canadian Food Inspection Agency [CFIA], Correctional Service of Canada [CSC], Department of National Defense [DND], Foreign Affairs, Trade and Development Canada [FATD]) maintain modest stockpiles of mostly pandemic supplies intended to fulfill their respective departmental requirements and meet the needs of their federal populations. For example, FATD stockpiles personal protective equipment intended for employees in the NCR and on missions abroad.
- The NESS has agreements to stockpile certain supplies of other departments, including CFIA antivirals and a portion of DND smallpox vaccine.
- At times, assets are shared between departments; decisions to provide NESS assets to other federal departments on a small scale are made on a case-by-case basis under the provision that NESS capacity is not significantly compromised.

International Federal Role

- PHAC may be called upon by the international community (e.g. foreign governments, multilateral organizations) and/or other federal departments to provide international assistance with public health event management, capacity building and disaster response.

- As PHAC has a domestic mandate, the provision of PHAC supplies internationally is the exception rather than the rule and requires Cabinet authority. International deployments have occurred only in response to events of catastrophic proportions associated with high morbidity and injury rates. As a result of such events, PHAC has been called upon to provide emergency health supplies from the NESS.
- Generally, these assets have been deployed through other government departments that have international mandates (such as FATD), and Cabinet authorities have been sought as needed on a case-by-case basis.
- In order to clarify how supplies are donated on an international basis, PHAC created the *Policy on the Donation, Loan, and Sale of PHAC Supplies to Foreign Governments and International Health Organizations and the Provision of PHAC Supplies to the (former) Department of Foreign Affairs and International Trade*, approved by PHAC EC in 2011. This policy is intended to guide international donations, providing a framework for the management of requests by foreign governments and international health organizations for PHAC supplies. It allows for supplies to be provided under exceptional circumstances if they are not otherwise available or where mitigating the spread of diseases protects the health of Canadians.
- The policy also features guidelines regarding when a donation, loan or sale of PHAC supplies can be made, and describes various factors that must be taken into consideration when assessing a request (e.g. PHAC's capacity to respond to domestic emergencies must be maintained, the deployment must support rather than duplicate multilateral efforts and align with Government of Canada policies regarding foreign and development assistance).

Municipal and P/T Context

- Responsibility for the delivery of health care and social services generally lies at the municipal and P/T levels. Municipalities are the first responders in emergencies; if their health and emergency social services capabilities become overwhelmed, they can request assistance from P/Ts. Each P/T has emergency legislation and is responsible for their own emergency preparedness and response activities.
- In the event that P/Ts require further assistance, depending on the circumstances and magnitude of the disaster, they may request aid from NGOs, neighbouring P/Ts and border states (if agreements are in place), and/or the federal government (e.g. NESS).
- With respect to mutual aid, the Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public was approved by F/P/T Ministers of Health in 2009. This MOU outlines common principles for providing inter-jurisdictional assistance during emergencies that threaten the health of the public; while it has not yet been operationalized, work is ongoing in this area.

- Jurisdictions rely to varying degrees on federal assistance, because they have different capacity levels and different relationships with other players (due to past histories requesting surge capacity and political factors). For example, when a jurisdiction is faced with a natural disaster, one might approach the federal government directly for emergency supplies, while another would be more likely to request assistance from the Canadian Red Cross.
- PHAC's broader emergency preparedness and response efforts focused on building capacity recognize that capacity will vary based on individual jurisdictions' circumstances over time.
- The renewed emphasis on emergency management capacity building will help to bring P/T capacity levels up to a consistent threshold, as will other emergency management tools and protocols in place, such as the 2009 FPT MOU on Mutual Aid and Public Safety's national disaster mitigation strategy. Enhancing P/T capacity will help to ensure a more consistent approach to emergency management escalation.
- The composition and level of municipal and P/T stores of supplies have not been formally disclosed to the federal government. Further information on the capacity of P/Ts will be sought as part of formal consultations at a later date. Additionally, more detailed information on federal initiatives to build capacity among P/Ts is needed.

NGO Context

- NGOs tend to focus on the provision of social service supplies, shelter, and general medical supplies, as opposed to medical countermeasures, antivirals, or specialized medical equipment. The capacity of NGOs is inconsistent across the country. For example, organizations such as St. John's Ambulance and the Salvation Army have some emergency response capacity; however, this is limited to the local level.
- The NGO with the greatest capacity to provide national surge capacity is the Canadian Red Cross. Public authorities at any level of government (municipal, P/T or federal) may request urgent assistance from the Canadian Red Cross, which works in partnership with first responders, emergency managers, and public officials to support their response activities. The Canadian Red Cross is well-positioned to act quickly in responding to emergencies as a result of its established networks and partnerships at the national, P/T, and community level; it has a Memorandum of Understanding with Public Safety Canada as well as agreements with 8 P/Ts and 800 municipalities. The organization is currently taking measures to expand the number of agreements with P/Ts and municipalities, which will contribute towards a more consistent emergency management escalation approach across Canada.
- NGO capacity has increased since the inception of the NESS. Agreements currently in place with the Canadian Red Cross (and potentially other NGOs) essentially represent contracted emergency surge capacity, bolstering P/T capacity. Improved engagement with these partners is needed going forward, as their local infrastructure supports quicker mobilization to provide a better response to a public health event.

- There is also a need for more information regarding the capacity of NGOs, their agreements with jurisdictions across the country, and a need to refine their roles and responsibilities in the F/P/T emergency management context.

Proposed Role of the NESS

- There will always be the expectation that the Government of Canada will play a leadership role in supporting Canadians in times of emergency, while respecting jurisdictional authority. During an emergency, Canadians expect that their governments will provide them with the supplies they need. It is unlikely that Canadians view each level of government as having a specific mandate with respect to the provision of emergency supplies, although the degree to which an emergency is localized is likely to determine expectations of federal involvement. However, regardless of the emergency, if P/T supplies were exhausted or proved to be insufficient, Canadians would likely look to the federal government to supplement capacity. The absence of federal surge capacity in times of need may be seen as the Government of Canada not following through on its commitment to the health and safety of Canadians.
- However, it is important that the scope of the federal role is well-defined as it is not feasible to expect that the federal stockpile represent preparation for every eventuality. The future role of the NESS must take the evolving landscape of key players into consideration. Given the ongoing efforts of the government to build P/T emergency management capacity, there is an expectation that P/Ts be prepared to respond to public health events that occur on a frequent basis (e.g. annual flooding in certain parts of the country). Federal assistance should represent the last resort and should only be requested when all other avenues of aid (and P/Ts' own capacity levels) have been exhausted.
- This is particularly relevant for emergency social service supplies, which are more easily accessible and may be provided by NGO partners. However, in the case of a major public health event requiring large quantities of these supplies, the NESS may be required to provide assistance. Therefore, in keeping with the current risks and needs in Canada, surge capacity for a social service response has a role in federal emergency management and the NESS asset mix.
- While the NESS has a role in surge capacity, it should be focused on being a primary supplier of niche assets which are not stockpiled by P/Ts and NGOs. It may not be feasible for all P/Ts to be prepared for low probability, high impact events. For example, an outbreak of smallpox is very unlikely; however, it is prudent for smallpox vaccine to be available for the Canadian population as a medical countermeasure in the case of bioterrorism. The NESS is also likely to be the sole provider of medical countermeasures that are not approved for general use in Canada. [REDACTED]
[REDACTED]
- It falls to the federal government to be prepared for such events, arranging for the continued availability of niche pharmaceuticals, medical supplies, and equipment that are rare and difficult for P/Ts and NGOs to obtain. Many of these niche assets do not exist in the

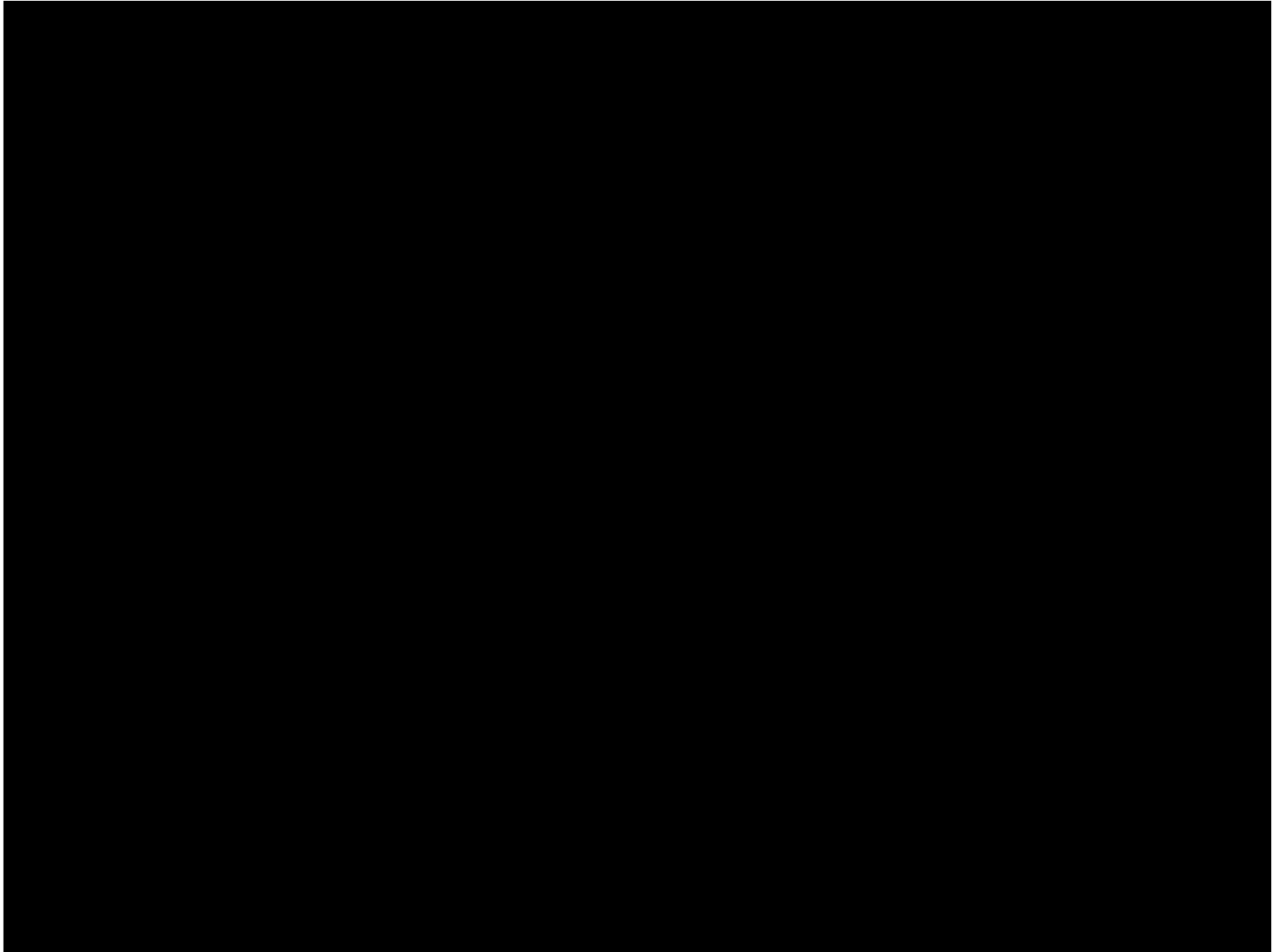
hospital systems in Canada and are challenging to acquire during an emergency (few manufacturers, licensing restrictions, not licensed for sale in Canada, long lead time for procurement).

- This is consistent with international practices, as the national stockpiles in both the United States and Australia have a twofold purpose, in that they provide both surge capacity and capacity for low-probability, high-impact events, storing essential medicines and equipment for chemical, biological and radio-nuclear terrorism or major communicable disease outbreaks.
- It is important that NESS assets meet current standards of care, are medically relevant, and use the latest technologies where appropriate. Outdated and irrelevant asset holdings impede the ability of the NESS to respond effectively to public health emergencies.

Moving Forward

- Going forward, the policy frame will be refreshed at regular intervals, followed by a corresponding realignment of the NESS asset mix.

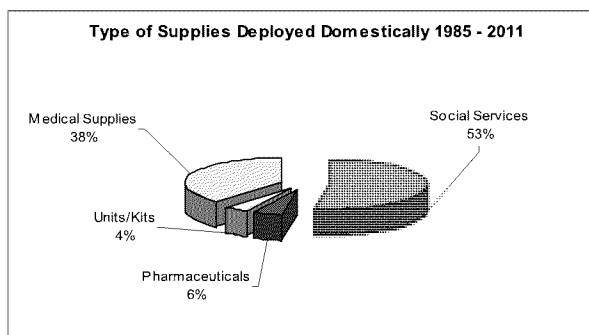
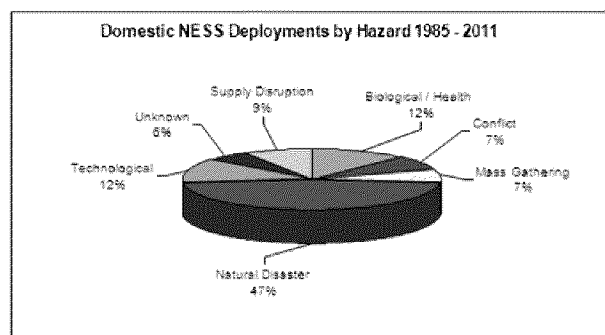
Appendix A – NESS Asset Mix



Appendix B – NESS Deployments

Domestic Deployments

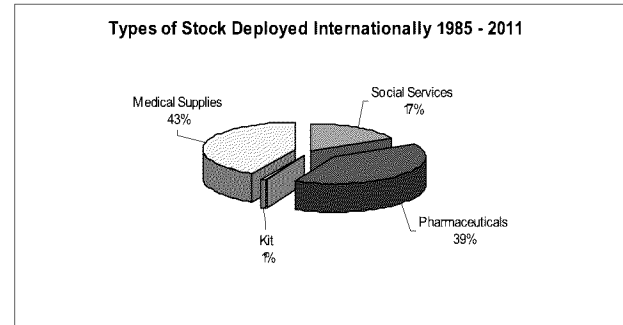
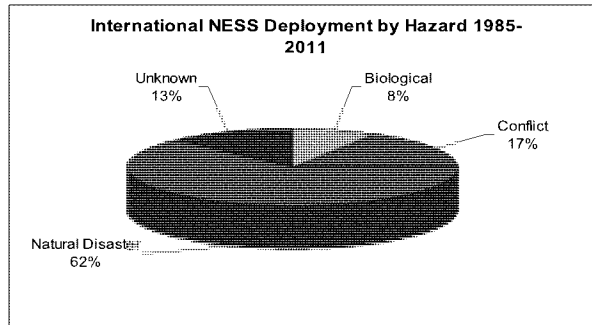
- Nearly half of NESS deployments have been in response to natural disasters; for instance, the Red River floods in Manitoba (late 1990s), and ice storm in Ontario and Quebec (1998).
- Technological deployments have included responses to industrial fires (1990), power outages (2003) and the Swiss Air crash off the coast of Nova Scotia (1998).
- Deployments to biological events have primarily been responses to the SARS (2003) and H1N1 (2009) outbreaks.
- There have also been deployments during times of conflict such as during the Oka crisis (1990) and the 9/11 attacks that stranded airline passengers in eastern Canada (2001).
- Deployments of the stockpile have also included a surge capacity role for mass gatherings; for example, the use of the mini-clinic at the 2010 Winter Olympic Games in Vancouver.
- Supply disruption deployments are primarily to support other organizations when their own supplies have been depleted due to an event or a disruption in the supply chain. For example, Oseltamivir (an antiviral) was issued to the CFIA after an outbreak of avian flu was detected at a farm in 2004.
- Approximately 37,200 Tamiflu capsules have been deployed since 2004, and approximately 136,907 blankets for incidents such as floods or forest fires (this number include the same blankets re-used on multiple occasions).



International Deployments

- Internationally, there has been a greater need for health supplies in response to conflicts or geological events.

- Deployments have included support for the response to the tsunami in Southeast Asia (2005) and after Hurricane Katrina in the United States (2005) and, more recently, the earthquake that occurred in Haiti in 2009 (supplies were distributed in 2010) and Japan (2011).
- Since 2000, NESS has deployed 27,604 [REDACTED] approx. 4 million units of antibiotics (Maldives, Philippines, through CIDA), and approx. 120,000 units of bandages, gloves, needles, gowns, etc. (New Orleans, sent directly).



NATIONAL EMERGENCY STRATEGIC STOCKPILE

Optimization Plan

For PHAC Internal Use Only

August 1, 2013

NATIONAL EMERGENCY STRATEGIC STOCKPILE
Optimization Plan

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Introduction

Purpose

This document builds upon the new direction for the National Emergency Strategic Stockpile (NESS), as defined in the Policy Frame, by outlining governance, authorities, asset composition, and deployment, management and procurement of assets. The Optimization Plan also provides a framework for the NESS for managing decision-making.

This document also meets deliverables outlined in the Management Response Action Plan for the 2010 *Evaluation of the NESS* and the Management Action Plan for the 2009 *Audit of Emergency Preparedness and Response*

The target audience for this document is internal to the Public Health Agency of Canada (PHAC).

Preamble

The NESS provides surge capacity in a reliable and timely manner, ensuring access to a relevant stockpile of emergency health-related assets in response to public health risks and other potential emergencies. This requires appropriate asset composition, procurement and lifecycle management.

Since the NESS was established in 1952, there have been significant shifts in the health emergency management context, including the evolution of new public health risks, increased capacity among partners, technological advances in pharmaceuticals and medical equipment, and an increased emphasis on the interjurisdictional sharing of medical supplies and equipment.

Given these and other changes, a strategic approach to stockpiling is required to adjust for these changes and accurately reflect a modern public health environment. The changes outlined in the NESS Policy Frame and detailed within this Optimization Plan aim to ensure the NESS asset base remains relevant, responsive and available when emergencies or other major events occur. The modernization of the NESS helps ensure the Government of Canada is able to better respond to the evolving risk environment.

Roles and Responsibilities

(as outlined in the NESS policy frame)

There will always be the expectation that the Government of Canada plays a leadership role in supporting Canadians in times of emergency, while respecting jurisdictional authority. Federal surge capacity demonstrates the Government of Canada's commitment to the health and safety of Canadians.

Responsibility for the delivery of health care and social services generally lies at the municipal and provincial/territorial levels. Each province and territory (P/T) has emergency legislation and is responsible for their emergency preparedness and response activities. In the event that P/Ts

require assistance, they may request aid from non-governmental organizations (NGOs), regional agreement partners, and/or the NESS.

Part of the federal government's role is to be prepared for low-probability, high-impact events, arranging for the continued availability of pharmaceuticals, medical supplies, and equipment that are rare and/or difficult to obtain in a short time frame.

While the NESS has a role in surge capacity with respect to social service supplies, it should focus on being a primary supplier of assets that are not ordinarily stockpiled by P/Ts and NGOs.

NESS Principles

(as outlined in the NESS policy frame)

- Provision of health emergency assets for surge capacity when local and P/T resources have been exhausted
- Provision of niche assets where the federal government is the sole provider in the national emergency management system
- Risk-informed and evidence-based decision-making on strategic asset composition
- Responsive and adaptable to the ongoing evolution of emergency management in Canada
- Collaboration and coordination among government and non-governmental organization (NGO) partners
- Effective and efficient stewardship of stockpile including asset lifecycle management
- Domestic focus; international role on exceptional basis at direction of the Government of Canada (GoC)
- For use in exceptional circumstances; not intended to address health care system requirements

NESS Objectives

(as outlined in the NESS policy frame)

- To clarify and define NESS mandate, roles and responsibilities with partners
- To clearly define level of capacity required to meet Government of Canada expectations of NESS
- To position NESS as a store of specialty assets aligned with current risk environment that considers P/T and NGO capacity
- To clarify NESS governance structure
- To modernize stockpile management practices and inventory systems
- To enhance communications and establish networks with key partners


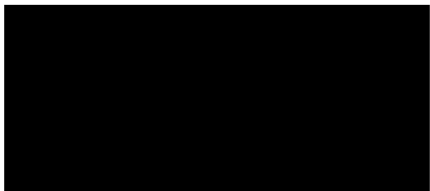
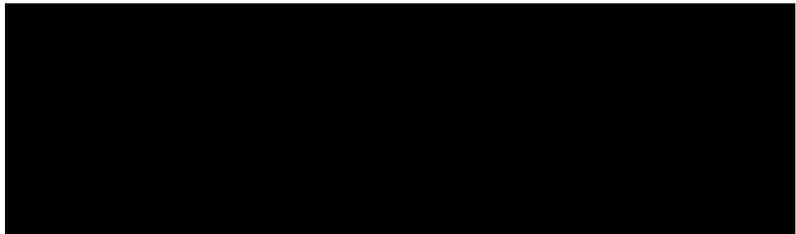
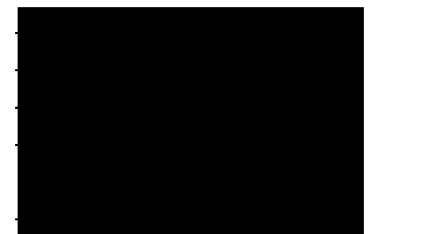
Authorities and Governance


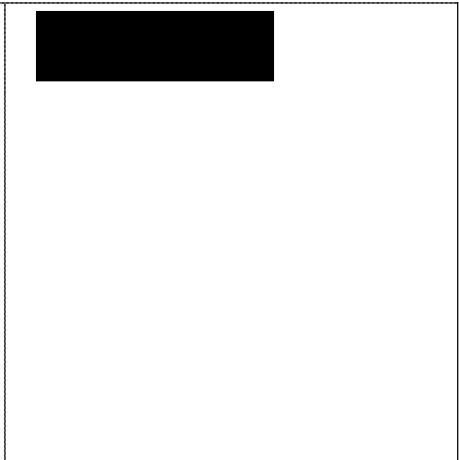

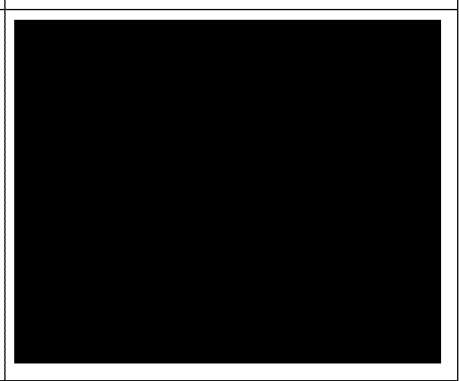
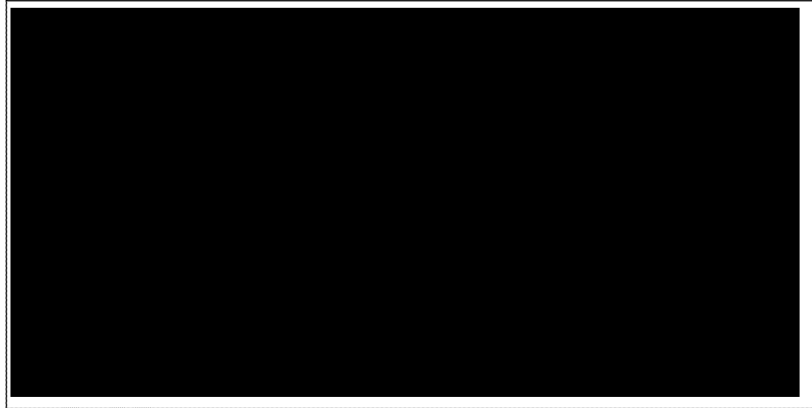
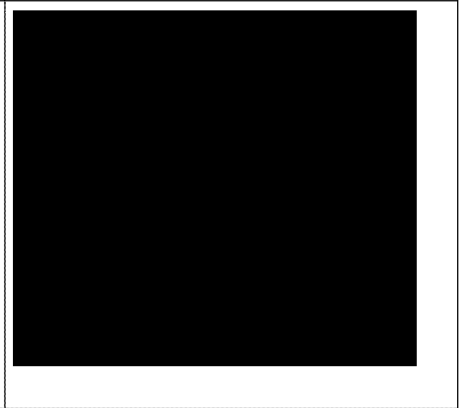
Authorities

All NESS cabinet decisions support the modernization efforts. The original, fundamental authorities for stockpiling and support to the P/Ts continue to serve NESS through modernization. The authorities received over the last 12 years are additive to provide all the authority required for the key elements of NESS modernization, including preparedness for

terror events and pandemics, a modernized stockpile, inventory management, and strategic distribution of holdings. Overall the authorities allow NESS to address the broad range of public health threats that have emerged in the 21st century and align with the Government of Canada's all-hazards approach to emergency management.

Figure 1: NESS Authorities

Cabinet Decisions	Authority and application
<p>January 1952 “The Cabinet, after discussion, agreed that the Department of National Health and Welfare be authorized to stockpile essential health supplies for civil defence purposes in an amount not exceeding \$2.25 million during this and the next fiscal years subject to Treasury Board approval being obtained in the usual manner for specific commitments.”</p>	<ul style="list-style-type: none"> - Stockpiling - The basis for NESS
<p>May 1965 “The Cabinet approved in principle the recommendation of the Minister of National Health and Welfare for the use, in the event of peacetime disaster, of emergency health and welfare supplies stockpiled regionally in Canada, on the basis of requests from provincial authorities and approval by the Minister of National Health and Welfare.”</p>	<ul style="list-style-type: none"> - Surge capacity to provinces - Continues as the key role for the NESS
Treasury Board Submissions	
<p>1960/1964 - Funding to purchase portable medical facilities.</p>	<ul style="list-style-type: none"> - Acquisitions made - Facilities now out-of-date - Replaced with mini-clinics
	
	

Governance

NESS operational decisions are made by the program Director. Decisions with policy implications are referred to the PHAC Science Policy Management Committee (SPMC). Decisions requiring strategic direction are referred to the PHAC Executive Committee (EC). NESS governance is well established and has been recently refined with greater senior management oversight; no further changes are required for NESS modernization.

Domestic Deployments

The Minister of Health has the authority to deploy assets to P/Ts. In practice, to facilitate a timely response, the authority for domestic deployments is delegated to the Director responsible for NESS. This delegation will be renewed with a new formal instrument of delegation as part of the overall NESS modernization.

During emergencies or events, when the Health Portfolio Operations Centre (HP OC) activation level is escalated, the decision-making for deployments will be routed through the Incident Management System (IMS) for information and/or approvals.

The Deputy Head of PHAC and the Minister's Office are notified of all significant or sensitive NESS requests and deployments.

Figure 2: Governance

Decision	Authority
Operational Direction	Director of NESS
Policy Direction	SPMC
Strategic Direction	EC
Emergency Deployments to P/Ts	Director of NESS
International Deployment	Cabinet if authority required
Non-emergency deployment	Deputy Head and possibly Minister
Major investments	EC
Reducing or dis-continuing major holdings	Deputy Head of PHAC

International Deployments

As PHAC is not an international aid organization, the provision of PHAC supplies is the exception rather than the rule, and must align with federal laws, guidelines and regulations.

The Policy on the Donation, Loan, and Sale of PHAC Supplies to Foreign Governments and International Health Organizations and the Provision of PHAC Supplies to the (former) Department of Foreign Affairs and International Trade (2011) guides international donations, providing a framework for the management of requests by foreign governments and international health organizations for PHAC supplies.

International deployments may be made on a case-by-case basis in cooperation with federal partners who have international mandates. Depending on the scope of a deployment, a decision of Cabinet may also be required.

Non-emergency Use of the NESS

The NESS maintains a limited supply of pharmaceutical products that are targeted for emergency response, and are not intended to address routine health system requirements; however, on a case-by-case basis, they may be made available in times of drug shortages to prevent serious harm or death.

Deputy Head approval, and Ministerial approval if required, is requested for deployments that fall outside of surge capacity for emergency response (e.g. responding to a market shortage or supporting research).

Acquisitions and Disposals

With certain exceptions, NESS decision-making for acquisitions and disposals is made by the Director or Branch Head responsible for the NESS. Acquisition decisions are made in accordance with respective spending authorities within the *Financial Administration Act* (1985) and the *Public Health Agency of Canada Delegation of Financial Signing Authorities* (2009). Decisions on the disposal of surplus assets, including donation or sale, are made in accordance with the Treasury Board *Directive on Disposal of Surplus Materiel* (2006), and the *Surplus Crown Assets Act* (1985).

For decisions on significantly reducing or dis-continuing specific holdings, such as beds and blankets, or assets that do not meet the current risk environment the Deputy Head of PHAC is consulted.

Significant investments are included in the PHAC Long Term Strategic Investment Plan and approved by EC.

NESS input into the decision-making processes is determined through an evidence-based and risk-informed process, as outlined below.

Example of Modernization: *Medical Countermeasures*

Municipalities and P/Ts are the first to respond to emergencies. If necessary, they can request support from partners such as NGOs, neighbouring P/Ts and U.S. states or the federal government.

In the past, NESS has provided support in the form of emergency social service supplies, such as beds and blankets; however, these items are easily accessible from a variety of other sources. While still maintaining a stockpile of these supplies for large scale emergencies, NESS will begin to focus mainly on niche assets, such as those types of MCM that are rare, difficult to obtain in a timely manner, or are used in low probability, high impact situations.

Moving in this direction, the Strategic Asset Management tool (see below) was used to make a recommendation to EC on the appropriate type and quantity of [REDACTED] to hold in the NESS.

To support this and other recommendations, the NESS has developed a 5-year acquisition plan for MCM. The Public Health Agency of Canada is also working with international partners to enhance and guide research on the development of new medical

The Risk Management and Oversight Committee (RMOC) supports the development of PHAC standards, policies and systems in relation to risk management. This committee is currently

determining its oversight role for programs. Once this decision is made RMOC will be engaged in the oversight of the NESS decision-making processes.

Asset Renewal Strategy

Evidence-based and Risk-informed

Since 2012, the decision making for both acquisitions and disposals has been supported by two subject matter expert advisory committees: the Medical Equipment and Supplies Advisory Committee (MESAC) and the Pharmaceutical and Therapeutics Committee (P&TC). Membership on the MESAC is from PHAC and one representative from Health Canada. P&TC includes members from PHAC, Health Canada, and one from the Department of National Defence. The advice from the committees is grounded in current literature, risk assessments and other cost/benefit analysis tools. Additional considerations for the committees include manufacturing availability, opportunities for cost-savings and risk to the Canadian public and Government of Canada.

Two tools are used by the MESAC and P&TC to support their recommendations:

Risk Assessment

In considering NESS asset acquisitions, the P&TC and MESAC are informed by the on-going work of the Health Portfolio Emergency Preparedness Committee. More specifically, their *Public Health Emergency Risk Assessment Report*, first developed in 2010, provides information about the likelihood and impact of various hazards, risks and threats.

The report is designed to identify, analyse and evaluate threats, hazards and risks that could result in public health emergencies that could require preparedness and response by the Health Portfolio. It is an all-hazards risk assessment that considers malicious or intentional threats as well as naturally-occurring or accidental hazards.

Strategic Asset Management (SAM) Risk-Based Decision Tool

The SAM tool was implemented in 2012 as a methodology to support the Agency in assessing the mitigation value of an asset based on the All-Hazard Risk Assessment within the *Public Health Emergency Risk Assessment* (2011) report. The SAM tool uses a mixed methodology (quantitative and qualitative) to provide detail and context to the types of assets (medical, pharmaceutical and social service) that the NESS will require to address the current risk environment. Since its implementation in 2012, the SAM tool has been used to provide recommendations and support decisions by the P&TC to senior management. To date, six assets have been evaluated and recommendations have been made based on the risk environment and financial considerations.

Asset Composition

Since the establishment of the NESS in 1952, the composition of assets has reflected the changing emergency management context. Overtime, assets that have been acquired tend to fall into one of four categories, (1) medical equipment and supplies (e.g. mini-clinics, X-ray machines), (2) pandemic supplies (e.g. antivirals and personal protective equipment), (3)

pharmaceuticals (e.g. antibiotics, chemical, biological and radio-nuclear countermeasures) and (4) social service supplies (e.g. reception centre kits, beds and blankets).

Given the threat of large scale mass casualties (e.g. nuclear exchange) and less reliable transit systems in the past, the volume of NESS 1960s portable medical facilities is extensive. This now results in a volume of social service supplies that is larger than would ever be used in Canada. In addition, many more appropriate social service assets are now easily accessible through other mechanisms such as other levels of government, NGOs or in the marketplace. A risk assessment has confirmed that such a high volume of social service supplies is not required.

As indicated in the NESS Policy Frame, the asset mix will be revisited to meet the current risk environment. The NESS will prioritize pharmaceutical holdings such as medical countermeasures that have few manufacturers, are difficult to obtain/maintain and have a long lead time for procurement. As required, medical equipment and pandemic supplies will continue to be maintained; however, NESS holdings of social service supplies will be realigned with the current risk environment.

While the quantities and products are subject to change, the decisions surrounding the future holdings of the NESS will continue to be dependent upon the evolving risk environment, the science provided through assessment tools and the advice of expert committees. The modernized NESS asset mix will remain fluid and responsive to the changing environment (see Annex A for an overview of the changes to key assets).

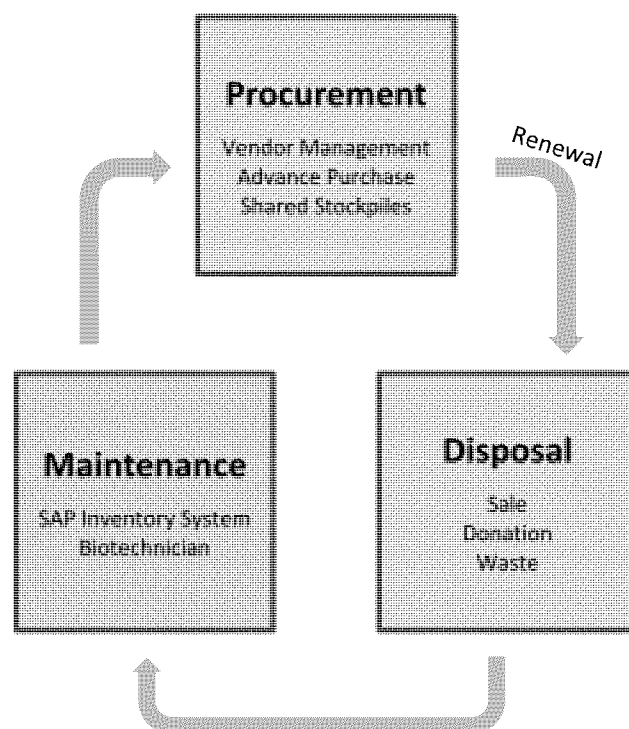
Lifecycle Management

The lifecycle management process ensures that the NESS has up-to-date and relevant assets to ensure the Government of Canada is prepared and able to meet its public health responsibilities. Through the monitoring of assets, NESS can make informed decisions about procurement, maintenance and renewal or disposal.

Procurement

The modernized NESS considers the best options available with regards to procurement, material management and lifecycle management of NESS assets. The NESS purchases, manages and stores the majority of its assets at its facilities; however, depending on the type of asset and/or emergency, a variety of methods are currently considered:

Figure 3: Lifecycle Management



Vendor-managed Inventory

- This involves the use of a vendor- or distributor-managed inventory, leveraging the use of the private sector warehouse and inventory management capacity. The continuous expiry of components of the stockpile can be managed by cycling inventory through the vendor's stockpile, as needed, through ongoing sales to other customers. For certain pharmaceuticals, products can be managed by such agreement that allow priority access to products stored and maintained by the manufacturer. This practice can reduce cost and is explored by the NESS whenever possible. The NESS currently has vendor managed inventory agreements for some of its assets.

Advance Purchase Agreements

- These are contractual provisions that prioritize purchases for a specific buyer and include contingency plans for transportation and direct shipment of the product from the country of production (if applicable) to Canada. These types of agreements can be useful in reducing the costs associated with storing and replacing pharmaceuticals with short lifespans, however, deployments could be delayed due to transportation issues or depleted stock in times of high demand. While no such agreements are currently in place for NESS assets, the Public Health Agency of Canada uses a similar mechanism for procurement of pandemic influenza vaccine.

Shared Stockpiles

- Stockpiles could be shared with other governments and mechanisms developed to arrange delivery to the NESS if assets from another government's stockpile are required. Reciprocal clauses apply should a government require access to the NESS. While no agreements are currently in place with other governments, this mechanism is used with other federal departments (e.g. the Canadian Food Inspection Agency) and will continue to be considered and implemented, if applicable.

Vendor-managed or advance-purchase agreements rely on constant market consumption of the asset in question. For drugs that are not usually used, such as countermeasures to rare health events, these types of agreement will not likely be possible.

The availability of generic pharmaceuticals, research innovations and other mechanisms to leverage capacity with emergency management partners will continue to be considered in NESS procurements.

Maintenance

Until recently, all inventory data and information for the NESS was processed manually (on paper ledger), which posed significant challenges for maintaining and tracking the status of assets with confidence. In 2012 the NESS implemented two new systems to increase accountability and efficiency - the SAP inventory system and a new barcoding system. These tools have improved inventory control, increased accountability and provided the ability to produce accurate and timely reports.

The NESS ensures that a desired state of readiness is upheld based on an understanding of the current threat and risk environment, cost/benefit analyses and advice of subject matter experts. Given advancements in medical technology, pharmaceuticals and medical equipment in the NESS have become increasingly complex, requiring advance planning and dedicated resources. For example, a bio-technician has been hired as a cost-effective mechanism to provide the required maintenance for advanced medical equipment.

Surplus Assets

When assets approach the end of their lifecycle, renewal or disposal is required. Assets will be renewed in accordance with the risk-informed and evidence-based process. Subject to specific requirements, the Treasury Board *Directive on Disposal of Surplus Materiel* lists a number of options for disposal, including:

- sale through Public Works and Government Services Canada (PWGSC);
- donation to other federal organizations, other levels of government or international governments or organizations;
- donation of the surplus asset to a recognized charitable or non-profit organization; or,
- conversion to waste in an environmentally sustainable manner.

Assets that are surplus to program requirements fall under one of four categories:

- **Obsolete assets** are unsafe to use by modern medical standards or use technology that is no longer relevant to modern medical practice. Such assets pose a liability to the federal government and will be broken down and sold for scrap value.
 - e.g. 1960s X-ray machines, charcoal kitchens
- **Expired pharmaceuticals or supplies** that have reached their maximum shelf life may no longer be appropriate (safe/effective) for use and can pose a liability for the federal

Example of modernization:

200-Bed Emergency Hospitals to Mini-Clinics

In the 1960s, NESS acquired 200-bed emergency hospital units, to provide self-contained acute and short-term medical care in a worst-case scenario.

P/T capacity and medical technology have advanced significantly since this acquisition. 165 of these units are still held, but they no longer meet medical standards of care so cannot be used. Moreover, the risk environment has evolved away from the threat of a large scale nuclear exchange and this is no longer an appropriate asset for the federal government to hold.

The NESS now holds modern mini-clinics for the triage and treatment of the less seriously injured. These portable clinics can supplement existing medical care facilities in a disaster situation, allowing the medical facility to focus on more serious injuries. The mini-clinic can be enhanced with more advanced equipment as required, such as x-ray machines or ventilators.

The beds and blankets in the emergency hospitals contribute to the NESS oversupply of these assets.

government. This is taken into account in long-term planning for NESS acquisitions and as a part of lifecycle management for assets.

- Nearly all pharmaceuticals have an expiry date and will require incineration and replacement as appropriate.
- **Oversupply** refers to an asset that is still required but the quantity exceeds what is required to meet the current risk environment.
 - e.g. hospital beds, wool blankets, World War II style stretchers
- **Not aligned to the current risk environment** or not aligned with the NESS principles.
 - e.g. garbage cans, kerosene lanterns, open-top water tanks

To move forward with modernization, in cases of oversupply, assets in good condition will be offered to other government departments, P/Ts and NGOs to help build emergency response capacity and community resiliency. This approach is in line with the *Canada's National Disaster Mitigation Strategy*.

The NESS currently holds significantly more social service supplies than is required for federal surge capacity. Donating these surplus assets to P/Ts would allow them to deal with common risks and the NESS to focus on specialty assets required for low probability, high impact events. While the portable hospital beds are not ideal for emergency social service capacity (they are higher than normal to facilitate treatment), they can fill that role if there are no other options.

Many of the non-medical components of the NESS inventory were intended to support the function of the 1960s portable medical facilities and do not have a role in emergency management. These will be sold through PWGSC in accordance with the Treasury Board *Directive on Disposal of Surplus Materiel*.

NESS Footprint

A part of modernization, NESS will move to a strategic, more efficient warehouse and pre-positioned site network, closing warehouses that do not contribute to the 24-hour distribution target and with pre-positioned sites only in remote areas.

NESS Warehouses

Currently NESS has warehouses in 9 cities across Canada (). The warehouse network was analyzed by CPCS Transcom Limited, a consulting company specializing in strategic transportation issues, in order to determine if a more effective and cost-efficient solution was possible, while maintaining the 24-hour NESS response target.

The analysis identified:

- network configurations that offer the most efficient distribution system;
- potential savings through rationalizing various warehouses; and
- an optimal warehouse network.

Optimization of the Warehouse Network

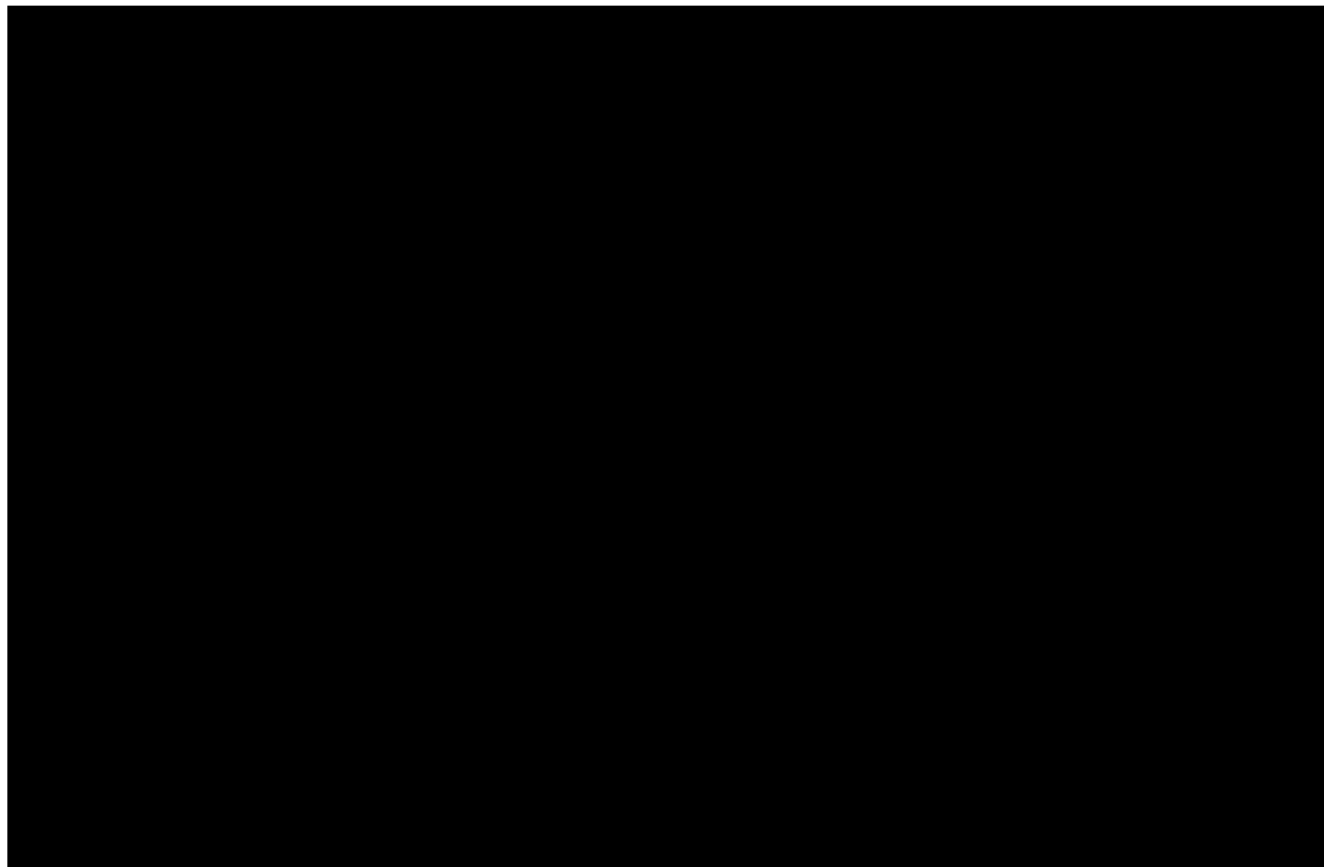
The analysis indicated that six strategic locations would maintain the NESS' role as timely surge capacity to the P/Ts. This would increase efficiencies in asset management and save the federal government \$900K a year in rental costs. The average trucking travel time for non-remote locations would increase from five hours to six hours.

██████████ federal warehouses will be maintained as they are the most ██████████
██████████ warehouses and can support difficult-to-reach areas. The remaining locations will
be ██████████. The federal
warehouses currently located in ██████████ offer redundant capacity
and will be closed.

Northern and Remote Communities

An analysis was done to gauge the coverage of the network from a 24-hour response time perspective. Currently, 100 population centres, home to roughly 284,000 people, are above a 24-hour trucking response time. This includes mainly far northern and other remote communities. The six-location network would not affect this situation given the challenges in reaching these remote communities. These communities would continue to be served by air from Ottawa or by strategically located pre-positioned sites.

Figure 3: Heat Map of the Optimal Six-Site Network



Pre-positioned Sites

In addition to federal warehouses, the NESS currently has approximately 40 per cent of its assets pre-positioned at approximately 1,000 P/T sites across Canada. These sites are managed through MOU agreements with the P/Ts. The P/Ts are responsible for pre-positioned warehousing space including leasing costs and security, with the exception of 22 sites that are financially maintained by PHAC.

The pre-positioned sites currently contain predominately outdated portable medical units. These units include considerable volumes of 1960s portable hospital beds, stretchers and blankets, which now form the basis of the NESS social service holdings.

These pre-positioned supplies were aligned with specific preparedness capabilities related to the risk environment during the Cold War. They are packaged for long-term storage and for the most part have never been used. While some updated pre-positioned sites are necessary to ensure a 24-hour response capacity, given the NESS role in surge capacity, most of the current sites are not required.

As part of the modernization of the NESS most of the pre-positioned sites will be closed. Discussions with P/Ts help identify areas where pre-positioned sites are essential, such as in hard to reach areas, e.g. [REDACTED]

As part of the P/T discussions, surplus NESS assets will be offered to the P/Ts as authorized under the Treasury Board *Directive on Disposal of Surplus Materiel*. Given the volume of surplus NESS assets and the P/T requirements over the last 30 years, requests for surplus assets are not expected to outstrip supply. Some P/Ts may not have an interest in surplus NESS 1960s assets and would prefer to be self-reliant or rely more on the Canadian Red Cross or other providers.

Conclusion

Over the years the landscape of public health has changed in Canada, impacting the federal role in the provision of public health surge capacity. The federal role remains consistent in ensuring access to supplies necessary for effective surge capacity, to prepare for and respond to public health threat. Moving forward, the stockpile will be adjusted to continue to reflect the changing risk landscape.

Through the modernization of the NESS, creative solutions have been sought for the provision of emergency supplies such as new tools to support lifecycle management (e.g. vendor management agreements) and decision making (e.g. the new SAM tool). While NESS operates under the same authorities as it always has, the way it fulfills its mandate is becoming more flexible and responsive to the overall health emergency management context in Canada.

Both acquisitions and management of assets held in the NESS are being reassessed to fine tune the risk-informed, evidence-based approach. Overall, the modernized NESS will allow PHAC to operate in a more strategic manner, while improving the federal preparation for and response to public health events.

Annex A: Current NESS Asset Overview and Way Forward

Asset Type	Current Status	Evolving Status
Emergency Hospitals	165 200-bed hospitals; some contents no longer meet standards of care and create a liability for the federal government; do not align with the risk environment.	Update - Replaced by modern mini-clinics: these portable clinics supplement existing medical care facilities in a disaster situation.
Reception Centre Kits	■■■■ kits located across the country; provide signage and registration materials for the setup and operation of evacuation of shelters; a first response resource; do not align with the NESS principles.	Maintain - These kits will be maintained in strategic locations.
Casualty collecting units	■■■■ units; each include ■■■■ stretchers, with blankets and a first aid kit; the World War II style stretchers are not considered appropriate for first responders; do not align with the risk environment or NESS principles.	Reduce - Stretchers and first aid kits will be maintained in strategic locations.
Mobile feeding units	■■■■ units designed to provide emergency feeding capability in a field environment, or where normal food services are not available. Operated with wood and charcoal.	Eliminate - No longer required given the availability of these types of resources.
Social service supplies	Blankets ■■■■, mattresses, pillows, face cloths, generators, flashlights, garbage bags, water bottles, propane lanterns, diapers, etc. These assets were originally components of the 200-bed hospitals and other NESS units.	Reduce – The modernized NESS will maintain social service capacity. Some assets will be kept and may need to be modernized. Other assets will be reduced to strategic levels (e.g. blankets). Some assets do not address the current risk environment in any way and will be declared surplus (e.g. garbage bags, flashlights, water bottles).
CBRNE preparedness materials (chemical, biological, radio-nuclear, explosive)	Antidotes, countermeasures and related medical products, such as those required for: ■■■■	Increase - NESS will maintain and increase its focus on these types of assets.
Pandemic response supplies	Supplies include: antivirals, ventilators, personal protective equipment and other supplies.	Maintain - Pandemic response supplies to be maintained and/or updated as necessary.



NATIONAL EMERGENCY STRATEGIC STOCKPILE

Engagement Plan

For PHAC internal use only

August 1, 2013

NATIONAL EMERGENCY STRATEGIC STOCKPILE
Engagement Plan

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Introduction

This Engagement Plan has been developed to help implement the National Emergency Strategic Stockpile (NESS) Optimization Plan, which builds on the direction outlined in the NESS Policy Frame.

Purpose

This Plan supports NESS modernization by outlining stakeholder discussions that are required to:

- Clarify roles in emergency management;
- Inform stakeholders of the ongoing efforts to optimize the NESS inventory and asset mix;
- Gauge stakeholder interest in acquiring surplus NESS assets; and
- Begin the process for renewed agreements with the province and territories (P/Ts).

Background

The NESS is a federal stockpile of emergency pharmaceuticals, medical supplies and other equipment maintained to provide surge capacity to supplement the extraordinary needs of provinces and territories in times of emergency, when their own capacity is overwhelmed. NESS assets are currently held in 11 federal warehouses in 9 cities and approximately 1000 provincial/territorial managed sites across the country.

The NESS was established in 1952 as a stockpile of essential medical supplies in response to the Cold War. It was expanded in the 1960s through emergency hospitals funding and authorized by Cabinet in 1965 to assist with emergency response to peacetime disasters.

Context

While the acquisition of NESS assets has always been guided by the changing context of emergency management, a more strategic approach to modern stockpile management is being pursued to ensure that the NESS remains relevant and responsive to the evolving risk environment.

Currently, the NESS provides front-line social service support for regularly occurring emergencies (i.e. flooding, forest fires). As outlined in the Policy Frame and Optimization Plan, this does not fit with the federal role in emergency management. The aim is to phase out this support in NESS modernization; however, the NESS could support this transition with some of its surplus social service holdings. In addition, NESS will always maintain some social service holdings to respond to unexpected events (possibly with more modern equipment).

The modernized NESS will be relevant, responsive and available when emergencies or other major events occur. It will use risk- and evidence-based decision making, will have an inventory that aligns with the current risk environment and a strategically optimized warehouse and pre-positioned site network. NESS will continue to help ensure the Government of Canada is able to respond to the evolving risk environment.

While it is used to support the P/Ts, the NESS is a federal asset and decisions on its holdings are made solely by the federal government. As there are limited decisions that require input from stakeholders, the NESS engagements are not formal consultations but rather discussions.

Engagement Aim

The discussions will inform stakeholders of NESS modernization efforts. They will also introduce the possibility of donating NESS assets currently in oversupply to P/Ts to help build emergency response capacity and community resiliency. Donating these surplus assets to P/Ts would support them in dealing with common risks and allow the NESS to focus on specialty assets required for low probability, high impact events.

Stakeholders

- Other government departments with emergency response responsibilities:
 - Public Safety Canada
 - Aboriginal Affairs and Northern Development Canada (AANDC)
 - Health Canada - First Nations and Inuit Health Branch (FNIHB)
 - Department of National Defence (DND)
 - Canadian Food Inspection Agency (CFIA)
 - Foreign Affairs, Trade and Development Canada (FATD)
- Provinces and Territories (P/Ts)
- Canadian Red Cross Society¹

Engagement Phases

A phased approach will be used for the engagement on NESS modernization. Phase 1 involved pre-consultation and has been completed; the draft NESS Policy Frame was shared with Public Safety Canada.

Phases 2 and 3 will include discussions with federal partners and formal discussions with P/T partners to inform them of NESS modernization efforts. Phase 4 will include bilateral discussions with P/Ts.

Phase 1 - Pre-Engagement - Completed

Federal Departments and Agencies

Public Safety Canada (Director/Director General level)

- Overall federal lead for emergency management
- Draft Policy Frame shared

¹ The Canadian Red Cross is an auxiliary to Government and has Memoranda of Understanding with 8 P/Ts and more than 800 municipalities to provide emergency assistance.

- Support the proposed way forward for NESS

DND - Canadian Forces Health Services (Director/Colonel level)

- Provide capacity for Canadian Forces troops only
- Can provide limited domestic capacity for surge support if operational requirements allow

Health Canada-FNIHB (Director General level)

- Supports the delivery of public health and health promotion services on-reserve and in Inuit communities, and provides primary care services on-reserve in remote and isolated areas, where there are no provincial services readily available
- Will be invited to join the NESS Advisory Committees
- Discussions had been started for leveraging NESS storage space for FNIHB assets
- Have their own surplus medication issues so there have been no discussions on rotating NESS stock to avoid expiries

• AANDC (Director General level)

- Supports First Nations in their efforts to prepare for and respond to emergencies

Service Canada (Director level)

- Can provide surge capacity in the form of payment services in response to an emergency

P/Ts – Emergency Management Directors (Director level)

- Emergency management directors are supportive of NESS modernization efforts
- Some indication that certain regions may be interested in maintaining pre-positioned sites in order to access remote and isolated locations in a more timely manner
- To date, there has been considerable support for the mini-clinic approach
- Indications are that during future discussions, P/Ts may indicate needs for NESS to acquire new assets. This information will be taken into consideration during risk-informed and evidence-based decision making

Canadian Red Cross Society (Director General level)

- The Centre for Emergency Preparedness and Response (CEPR) has regular, informal meetings with the Red Cross and they are aware of NESS modernization efforts
- Meetings have enhanced the understanding of Red Cross roles and their agreements with the P/Ts
- Has agreements with at least 8 P/Ts and more than 400 municipalities that predominantly include social service response
- Currently, some NESS deployment of social service supplies duplicate the services of the Red Cross
- Not interested in surplus NESS social service holdings; the Red Cross maintains modern, folding cots in comparison to the NESS' 1960s portable hospital beds
- Frequently manages the use of NESS reception center kits; is interested in the continued availability of these kits, either by NESS or its own organization.

Objectives:

- Identify other organizations' emergency capacities; and
- Share information on the NESS modernization efforts

Results:

The NESS meets regularly with key stakeholders. These discussions have contributed to the proposed engagement on NESS modernization.

The discussions have suggested that stakeholders are supportive of NESS modernization efforts.

Indications are that stakeholders will support de-commissioning the 1960's medical facilities and other rationalization efforts to help NESS better address the current risk environment.

The P/Ts have indicated that the NESS mini-clinics are very useful; they will be a key asset moving forward.

Phase 2 - Federal Partners - Fall 2013

Formal engagement with federal partners will take place through well-established emergency management committees. As noted above, initial discussions with key federal partners have already taken place.

The Treasury Board *Directive on Disposal of Surplus Materiel* requires that surplus crown assets be first offered to other federal organizations before any other parties. While there is no indication that federal partners will wish to take possession of surplus NESS assets, it is essential that this offer be made before discussions with P/Ts.

Health Portfolio Partnership Executive Committee (HP PEC)

- A senior Health Portfolio body that brings the portfolio perspective to issues
- Provides a linkage to Health Canada on shared service issues, which includes emergency management

Assistant Deputy Minister Emergency Management Committee (ADM EMC)

- Provides senior leadership regarding emergency management in the federal government in accordance with its responsibilities under the Federal Emergency Response Plan (FERP)
- Includes all federal departments and agencies with key emergency management responsibilities or related emergency activities (see Annex A for a full list)

Deputy Minister Emergency Management Committee (DM EMC)

- Strengthens the overall governance for emergency management in the federal family by providing a forum through which Deputy Ministers provide direction and guidance to ADM EMC on horizontal initiatives
- Includes Deputy Heads from departments and agencies with emergency support functions identified under the FERP, as well as central agencies and other departments with critical expertise (see Annex A for a full list).

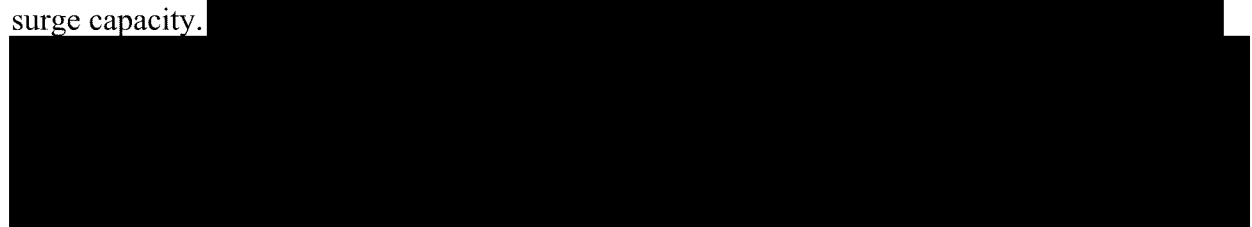
Objectives:

- Share information on the NESS mandate and way forward; and
- Indicate the availability of surplus NESS assets should they be required by other departments, including those that support federal populations.

Considerations:

Previous NESS discussion with federal departments and agencies has suggested that other departments do not have a strong interest in the NESS; this could change with a renewed focus on the current risk environment.

Departments responsible for federal populations could be interested in the provision of NESS surge capacity.



The surge requirements of federal populations are not currently clear, though it would be small relative to the requirements of the general population.

Phase 3 - Discussions with P/Ts - Fall 2013

P/T Health Emergency Management Directors
Public Health Infrastructure Steering Committee
Public Health Network Council (PHNC)
If required, **Deputy Ministers of Health**

Objectives:

- Share information on the NESS mandate and the way forward;
- Clarify NESS role as surge support to P/T capacities and not as support for first response;
- Inform on the strategic reorganization of the warehouse and pre-positioned site network;
- Indicate the availability of surplus NESS social service assets to support P/T first response self-sufficiency; and
- Indicate that new Memoranda of Agreement (MoA) will be pursued with the P/Ts to replace Memoranda of Understanding from the 1960s and 1970s (Nunavut does not have an agreement).

Considerations:

40% of NESS assets are stored in P/T-managed pre-positioned sites. For the most part, these sites contain outdated medical units (useful for social service capacity) and registration kits. Some of these sites have been poorly maintained and the contents may be missing or otherwise unusable.

The warehouse network will be strategically planned with most of the population within a 24-hour drive of a warehouse (average distance six hours). The pre-positioned sites will only be in remote locations that do not have easy road access.

Well maintained NESS assets could be offered to the P/Ts to establish or augment their own social service capacity (as permitted by the Treasury Board *Directive on Disposal of Surplus Materiel*).

The Red Cross is also able to assist P/Ts with social service capacity.

Phase 4 - Bilateral Discussions with P/Ts – Fall 2013/Winter 2014

PHNC will be asked to identify the P/T representatives for these discussions.

Objectives:

- Identify P/T interest in taking ownership of the surplus NESS assets
- Identify remote areas that require pre-positioned sites
- Discuss the approval process for new MoA for the provision of surge capacity

Considerations:

There is a risk that P/Ts may view NESS modernization as a withdrawal of federal support; however, the modernization will cover for more critical surge support for rare emergency events that P/Ts are unlikely to be able to address on their own ([REDACTED])

Some P/Ts may not have an interest in surplus NESS assets and would prefer to be self-reliant or rely more on the Red Cross or other providers.

Conclusion

With the completion of this Engagement Plan, stakeholders will be fully informed of NESS modernization efforts, including the mandate and role. Parties who wish to acquire surplus assets will have been identified and the process for signing new MoA with the P/Ts will be underway. This will allow the modernized NESS to move forward with reducing outdated assets and focus on building a risk- and evidence-based inventory mix that better addresses the current risk environment.

Annex A: Federal Emergency Management Committees

- **Assistant Deputy Minister Emergency Management Committee**
 - Public Health Agency of Canada for the Health Portfolio
 - Aboriginal Affairs and Northern Development Canada
 - Agriculture and Agri-Food Canada
 - Canada Border Services Agency
 - Canada Revenue Agency
 - Canadian Food Inspection Agency
 - Canadian Nuclear Safety Commission
 - Canadian Security Intelligence Service
 - Citizenship and Immigration Canada
 - Defence Research and Development Canada
 - Environment Canada
 - Fisheries and Oceans Canada
 - Foreign Affairs, Trade and Development Canada
 - Human Resources and Skills Development Canada
 - Industry Canada
 - Justice Canada
 - National Defence
 - Natural Resources Canada
 - NAV CANADA
 - Privy Council Office
 - Public Safety Canada
 - Public Works and Government Services Canada
 - Royal Canadian Mounted Police
 - Shared Services Canada
 - Transport Canada
 - Treasury Board Secretariat
- **Deputy Minister Emergency Management Committee**
 - Public Health Agency of Canada
 - Aboriginal Affairs and Northern Development Canada
 - Agriculture and Agri-Food Canada
 - Canada Border Services Agency
 - Canadian Food Inspection Agency
 - Canadian Security Intelligence Service
 - Foreign Affairs, Trade and Development Canada
 - Environment Canada
 - Fisheries and Oceans Canada
 - Health Canada
 - Human Resources and Skills Development Canada
 - Industry Canada
 - Justice Canada
 - National Defence
 - Natural Resources Canada
 - Privy Council Office
 - Public Works and Government Services Canada
 - Royal Canadian Mounted Police
 - Shared Services Canada
 - Transport Canada
 - Treasury Board Secretariat

PREPAREDNESS FOR HEALTH EMERGENCIES OR NATURAL DISASTERS

SYNOPSIS

The Health Portfolio is responsible for leading the federal response to public health emergencies.

ANTICIPATED QUESTION

How is the Government of Canada prepared for health emergencies or natural disasters?

KEY MESSAGES

- The Government of Canada is prepared to respond to a range of public health emergencies, and is committed to protecting the health and well-being of Canadians.
- We have in place agreements with provincial and territorial governments to ensure Canada has the expert resources and information sharing systems needed to respond.
- We ensure that Canadians are aware and informed of risks, and know how to protect themselves.

SUPPLEMENTARY MESSAGES

n/a

BACKGROUND

Most domestic emergencies are local in nature and are managed at the community or provincial/territorial level. The federal government may become involved in a health emergency when a request for assistance is received from a provincial, territorial or local government due to capacity limitations, or when the emergency is multi-jurisdictional in nature.

The Public Health Agency of Canada (the Agency) manages and maintains the Health Portfolio Operations Centre (HPOC), which serves as the single window for the coordination of response activities to significant public health events. The HPOC is an important resource that supports and facilitates emergency operations by expediting and facilitating federal, provincial, territorial (FPT) sharing of information, coordination of response activities and communications. To ensure a coordinated response, the HPOC maintains a 24/7 situational awareness function and routinely communicates and shares information with Public Safety's Government Operations Centre, which provides the platform for the coordination of activities for a whole-of-government response during an emergency and is Canada's strategic-level operations centre.

Additionally, the Agency is responsible for the control and maintenance of the National Emergency Stockpile System (NESS). The NESS contains a reserve of medical equipment and supplies, pharmaceuticals and medical countermeasures to counteract biological threats. The assets serve as surge capacity to P/Ts, as required in times of emergency.

The Agency also has epidemiological, laboratory and other public health experts, together with equipment and supplies that can be deployed to support P/Ts as needed in response to outbreaks, health emergencies and natural disasters. The Agency's Canadian Field Epidemiology Program can deploy field epidemiologists to help investigate the cause of an outbreak and determine how to control it.

The Agency's Microbiological Emergency Response Team (MERT) is equipped with a mobile laboratory that can be set up onsite to identify biological agents and provide laboratory testing during an outbreak. The MERT has been deployed domestically (Olympics, G8, G20, New Brunswick anthrax, Toronto legionella) and internationally (Ebola virus, Marburg haemorrhagic fever, Nipah virus, Severe acute respiratory syndrome (SARS), Crimean–Congo hemorrhagic fever (CCHF), Rift Valley Fever) since 2002.

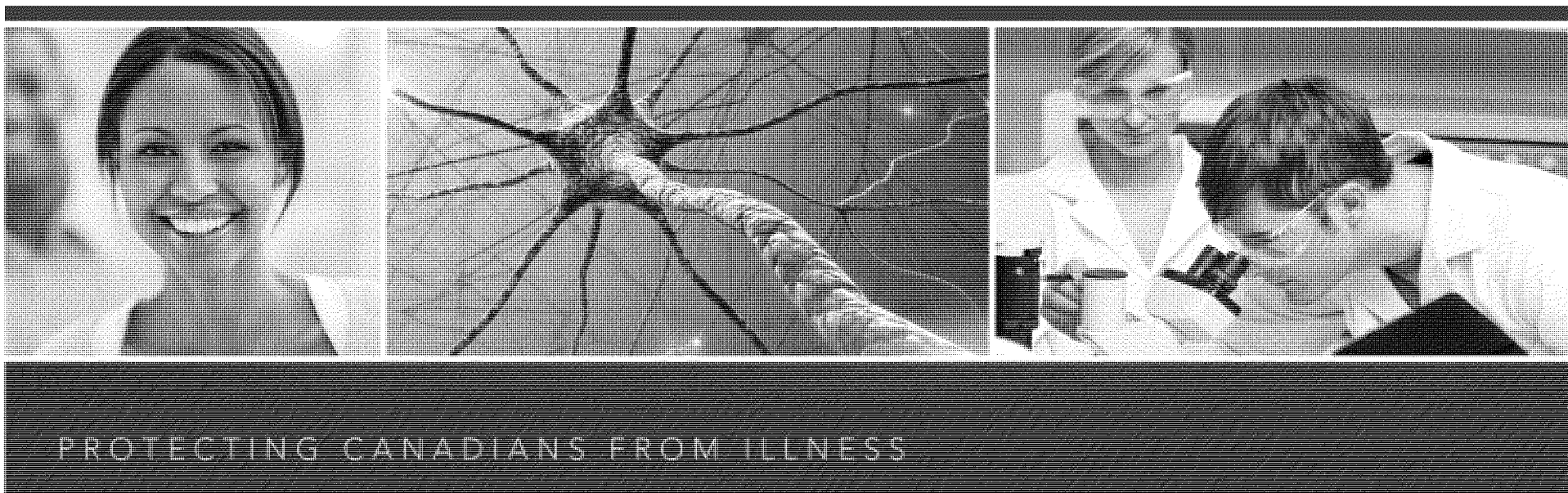
The Agency has led the development of a Health Portfolio-wide Public Health Risk Assessment, which involved systematically assessing threats and risks related to public health emergencies that might necessitate a response from the Health Portfolio, including risks related to bioterrorism. The results of the risk assessment are used to inform emergency management decision-making across the Health Portfolio. The Agency also participates in interdepartmental fora for sharing of intelligence on threat assessments.

As communication plays a key role in the coordination and collaboration of an effective response, the Health Portfolio has established Crisis Communications Protocols that guide effective communications in the event of an emergency and emphasize the importance of the Health Portfolio's many stakeholders and F/P/T partners in the delivery of a public health response.

CONTACT INFORMATION	
Primary: [REDACTED]	Telephone: [REDACTED]
Alternate: [REDACTED]	Telephone: [REDACTED]
Approved by: [REDACTED]	Telephone: [REDACTED]

MINISTERIAL BRIEFING

Modernization of the National Emergency Stockpile System (NESS)



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

Purpose

- To provide an overview of the NESS
- To seek your approval of the proposed approach to NESS modernization, including:
 1. Strategic directions and vision (Policy Frame);
 2. Approach to modernization (Optimization Plan); and,
 3. Stakeholder discussions (Engagement Plan).

The Role of the NESS

- The NESS is:
 - » A stockpile of medical equipment and supplies, pharmaceuticals and social service assets (such as beds and blankets).
 - » A strategic asset for supporting P/T efforts to respond to major public health emergencies in Canada.
- The NESS has recently supported the emergency response to:
 - » Flooding in Alberta (2013); and,
 - » Great Slave Lake wildfire (2011).
- NESS assets have also been pre-positioned in preparation for major events:
 - » Canada Summer Games in Quebec (2013);
 - » G8 in Toronto (2010); and,
 - » Vancouver Winter Olympics (2010).

Evolution of the NESS

- Established during the Cold War era as a stockpile for federal response to a disaster, such as the detonation of an atomic bomb.
- The original inventory was dispersed across Canada, and focussed on portable hospitals, including beds and blankets, which reflected the health needs and technology of that era.
- Since that time, risks to public health and available resources have changed significantly:
 - » new threats to public health (pandemics, terrorism) have emerged;
 - » capacity among partners (federal, provincial, and NGOs) has been significantly enhanced;
 - » pharmaceuticals and medical equipment have undergone many advances; and,
 - » transportation infrastructure (air and road) have improved.

Positioning NESS for the Future

- In order to respond to this changing environment the NESS has made new acquisitions while maintaining some of its original cold war preparedness assets.
- However, further efforts are required to fully modernize the NESS and strategically position its asset base.
- A strategic approach to modernized stockpile management would:
 - » Ensure that the NESS remains relevant and able to respond to current and emerging risks in a reliable and timely manner; and
 - » Continue to complement P/T capacity and help meet the needs of Canadians when emergencies occur.

Strategic Direction

- The Agency has developed a Policy Frame that describes an updated strategic direction for the NESS in the current context of emergency management in Canada, ensuring the asset base remains relevant and responsive to the risk environment.
- It articulates the roles and focus of the NESS:
 - » Provision of health emergency assets for surge capacity when local and P/T resources have been exhausted (e.g. beds and blankets).
 - » Provision of assets for low probability, high impact health events where the federal government is the key provider in the national emergency management system (e.g. smallpox vaccine).

Optimization Plan

- Developed to build on the direction in the Policy Frame and describe how the modernization would be accomplished, by outlining governance, authorities, asset composition and management of assets.
- It reflects the current strategic approach to stockpiling and also outlines key areas that require additional Ministerial approval to fully modernize the strategic direction of the NESS:
 - » The asset mix would be adjusted through new acquisitions and declaring surplus those assets that no longer address the current risk environment.
 - » The current storage system (federal warehouse and P/T managed pre-positioned sites) would be rationalized for more effective management while maintaining current response capacity.

Stakeholder Engagement

- Initial discussions with stakeholders have indicated support for clarifying the NESS role and adjusting the asset mix.
- Once the Engagement Plan is approved, formal discussions on NESS modernization will be undertaken with relevant federal departments and P/Ts.
- A communication strategy will be developed in advance of the discussions with P/Ts.
- We do not anticipate significant opposition from our stakeholders. Any concerns regarding the clarified role for the NESS could be mitigated by offers of surplus NESS assets.

Next Steps

- Ministerial approval of the approach for modernizing the NESS as described in the Policy Frame, Optimization Plan and Engagement Plan.
- This includes concurrence to engage P/Ts and other stakeholders on NESS modernization and the strategic rationalization of the storage system.

[REDACTED] (PHAC/ASPC)

From: [REDACTED] on behalf of [REDACTED]
Sent: 2020-07-13 4:06 PM
To: [REDACTED] (PHAC/ASPC)
Subject: Fw: Heads up - Request from Canadian Olympic Committee for NESS Tamiflu

----- Forwarded by [REDACTED] on 2020-07-13 04:06 PM -----

From: [REDACTED]
To: [REDACTED]
Date: 2014-01-12 04:51 PM
Subject: Re: Heads up - Request from Canadian Olympic Committee for NESS Tamiflu

Jan 16 the team depart. Declaring surplus and donation needs minister's signature.

From: [REDACTED]
Sent: 2014-01-12 04:04 PM EST
To: [REDACTED]
Subject: Re: Heads up - Request from Canadian Olympic Committee for NESS Tamiflu

I agree, let's pursue. When is a decision required, again?

From: [REDACTED]
Sent: 2014-01-12 03:58 PM EST
To: [REDACTED]
Subject: Re: Heads up - Request from Canadian Olympic Committee for NESS Tamiflu

Hi [REDACTED],
I'd support pursuing the 2 options - I don't have any other ideas

[REDACTED]

From: [REDACTED]
Sent: 2014-01-12 03:10 PM EST

To: [REDACTED]

Subject: Heads up - Request from Canadian Olympic Committee for NESS Tamiflu

Heads up and request for initial direction

- The COC maintains Tamiflu for the Canadian Olympic delegation and their families in the event of an influenza outbreak in a host country. These antivirals are to provide coverage until the host country is ready to treat the Olympic delegations and visitors.

- [REDACTED] previously donated 2,000 capsules of Tamiflu to COC, but that stock expired Oct. 2013 and [REDACTED] will no longer provide Tamiflu free of charge.

- COC contacted the manufacturer in December to acquire [REDACTED] with maximum 7 year shelf-life through a government contract. Unfortunately, this route is not timely enough for the Olympic team leaving Jan 16. [REDACTED] is available in the retail stream but is [REDACTED]

- We do not know why this issue was not identified well ahead of time.

- COC is asking whether they can have access to [REDACTED] capsules of Tamiflu from NESS.

- The NESS Tamiflu supply, purchased at [REDACTED] is part of EPR surge to the PTs. We are in the process of analyzing 2 options: a loan now and the COC replenish the NESS with new stock when available OR declaring a small amount of near expiry drug surplus and donate this to the COC.

- [REDACTED] is still trying to contact COC at this time. We suspect finance is a challenge for COC.

- Would you like us to continue to do a full analysis on these 2 options, including legal/contract opinion as needed? Any other suggestions? e.g. ask Heritage if they can help with cost of purchase.....

[REDACTED]

Sent from my iPad

PANDEMIC INFLUENZA PREPAREDNESS ANTIVIRALS AND CANADIAN PANDEMIC INFLUENZA PLAN	
SYNOPSIS / POTENTIAL QUESTION Government action on pandemic preparedness. What is the Government doing to prepare Canada for another potential influenza pandemic?	
KEY MESSAGES <ul style="list-style-type: none">• Canada's pandemic-preparedness plan is multi-faceted. In addition to pharmaceutical measures such as vaccines and antivirals, the plan includes public health measures to prevent and control the spread of a new influenza strain.• The Government of Canada has secured a ten-year contract with a domestic manufacturer to ensure rapid access to pandemic vaccines for all Canadians should a pandemic occur.• The Public Health Agency closely monitors the scientific literature related to the effectiveness of antivirals such as ██████ in treating influenza. The balance of evidence supports the use of antivirals during a pandemic.	
SUPPLEMENTARY MESSAGES: <ul style="list-style-type: none">• Lessons learned from H1N1 will further improve our capacity to communicate effectively with Canadians during a flu pandemic.• The Government of Canada participates in both domestic and international programs to protect Canadians and monitor the spread of seasonal influenza, animal influenza, and other illnesses. These include surveillance and diagnostic measures to detect and report circulating influenza viruses at both the national and international level.	
BACKGROUND	
<p>Starting with the emergence of H5N1 avian influenza A virus in Hong Kong in 1997, the Government of Canada has taken a number of steps to strengthen Canada's pandemic preparedness and to respond effectively to emerging influenza viruses with pandemic potential.</p> <p>Budget 2006 invested \$1B in pandemic preparedness — \$600M over five years allocated to federal departments and agencies and \$400M to be set aside in the fiscal framework as a contingency. Beginning in 2011-12, the Public Health Agency of Canada's (PHAC) ongoing funding is \$60.5M, however subsequent reductions has since lowered planned spending to \$44.1M. This investment has enabled the development of a comprehensive pandemic preparedness strategy. The initial 5-year funding has since been extended in order to maintain essential preparedness capacity and respond to emerging challenges and opportunities.</p> <p>Canada's response to pandemic preparedness includes:</p> <p><u>The Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector</u> The Government of Canada's response to the H1N1 pandemic was guided by the <i>Canadian Pandemic Influenza Plan for the Health Sector</i> (CPIP). The CPIP, first released in 2004 and updated in 2006, provides a national framework for pandemic influenza preparedness and response focused on the health sector. It is the result of a collaborative effort by the federal, provincial and territorial (F/P/T) governments, and outlines the roles and responsibilities of all levels of government for a consistent and</p>	

coordinated response in the event of an influenza pandemic.

The title of the document has changed from *Canadian Pandemic Influenza Plan for the Health Sector* to *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector*, to more accurately reflect the role and intended use of the Main Body as a guidance document.

The CPIP Main Body has been updated to reflect 2009 H1N1 influenza pandemic lessons learned as well as scientific advances. The updated CPIP Main Body makes no commitments to federal funding or cost sharing of pandemic-related resources or requirements. No changes were made in terms of federal role and responsibilities. It was reviewed and refined by F/P/T officials (Fall 2012) and public health stakeholders (Spring 2013) through a formal consultation process. Stakeholders included national-level organizations representing health professionals, emergency preparedness and first responders, community services, the private sector, and Aboriginal populations, which all provided positive feedback.

The updated CPIP Main Body provides for a more flexible and adaptable response to future pandemics. It now supports a risk-management approach, which includes new concepts such as pandemic impact assessment, pandemic scenarios of varying impact, and identification of triggers for Canadian response. It also better reflects Canada's geographic, demographic, cultural, and socio-economic diversity and the imperative for planners to take this diversity into account.

The updates support a consistent pan-Canadian approach to pandemic planning and response while providing scope for provinces and territories to adapt their own plans and responses to their local and regional circumstances. The CPIP Main Body is intended to be an evergreen document that will be updated as required to align with the F/P/T all-hazards emergency management plans as they become available.

It is anticipated that the revised version of the CPIP Main Body will be released in FY 2014/15.

Pandemic Vaccine Strategy

In February 2011, the federal government secured a new 10-year pandemic influenza vaccine supply contract with a domestic manufacturer – GlaxoSmithKline (GSK) – as the primary supplier of pandemic influenza vaccine with a responsibility to provide vaccine for all Canadians on a priority basis. The contract is valued at \$425.9M.

A contract for a backup supply of a pandemic influenza vaccine from Sanofi Pasteur Ltd. is also in place to mitigate the risk of the primary domestic supply being disrupted or delayed. If needed, this backup supply will be available in sufficient quantity to immunize up to [REDACTED] Canadians and would likely be used to target priority vaccination groups based on the epidemiology of the disease or in other words based on the age group/population group most severely impacted by the disease. Another requirement under this contract is to supply annual influenza vaccine for P/T programs. The total estimated value of the contract is \$33.1M.

Novel (new) influenza A virus, H7N9, has emerged in China with limited human-to-human transmission. This specific influenza virus has the potential to become a pandemic. Both companies, GSK and Sanofi Pasteur Ltd., have been engaged on H7N9 to assist PHAC in increasing pandemic preparedness, if required. The mechanism to trigger PHAC's pandemic influenza vaccine contract would be by a World Health Organization (WHO) declaration of a pandemic.

Domestic Stockpile of H5N1 Vaccine

The federal government has acquired components (antigen, adjuvant and other necessary materials) of an H5N1 vaccine (pre-pandemic stockpile of approximately [REDACTED] doses), which are held in Canada by GSK.

Antiviral Strategy

Antiviral drugs are a key aspect of pandemic influenza planning as they are the only pharmaceutical intervention available, during an initial pandemic response, until vaccines become available. Since 2004, F/P/T governments collaborated to establish national antiviral stockpiles ensuring equitable access to antiviral medication for all Canadians in the event of an influenza pandemic.

For the past decade, Canada has stockpiled antivirals as a key component of pandemic planning. The National Antiviral Stockpile (NAS) was created in 2004, with F/P/T cost-sharing (60% F, 40% P/T), to be held and managed by provinces and territories (P/Ts).

NAS replenishment was required as a result of NAS use during the 2009 H1N1 pandemic or product expiry. [REDACTED]

As of March 31, 2014, federal funding for cost-sharing for antiviral replenishment has expired. Over the

course of the three years of cost-sharing, the federal government has supported P/Ts in replenishment of antiviral stockpiles to overall population coverage of 18.2 percent (range of 6-22 percent) based on confirmed orders for 2013-14 to date, with a total federal expenditure of approximately \$10 M.

Each P/T is at liberty to make their own decisions about their antiviral stockpile requirements, based on their jurisdiction-specific considerations.

A number of products have been developed to support P/Ts in their antiviral stockpile decision-making, such as :

- Scientific Recommendations for National Antiviral Stockpiles report, which provided recommendations for antiviral stockpile size and composition (2011);
- Mathematical modelling of antiviral stockpile requirements (2011);
- Sustainable Antiviral Stockpiles for Pandemic Influenza report, which provided recommendations and best practices for the logistical and operational management (2013);
- NAS: Considerations for Policy-Makers report, which outlined factors to be considered by jurisdictions when making decisions for appropriate NAS size and composition. (2013)

A second national antiviral stockpile, funded entirely by the federal government, is held within the National Emergency Stockpile System (NESS) and is intended to provide surge capacity to P/Ts. As of April 2014, the NESS holds [REDACTED], intended for use as surge capacity to the NAS. Since 2004, PHAC has spent approximately \$67.5 M to acquire [REDACTED] for the NESS. This is the total cost over time, including replacement due to expiry and use. Current NESS antiviral holdings are sufficient to treat approximately 6% of the Canadian population, but will decline to approximately 2.5% by the year 2016.

Currently, there is no commitment to further cost sharing of antivirals beyond March 2014. However, a review of Canada's NAS is anticipated to begin in 2014-2015, to further support F/P/T decision making regarding antiviral stockpile size, composition and procurement strategies.

PHAC closely monitors on an ongoing basis the scientific literature related to the effectiveness of antivirals for the prevention and treatment of influenza, and the balance of evidence supports their use during a pandemic. Observational studies from the 2009 H1N1 pandemic support the benefits and effectiveness of antivirals, particularly when used early (within 48 hours) and in people at high risk of complications from the flu.

PHAC is aware of concerns raised by authors of the Cochrane Collaboration and the British Medical Journal regarding the effectiveness of antivirals, including Tamiflu. Concerns raised by the Cochrane Collaboration relate to the original clinical study data from randomized controlled trials on the effectiveness of Tamiflu used to treat seasonal influenza in healthy adults and children. The Cochrane reviewers did not consider evidence from observational studies on Tamiflu from the 2009 H1N1 pandemic. However, this study is in conflict with other recent studies.

Evidence of antiviral effectiveness has recently been published involving randomized control trial (RCT) with 1190 adults and children with lab-confirmed influenza, demonstrating that oseltamivir treatment resulted in a modest reduction in the duration of symptoms and viral shedding in people with uncomplicated influenza infections, even when treatment was started 48 hours or longer after illness onset. In March 2014, the Lancet published a large meta-analysis of observational studies based on individual patient data that found neuraminidase inhibitors (NAI) were associated with a significant reduction in mortality risk in adults hospitalized with pandemic H1N1 influenza.

PHAC is awaiting the results of another international review on the effectiveness of antivirals, being conducted by the Multiparty Group for Advice on Science (MUGAS). The MUGAS is a group of international researchers, who are conducting a separate analysis of the original clinical study data, along with other data including observational studies. PHAC is interested in the results of the MUGAS review forthcoming later this year as it will consider a broader range of data over a broader time frame, therefore reflecting real world use of the product. PHAC will use the results of all the available evidence, including these reviews, to inform and strengthen the CPIP and revisions to the CPIP Antiviral Annex.

PHAC will use the results of all the available evidence, including these reviews, to inform and strengthen the *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector* (CPIP) and revisions to the CPIP Antiviral Annex.

Influenza Surveillance

The Government of Canada participates in both national and international programs to protect Canadians and monitor the spread of seasonal influenza, animal influenza and other illnesses. These include surveillance and diagnostics to detect and report circulating influenza viruses at both the national and international level, as well as programs to evaluate the effectiveness of vaccines and drugs to treat influenza infections.

Current national human influenza surveillance includes laboratory analysis of influenza viruses on a

regular basis by the Agency and ongoing monitoring of the spread of flu and flu-like illnesses through FluWatch, Canada's national surveillance system. PHAC, with the Canadian Food Inspection Agency (CFIA), also conducts surveillance for highly pathogenic avian influenza viruses in wild birds, and has ongoing plans to engage agricultural partners to establish surveillance in livestock.

PHAC, as well as CFIA, will continue to work closely with international partners to monitor influenza risks globally, and to better understand any potential risks to Canadians.

PHAC works in collaboration with P/Ts to enhance its ability to detect, monitor, and track emerging public health threats.

Pathogen Control in Canada

Canada has a robust pathogen control regime, and is a world leader in the approach to the oversight of pathogens. The current Human Pathogens Importation Regulations require that all facilities in Canada that import human pathogens (risk groups 2, 3 and 4), work with them at the appropriate level of safety. The Human Pathogens and Toxins Act (HPTA) requires that anyone working with risk group 2, 3, or 4 human pathogens or toxins in Canada to take all reasonable precautions to protect the health and safety of the public, which includes following the Canadian Biosafety Standards and Guidelines. The regulations to support the HPTA come into force in 2015, and will involve the issuance of licences to facilities who work with human pathogens or toxins. In addition to the regulatory requirement relating to human pathogens and toxins, PHAC issues Biosafety Advisories and Notifications that provide critical information about the biosafety requirements for working with new or emerging pathogens.

International Collaboration

The Government of Canada has been working with international partners to strengthen global pandemic preparedness and response. We are engaging with the United States and Mexico to implement the revised *North American Plan for Animal and Pandemic Influenza* (NAPAPI). The revised Plan will strengthen cooperation to prepare for future animal and pandemic influenza, and enhance the health and safety of residents in all three nations. Additionally, there is ongoing collaboration with the WHO and the Global Health Security Action Group, which includes G7 Nations and Mexico. Canada is working closely with international partners, including the WHO, United States Centers for Disease Control and Prevention (U.S. CDC), Chinese Center for Disease Control and Prevention related to the control, containment measures and prevention of A(H7N9).

Human Avian A(H7N9)

An outbreak of human infections with a new avian influenza A (H7N9) virus was first reported in China by the WHO on April 1, 2013. Cases have been reported in China from twelve Provinces and two Municipalities. In addition, travel-related cases have been reported in Malaysia, Taiwan and Hong Kong. Most human infections are believed to have occurred after exposure to infected poultry or contaminated environments. As of August 6, 2014, the WHO has reported 450 confirmed human cases, including 165 deaths. PHAC has conducted a risk assessment on A(H7N9) and it has been determined that the public health risk posed by A(H7N9) to Canada is considered low based on the evidence and the most current information available.

H5N1 Avian Influenza A Virus

H5N1 avian influenza A virus first emerged in an outbreak in poultry in Hong Kong in 1997. Worldwide, avian influenza (H5N1) has caused around 650 human cases and 380 deaths since 2003. This virus currently circulates in birds in Asia, parts of Africa and has caused sporadic outbreaks in birds in Europe. The risk to Canadians of transmission of A(H5N1) is very low.

Pandemic Preparedness Strategic Research Initiative

In 2006, the Canadian Institutes of Health Research (CIHR) received \$21.5 million for pandemic influenza research, which was used to create the Pandemic Preparedness Strategic Research Initiative (PPSRI), under the leadership of its Institute of Infection and Immunity (III). CIHR's III showed tremendous leadership in developing this initiative by forming linkages and building partnerships with stakeholders from various sectors. This has allowed CIHR to increase the total amount of available funds for research from \$21.5 million to \$43.3 million and to support 92 projects involving 345 researchers.

PPSRI-funded projects produced a variety of research and commercialization outcomes in each research area of interest. Over a third of projects researching vaccines and immunization produced results that could lead to a new vaccine or drug. Examples of such discoveries include: early detection of influenza variants and their correlation with variation in vaccine effectiveness; studies demonstrating that current vaccines are less effective in the elderly, thus leading to the development of better vaccines for this age cohort. Three-quarters of the projects researching virus biology and diagnostics resulted in new research methods, patents and licenses, or intellectual property claims. The lone ongoing project supported through the PPSRI is the PHAC-CIHR Influenza Research Network (PCIRN), which develops and tests methodologies related to the evaluation of influenza vaccines as they pertain to safety, immunogenicity and effectiveness, and program implementation and evaluation.

Although the initiative as a whole ended in 2011, many of the research projects have made a lasting

impact and have contributed to the development of additional research partnerships. For example, CIHR and PHAC are collaborating to support a new research network, focused on a wide range of issues related to vaccine-preventable diseases. The Canadian Immunization Research Network (CIRN) addresses various biomedical research questions and aspects of the vaccine life cycle including safety, short- and long-term effectiveness and protection, as well as social issues like hesitancy and uptake. Funding for this network began in June 2014.

Global Research Collaboration for Infectious Disease Preparedness

CIHR is also involved in international pandemic preparedness efforts, through the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R). This group aims to facilitate an effective research response within 48 hours of a significant outbreak of a new or re-emerging infectious disease with pandemic potential. Launched in February 2013, this network of funding organizations has held several meetings to develop overall objectives, scope and governance of the initiative. The September 2014 meeting, hosted by IIR and held in Montreal, will bring together member funding agencies and research scientists to develop a Strategic Agenda for research response.

Stakeholder and P/T Considerations

- *The Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector (CPIP)* is currently undergoing revisions in collaboration with P/Ts.
- In collaboration with the P/Ts, several tools have, and continue to be developed related to novel and emerging influenza viruses for use by P/Ts. These include surveillance guidelines, infection prevention and control guidance, a protocol for microbiological investigations, a risk assessment, case definitions, and a decision-making and management algorithm.
- Antiviral guidance for treatment and prophylaxis of seasonal influenza, as well as for avian Influenza A (H7N9) was developed through contract with the Association of Medical Microbiology and Infectious Disease Canada (AMMI).
- Guidance for severe acute respiratory infection (SARI) was also developed through a contract with the Canadian Critical Care Society, and disseminated to targeted stakeholders and P/Ts.
- Public health measures guidance was developed related to A (H7N9).

CONTACT: [Redacted]

Approved by:
[Redacted]

Centre for Immunization and Respiratory Infectious Diseases
[Redacted]



FOR CONCURRENCE

14-111147 - 398

MEMORANDUM TO THE MINISTER OF HEALTH

Donation of Personal Protective Equipment (PPE)

SUMMARY

- The World Health Organization (WHO) has made an appeal to member states for the donation of personal protective equipment (PPE) to support the ongoing Ebola virus disease outbreak response in West Africa.
- The Public Health Agency of Canada's (Agency) National Emergency Strategic Stockpile (NESS) and Health Canada's First Nations and Inuit Health Branch (FNIHB) have identified surplus personal protective equipment (PPE), specifically gowns, masks, and gloves that could be donated to WHO. The remaining Health Portfolio stockpiles will continue to maintain enough PPE to meet Canada's needs.
- The Government of Canada would be responsible for the associated transportation costs for this donation. The Agency is exploring the potential to partner with DFATD's Global Partnership Program to cover this cost.
- Your concurrence is sought to proceed with this donation which will demonstrate Canada's leadership and provide much needed supplies to respond to this event.

BACKGROUND:

The Ebola outbreak in Western Africa is the largest Ebola outbreak in history and cases continue to increase. WHO reports an unprecedented number of infected healthcare workers. Preventing transmission of Ebola virus to healthcare workers is a priority and is achieved through the proper use of PPE is a critical element in achieving this end. WHO reports a shortage of PPE in the affected countries and has appealed to member states for donations of PPE for use by front-line workers in the affected countries.

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The National Emergency Strategic Stockpile (NESS) and Health Canada's First Nations and Inuit Health Branch (FNIHB) stockpile PPE for use in Canada during emergency situations.

- NESS is a federally owned and managed stockpile of emergency supplies that is funded and held by the Agency. It contains a variety of emergency supplies for different types of emergencies, from beds and blankets to a supply of pharmaceuticals.
- FNIHB stockpiles PPE for use by Health Canada employed healthcare workers and allied health professionals (e.g. diagnostic, technical, therapeutic professionals) in First Nations on-reserve communities, in the event of a public health emergency.

This donation would be made in accordance with the *Surplus Crown Assets Act* and the Treasury Board Directive on Disposal of Surplus Materiel. According to section 4.7 of this directive, ministerial authorization is required when departments donate surplus materiel, in which market value exceeds disposal costs.

CONSIDERATIONS

In 2009, as a result of heightened H1N1 response planning, NESS and FNIHB acquired additional PPE to supplement the existing stockpiles, including gloves, gowns, face shields and N95 respirators.

Based on an assessment of current supplies and estimated ongoing requirements for PPE in Canada, NESS and FNIHB have identified a quantity of PPE that could be donated to the international Ebola response, as per the table below. The quantity of PPE to be retained is based on an analysis of what Canada would require to support a moderate influenza outbreak.

A reduction to the current level of PPE within NESS is aligned with the 2010 NESS policy framework which articulates a role for maintaining niche assets where the federal government is the sole provider. Although NESS continues to have a role in stockpiling limited quantities of PPE should local and P/T resources be exhausted, P/Ts have their own stockpiles of PPE and it is also readily available on the commercial market. Since 2010, NESS has not received a request for deployment of PPE.

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The proposed amounts of PPE for donation include:

PPE item	NESS	FNIHB	TOTAL units
N95 respirators	500,000	Nil	500,000
Examination gloves	1,500,000	Nil	1,500,000
Surgical gloves	3,500	Nil	3,500
Hooded coverall suits	50	Nil	50
Face shields	400,000	1,700,000	2,100,000
Isolation gowns	750,000	500,000	1,250,000

There are two options for transporting these items to Ghana (which the United Nations have established as a supply hub for the current response):

- By air – duration of approximately 14 days with an estimated cost of \$1.4M.
- By sea – would take approximately 45 days with an estimated cost of \$200K.

While transportation by air is faster than by sea, the cost is significant. Since WHO predicts the outbreak may take six to nine months to contain, a delay of 45 days may be reasonable for some items. Depending on the need for particular items, it is proposed that more urgently required items be shipped by air, with less urgently items to follow by sea.

The Agency is currently in discussions with DFATD and exploring opportunities for the Global Partnership Program (GPP) (an international security/weapons of mass destruction counter-terrorism initiative) to cover the cost of transportation. The GPP has already committed \$2M to WHO for security-relevant aspects of the EVD response and a portion of this envelope has been earmarked for PPE. GPP has indicated willingness to fund the sea-shipment of the Health Portfolio PPE donation, subject to cost confirmation (i.e. under \$250K) and WHO agreement to use a portion of the GPP contribution for this purpose.

WHO requires donated PPE to have a forward shelf life of at least two years. All of the assets proposed for this donation meet this requirement. The Health Portfolio is currently working with WHO to validate their requirements. The Agency is providing WHO with the technical specifications of the proposed assets to ensure they meet WHO's needs. It is possible that WHO may not accept all of the assets which the Health Portfolio is offering. The Agency is exploring whether provinces and territories may also wish to consider a donation.

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PORTFOLIO CONSIDERATIONS:

PHAC is working closely with FNIHB to coordinate Canada's proposed donation of PPE in support of global EVD response efforts.

RESOURCE IMPLICATIONS:

The value of the proposed donation is \$2.68M. Because the market value of the proposed donation exceeds the estimated disposal cost should the assets expire (\$127K), Ministerial approval is required to proceed with this donation.

Shipping to Africa is estimated at \$1.4M by air or \$200K by sea (45 days). While discussions are underway to identify whether DFATD's GPP could cover transportation costs, should this not materialize, the Health Portfolio would need to cover the associated transportation costs (anticipated to be between \$200K and \$1.4M depending upon volumes shipped by air vs. sea). The Agency is prepared to cover these costs if DFATD's GPP is unable to.

COMMUNICATIONS IMPLICATIONS:

It is recommended that a Ministerial announcement accompany this donation. Messaging will reflect that PPE is critical in protecting healthcare workers who are helping to combat the response, and contain the outbreak; and that the Agency continues to work with the WHO to provide expertise in West Africa. Agency spokespeople should be prepared to address what could be a perceived time delay in making a donation given Agency employees (laboratory team) have been in the region for months, and the call for PPE occurred in July; the increased delay for getting materials to the affected region by sea rather than by air; and highlighting any potential coordination with Provinces and Territories for them to donate any surplus items from their respective jurisdictions. The latter may be an issue as a federal-only announcement leading into the HMM may cause friction. Coordination with WHO communications for messaging and the announcement will also be required.

RECOMMENDATIONS/CONCLUSION:

It is recommended that you indicate your concurrence with the donation of the proposed supplies to WHO and their shipment to West Africa by signing the "I concur" block below.



Health Canada



Public Health Agency of Canada

☐ I do not concur

☐ I concur

Minister

Date

MECS# 14-111147 - 398

Contact: _____

Telephone: _____

[REDACTED] (PHAC/ASPC)

From: [REDACTED] on behalf of [REDACTED]
[REDACTED] >
Sent: 2020-07-13 4:12 PM
To: [REDACTED] (PHAC/ASPC)
Subject: Fw: EVD Community Preparedness
Attachments: EVD community-preparedness.docx

----- Forwarded by [REDACTED] on 2020-07-13 04:11 PM -----

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]
Date: 2014-10-30 07:20 PM
Subject: EVD Community Preparedness

Major thanks to [REDACTED] and [REDACTED] for pulling this together rapidly. I did some quick revisions, taking into account comments from [REDACTED] as well. What is included aligns with the Comms products for any announcements.

In the interest of time I am sending to this group to see if this hits the mark. NESS cost estimates is based on planned purchases, funding for the other 2 components can be adjusted.

Not sure whether G+C would be entertained.

(See attached file: EVD community-preparedness.docx)

[REDACTED]

Ebola Response – Canadian Community Preparedness (

Context:

The confidence of front line health care providers and allied service providers in safely and effectively carrying out their duties is essential when dealing with a suspected or confirmed case of Ebola. Community preparedness focuses on supporting the range of providers that could be part of efforts to assist a patient (for example, emergency medical services personnel, primary care physicians and nurses, pharmacists, family members, community hospitals, funeral home workers).

Preparedness depends on accessible information, training and equipment so that measures taken are commensurate with the risk associated with the specific case or situation. It also focuses on early identification of gaps and the development of measures to quickly respond when gaps are found. It is important to not overlook the role the broader community plays in an effective response. Consequently, community preparedness also attends to the risk communication needs of local businesses, schools and other settings so they operate according to credible current information and risk-based guidance.

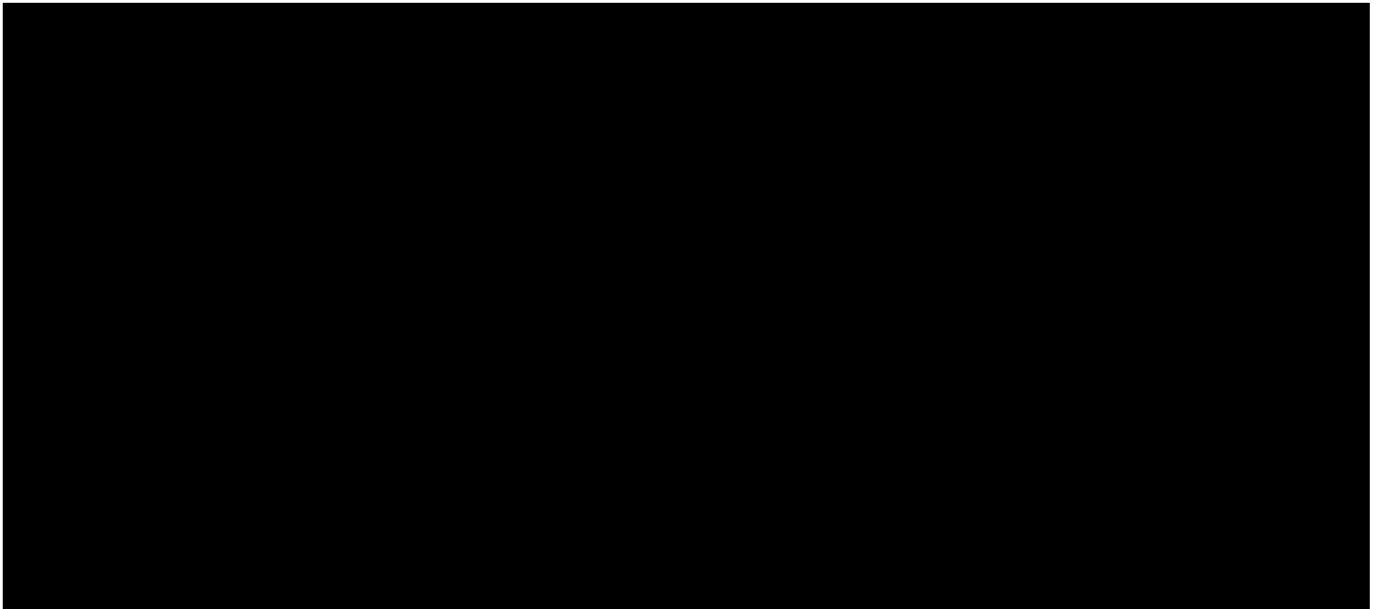
The Public Health Agency of Canada's Rapid Response Teams would play an integral role in supporting community response should an Ebola case be confirmed in Canada. Along with the emergency supplies in the National Emergency Strategic Stockpile, these federal assets will be significant resources for jurisdictions. Their capabilities will be bolstered through this investment.

Finally, Canadians' confidence will be influenced by the views of health care workers and allied service providers on the preparedness of their communities. By establishing an ongoing forum to take stock of infection control processes and identify best practice, gaps, and weaknesses, this investment will facilitate coordinated action and cooperative problem-solving.

Purpose:

To support provinces and territories in equipping communities with the information, training and resources needed to confidently, safely and effectively care for suspected or confirmed Ebola cases.

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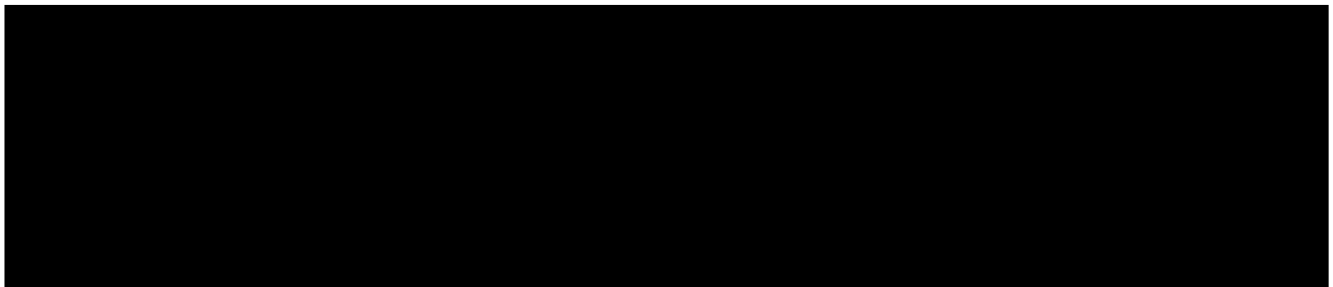


(2) National Emergency Strategic Stockpile - NESS (



Public Health Agency of Canada's NESS provides health supplies to provinces and territories as a surge capacity during an emergency. This investment will:

- Purchase specialised patient isolation and personal protective equipment required to manage Ebola patients as part of the NESS and ensure its preparedness to deploy required equipment when requested by provinces and territories.



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<p> PANDEMIC INFLUENZA PREPAREDNESS </p>
<p> SYNOPSIS / POTENTIAL QUESTION </p> <p> Starting with the emergence of H5N1 avian influenza A virus in Hong Kong in 1997, the Government of Canada has taken a number of steps to strengthen Canada’s pandemic preparedness and to respond effectively to emerging influenza viruses with pandemic potential. </p> <p> What is the Government doing to prepare Canada for another potential influenza pandemic? </p>
<p> KEY MESSAGES </p> <ul style="list-style-type: none"> Canada's pandemic-preparedness plan is multi-faceted. In addition to pharmaceutical measures such as vaccines and antivirals, the plan includes public health measures to prevent and control the spread of a new influenza strain. The Government of Canada has secured a ten-year contract with a domestic manufacturer to ensure rapid access to pandemic vaccines for all Canadians should a pandemic occur. The Public Health Agency closely monitors the scientific literature related to the effectiveness of antivirals such as Tamiflu in treating influenza. The balance of evidence supports the use of antivirals during a pandemic.
<p> SUPPLEMENTARY MESSAGES </p> <ul style="list-style-type: none"> The Government of Canada is proud to support research in areas like influenza and vaccines both at home and with our international partners that will have a long lasting impact on the health of Canadians. Lessons learned from H1N1 will further improve our capacity to communicate effectively with Canadians during a flu pandemic. The Government of Canada participates in both domestic and international programs to protect Canadians and monitor the spread of seasonal influenza, animal influenza, and other illnesses. These include surveillance and diagnostic measures to detect and report circulating influenza viruses at both the national and international level.
<p> BACKGROUND </p>
<p> Budget 2006 invested \$1B in pandemic preparedness — \$600M over five years allocated to federal departments and agencies and \$400M to be set aside in the fiscal framework as a contingency, which no longer exists. This investment has enabled the development of a comprehensive pandemic-preparedness strategy. The initial 5-year funding has since been extended in order to maintain essential preparedness capacity and respond to emerging challenges and opportunities. Canada's response to pandemic preparedness includes: </p> <p> <i>Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector:</i> </p> <p> The Government of Canada's response to the H1N1 pandemic was guided by the <i>Canadian Pandemic Influenza Plan for the Health Sector</i> (CPIP). The CPIP, first released in 2004 and updated in 2006, provides a national framework for pandemic influenza preparedness and response focused on the health sector. It is the result of a collaborative effort by the federal, provincial and territorial (F/P/T) governments, and outlines the roles and responsibilities of all levels of government for a consistent and coordinated response in the event of an influenza pandemic. </p> <p> The title of the document has changed from <i>Canadian Pandemic Influenza Plan for the Health Sector</i> to <i>Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector</i>, to more accurately reflect the role and intended use of the Main Body as a guidance document. </p>

The CPIP Main Body has been updated to reflect 2009 H1N1 influenza pandemic lessons learned as well as scientific advances. The updated CPIP Main Body makes no commitments to federal funding or cost sharing of pandemic-related resources or requirements. No changes were made in terms of federal role and responsibilities. It was reviewed and refined by F/P/T officials (Fall 2012) and public health stakeholders (Spring 2013) through a formal consultation process. Stakeholders included national-level organizations representing health professionals, emergency preparedness and first responders, community services, the private sector, and National Aboriginal Organizations, which all provided positive feedback.

The updated CPIP Main Body provides for a more flexible and adaptable response to future pandemics. It now supports a risk-management approach, which includes new concepts such as pandemic impact assessment, pandemic scenarios of varying impact, and identification of triggers for Canadian response. It also better reflects Canada's geographic, demographic, cultural, and socio-economic diversity and the imperative for planners to take this diversity into account.

The updates support a consistent pan-Canadian approach to pandemic planning and response while providing scope for provinces and territories to adapt their own plans and responses to their local and regional circumstances. The CPIP Main Body is intended to be an evergreen document that will be updated as required to align with the F/P/T all-hazards emergency management plans as they become available.

It is anticipated that the revised version of the CPIP Main Body will be released in 2015.

Pandemic Vaccine Strategy

In February 2011, the federal government secured a new 10-year pandemic influenza vaccine supply contract with a domestic manufacturer – GlaxoSmithKline (GSK) – as the primary supplier of pandemic influenza vaccine with a responsibility to provide vaccine for all Canadians on a priority basis. As a readiness measure, GSK provides the majority of seasonal flu supply. This requirement ensures vaccine production readiness in the event of an influenza pandemic. The contract is valued at \$430.5M.

A three-year contract for a backup supply of a pandemic influenza vaccine from Sanofi Pasteur Ltd. is also in place to mitigate the risk of the primary domestic supply being disrupted or delayed. If needed, this backup supply will be available in sufficient quantity to immunize up to [REDACTED] and would likely be used to target priority vaccination groups based on the epidemiology of the disease or in other words based on the age group/population group most severely impacted by the disease. Another requirement under this contract is to supply annual influenza vaccine for P/T programs. The total estimated value of the contract is \$43.7M. The current contract expires in March 2015 and a new RFP will be issued in the coming months.

Novel (new) influenza A virus, H7N9, has emerged in China with limited human-to-human transmission. As with all novel influenza viruses, this virus has the potential to become a pandemic. Both companies, GSK and Sanofi Pasteur Ltd., have been engaged on H7N9 to assist the Public Health Agency of Canada (PHAC) in increasing pandemic preparedness, if required. The mechanism to trigger PHAC's pandemic influenza vaccine contract would be by a World Health Organization (WHO) declaration of a pandemic.

Domestic Stockpile of H5N1 Vaccine

As a pre-pandemic measure, the federal government has acquired components (antigen and adjuvant) necessary for the production of H5N1 vaccine, sufficient to produce approximately [REDACTED]. This product is held in Canada by GSK.

Antiviral Strategy

Antiviral drugs are a key aspect of pandemic influenza planning as they are the only pharmaceutical intervention available, during an initial pandemic response, until vaccines become available. In 2004, F/P/T governments collaborated to establish national antiviral stockpiles ensuring equitable access to antiviral medication for all Canadians in the event of an influenza pandemic.

For the past decade, Canada has stockpiled antivirals as a key component of pandemic planning. The National Antiviral Stockpile (NAS) was created in 2004, with F/P/T cost-sharing (60% F, 40% P/T), to be held and managed by P/Ts.

NAS replenishment was required as a result of NAS use during the 2009 H1N1 pandemic or product expiry. [REDACTED]

As of March 31, 2014, federal funding for cost-sharing for antiviral replenishment has expired. Over the course of the three years of cost-sharing, the federal government has supported P/Ts in replenishment of antiviral stockpiles to overall population coverage of 17.7 percent (range of 10-23 percent) based on confirmed orders for 2013-14 to date, with a total federal expenditure of approximately \$10 M.

Each P/T is at liberty to make their own decisions about their antiviral stockpile requirements, based on their jurisdiction-specific considerations.

A number of products have been developed to support P/Ts in their antiviral stockpile decision-making, such as :

- Scientific Recommendations for National Antiviral Stockpiles report, which provided recommendations for antiviral stockpile size and composition (2011);
- Mathematical modelling of antiviral stockpile requirements (2011);
- Sustainable Antiviral Stockpiles for Pandemic Influenza report, which provided recommendations and best practices for the logistical and operational management (2013);
- NAS: Considerations for Policy-Makers report, which outlined factors to be considered by jurisdictions when making decisions for appropriate NAS size and composition. (2013)

A second antiviral stockpile, funded entirely by the federal government, is held within the National Emergency Strategic Stockpile (NESS) and is intended to provide surge capacity. Current NESS antiviral holdings are sufficient to treat approximately [REDACTED] of the Canadian population, but will decline to approximately [REDACTED] by the year 2016 (2.5% by 2019-20 and 1.2 by 2020-21).

Currently, there is no commitment to further cost sharing of antivirals beyond March 2014. However, a review of Canada's NAS is anticipated to begin in 2014-15, to further support F/P/T decision making regarding antiviral stockpile size, composition and procurement strategies.

PHAC closely monitors the scientific literature related to the effectiveness of antivirals for the prevention and treatment of influenza, and the balance of evidence supports their use during a pandemic. Observational studies from the 2009 H1N1 pandemic support the benefits and effectiveness of antivirals, particularly when used early (within 48 hours) and in people at high risk of complications from the flu.

PHAC is aware of concerns raised by authors of the Cochrane Collaboration and the British Medical Journal regarding the effectiveness of antivirals, including Tamiflu. Concerns raised by the Cochrane Collaboration relate to the original clinical study data from randomized controlled trials on the effectiveness of Tamiflu used to treat seasonal influenza in healthy adults and children. The Cochrane reviewers did not consider evidence from observational studies on Tamiflu from the 2009 H1N1 pandemic. However, this study is in conflict with other recent studies.

Evidence of antiviral effectiveness has recently been published involving randomized control trial (RCT) with 1190 adults and children with lab-confirmed influenza, demonstrating that oseltamivir treatment resulted in a modest reduction in the duration of symptoms and viral shedding in people with uncomplicated influenza infections, even when treatment was started 48 hours or longer after illness onset. In March 2014, the Lancet published a large meta-analysis of observational studies based on individual patient data that found neuraminidase inhibitors (NAI) were associated with a significant reduction in mortality risk in adults hospitalized with pandemic H1N1 influenza.

PHAC is awaiting the results of another international review on the effectiveness of antivirals, being conducted by the Multiparty Group for Advice on Science (MUGAS). The MUGAS is a group of international researchers, who are conducting a separate analysis of the original clinical study data, along with other data including observational studies. PHAC is interested in the results of the MUGAS review, which will consider a broader range of data over a broader time frame, reflecting real world use of the product. PHAC will use the results of all the available evidence, including these reviews, to inform and strengthen the CPIP and revisions to the CPIP Antiviral Annex.

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Current national human influenza surveillance includes laboratory analysis of influenza viruses on a regular basis by PHAC and ongoing monitoring of the spread of flu and flu-like illnesses through FluWatch, Canada's national surveillance system. PHAC, with the Canadian Food Inspection Agency (CFIA), also conducts surveillance for highly pathogenic avian influenza viruses in wild birds, and has ongoing plans to engage agricultural partners to establish surveillance in livestock.

PHAC, as well as CFIA, will continue to work closely with international partners to monitor influenza risks globally, and to better understand any potential risks to Canadians.

PHAC works in collaboration with P/Ts to enhance its ability to detect, monitor, and track emerging public health threats.

Pathogen Control in Canada

Canada has a robust pathogen control regime, and is a world leader in the approach to the oversight of pathogens. The current Human Pathogens Importation Regulations require that all facilities in Canada that import human pathogens (risk groups 2, 3 and 4), work with them at the appropriate level of safety. The *Human Pathogens and Toxins Act* (HPTA) requires that anyone working with risk group 2, 3, or 4 human pathogens or toxins in Canada to take all reasonable precautions to protect the health and safety of the public, which includes following the Canadian Biosafety Standards and Guidelines. The regulations to support the HPTA come into force in 2015, and will involve the issuance of licences to facilities who work with human pathogens or toxins. In addition to the regulatory requirement relating to human pathogens and toxins, PHAC issues Biosafety Advisories and Notifications that provide critical information about the biosafety requirements for working with new or emerging pathogens.

International Collaboration

The Government of Canada has been working with international partners to strengthen global pandemic preparedness and response. We are engaging with the United States and Mexico to implement the revised *North American Plan for Animal and Pandemic Influenza* (NAPAPI). The revised Plan will strengthen cooperation to prepare for future animal and pandemic influenza, and enhance the health and safety of residents in all three nations. Additionally, there is ongoing collaboration with the WHO and the Global Health Security Action Group, which includes G7 Nations and Mexico. Canada is working closely with international partners, including the WHO, United States Centers for Disease Control and Prevention (U.S. CDC), Chinese Center for Disease Control and Prevention related to the control, containment measures and prevention of A(H7N9).

Human Avian A(H7N9)

An outbreak of human infections with a new avian influenza A (H7N9) virus was first reported in China by the WHO on April 1, 2013. Cases have been reported in China from twelve Provinces and two Municipalities. In addition, travel-related cases have been reported in Malaysia, Taiwan and Hong Kong. Most human infections are believed to

have occurred after exposure to infected poultry or contaminated environments. As of December 16, 2014, the WHO has reported 470 confirmed human cases, including 182 deaths. PHAC has conducted a risk assessment on A(H7N9) and it has been determined that the public health risk posed by A(H7N9) to Canada is considered very low based on the evidence and the most current information available.

H5N1 Avian Influenza A Virus

H5N1 avian influenza A virus first emerged in an outbreak in poultry in Hong Kong in 1997. Worldwide, avian influenza (H5N1) has caused about 650 human cases and 350 deaths since 2003. This virus currently circulates in birds in Asia, parts of Africa and has caused sporadic outbreaks in birds in Europe. The risk to Canadians of transmission of A(H5N1) is very low.

Pandemic Preparedness Strategic Research Initiative

In 2006, the Canadian Institutes of Health Research (CIHR) received \$21.5 million for pandemic influenza research, which was used to create the Pandemic Preparedness Strategic Research Initiative (PPSRI), under the leadership of its Institute of Infection and Immunity (III). CIHR's III showed tremendous leadership in developing this initiative by forming linkages and building partnerships with stakeholders from various sectors. This has allowed CIHR to increase the total amount of available funds for research from \$21.5 million to \$43.3 million and to support 92 projects involving 345 researchers.

PPSRI-funded projects produced a variety of research and commercialization outcomes in each research area of interest. Over a third of projects researching vaccines and immunization produced results that could lead to a new vaccine or drug. Examples of such discoveries include: early detection of influenza variants and their correlation with variation in vaccine effectiveness; studies demonstrating that current vaccines are less effective in the elderly, thus leading to the development of better vaccines for this age cohort. Three-quarters of the projects researching virus biology and diagnostics resulted in new research methods, patents and licenses, or intellectual property claims. The PPSRI provided support for the PHAC-CIHR Influenza Research Network (PCIRN), which develops and tests methodologies related to the evaluation of influenza vaccines as they pertain to safety, immunogenicity and effectiveness, and program implementation and evaluation.

Although the PPSRI initiative as a whole ended in 2011, and PCIRN comes to the end of its mandate in 2014-15 (Total federal contribution for PCIRN \$18.4M), many of the research projects have made a lasting impact and have contributed to the development of additional research partnerships. For example, modelled on the success of PCIRN, CIHR and PHAC are collaborating to support a new research network, focused on a wide range of issues related to immunization. The Canadian Immunization Research Network (CIRN) addresses various biomedical research questions and aspects of the vaccine life cycle including safety, short/ long-term effectiveness and protection, as well as social issues like vaccine hesitancy and uptake. Three year funding for this network began in June 2014.

Global Research Collaboration for Infectious Disease Preparedness

CIHR is also involved in international pandemic preparedness efforts, through the Global Research Collaboration for Infectious Disease Preparedness (GloPID-R). This group aims to facilitate an effective research response within 48 hours of a significant outbreak of a new or re-emerging infectious disease with pandemic potential. Launched in February 2013, this network of funding organizations has held several meetings to develop overall objectives, scope and governance of the initiative. The September 2014 meeting hosted by CIHR-III and held in Montreal, brought together member funding agencies and research scientists to develop a Strategic Agenda for research response.

The GloPID-R meeting in Montreal was a pivotal one, and had several outcomes:

- An updated charter for GloPID-R was developed.
- The founding members agreed in October 2014 to cooperate in the spirit of the charter.
- A simple governance structure was established.
- A strategic agenda for research response will be developed soon. The scientific expert group is currently being formed with CIHR-III nominated Dr. Brian Ward, McGill University, as the Canadian expert on the panel.
- A secretariat funded by the European Commission has been up and running since January 1, 2015.

CONTACT: [redacted]

Approved by: [redacted]

PANDEMIC INFLUENZA PREPAREDNESS – ANTIVIRALS AND CANADIAN PANDEMIC INFLUENZA PLAN	
SYNOPSIS	
<p>Over the years, the Government has taken action on pandemic preparedness in an effort towards making Canada less vulnerable to the impact of pandemic influenza.</p>	
<ul style="list-style-type: none">• Canada's pandemic-preparedness plan is multi-faceted. In addition to pharmaceutical measures such as vaccines and antivirals, the plan includes public health measures to prevent and control the spread of a new influenza strain.• In 2011, the Government of Canada secured a ten-year contract with a domestic vaccine manufacturer to ensure rapid access to pandemic vaccines for all Canadians should a pandemic occur.• The Government of Canada participates in both domestic and international programs to protect Canadians and monitor the spread of seasonal and animal influenza and other illnesses. These include surveillance and diagnostic measures to detect and report circulating influenza viruses at both the national and international level.• Based on lessons learned from H1N1, the Government continues to improve its capacity to communicate effectively with Canadians during a flu pandemic.	
<i>Effectiveness of antivirals:</i>	
<ul style="list-style-type: none">• The Public Health Agency closely monitors the scientific literature related to the effectiveness of antivirals such as Tamiflu in treating influenza.• Scientific literature currently supports the use of antivirals during a pandemic. Antivirals are the only pharmaceutical intervention available during an initial pandemic response until vaccine is available.	
RESULTS ACHIEVED	
<p>The <i>Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector</i>, which outlines the roles and responsibilities of all levels of government for a consistent and coordinated response in the event of an influenza pandemic, is currently being revised to reflect lessons learned from the 2009 H1N1 Influenza Pandemic.</p> <p>In February 2011, the federal government secured a new 10-year pandemic influenza vaccine supply contract with a domestic manufacturer – GlaxoSmithKline (GSK) – as the primary supplier of pandemic influenza vaccine with a responsibility to provide vaccine for all Canadians. The contract is valued at \$425.9M. As of March 31, 2015, a contract for a backup supply of a pandemic influenza vaccine from Sanofi Pasteur Ltd. has expired. The Agency has a new Request for Proposal which will be issued in the coming months to arrange a replacement contract.</p> <p>Canada continues to have rapid access, if needed, to a domestically-produced pandemic vaccine for all Canadians. In 2012–13, the Government of Canada finalized a contract amendment requiring its domestic manufacturer to increase its capacity to fill vaccine into multi-dose vials in order to further enhance rapid access to pandemic vaccine, if needed. Work on the fill-line is ongoing.</p>	

Canada continues to have access to a supply of antivirals for pandemic influenza in the National Antiviral Stockpile (NAS), held by provinces and territories, and in the federally held National Emergency Stockpile System (NESS).

Funding for the PHAC/CIHR Influenza Research Network (PCIRN) was renewed for another three years (2013–16) so that the network can continue to deliver valuable relevant research related to: rapid vaccine trials; rapid program implementation; vaccine coverage; vaccine safety; vaccine effectiveness; laboratory support; information technology support; and curriculum and knowledge translation.

PROGRAM BACKGROUND

PROGRAM BUDGET

\$ (million)	2015-16	2016-17	2017-18	Ongoing
Pandemic Influenza Preparedness	\$44.1	\$44.1	\$44.1	\$44.1
	145.5 FTEs	145.5 FTEs	145.5 FTEs	145.5 FTEs

KEY PROGRAM ISSUES/FACTS

Starting with the emergence of H5N1 avian influenza A virus in Hong Kong in 1997, the Government of Canada has taken a number of steps to strengthen Canada’s pandemic preparedness and to respond effectively to emerging influenza viruses with pandemic potential.

Budget 2006 invested \$1B in pandemic preparedness — \$600M over five years allocated to federal departments and agencies and \$400M to be set aside in the fiscal framework as a contingency, which no longer exists. This investment has enabled the development of a comprehensive pandemic preparedness strategy. The initial 5-year funding has since been extended in order to maintain essential preparedness capacity and respond to emerging challenges and opportunities. Canada’s response to pandemic preparedness includes:

The Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector

The Government of Canada's response to the H1N1 pandemic was guided by the *Canadian Pandemic Influenza Plan for the Health Sector* (CPIP). The CPIP, first released in 2004 and updated in 2006, provides a national framework for pandemic influenza preparedness and response focused on the health sector. It is the result of a collaborative effort by the federal, provincial and territorial (F/P/T) governments, and outlines the roles and responsibilities of all levels of government for a consistent and coordinated response in the event of an influenza pandemic.

The title of the document has changed from *Canadian Pandemic Influenza Plan for the Health Sector* to *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector*, to more accurately reflect the role and intended use of the Main Body as a guidance document.

The CPIP Main Body has been updated to reflect 2009 H1N1 influenza pandemic lessons learned as well as scientific advances. The updated CPIP Main Body makes no commitments to federal funding or cost sharing of pandemic-related resources or requirements. No changes were made in terms of federal role and responsibilities. It was reviewed and refined by F/P/T officials (Fall 2012) and public health stakeholders (Spring 2013) through a formal consultation process. Stakeholders included national-level organizations representing health professionals, emergency preparedness and first responders, community services, the private sector, and National Aboriginal Organizations, which all provided positive feedback.

The updated CPIP Main Body provides for a more flexible and adaptable response to future pandemics. It now supports a risk-management approach, which includes new concepts such as pandemic impact assessment, pandemic scenarios of varying impact, and identification of triggers for Canadian response. It also better reflects Canada's geographic, demographic, cultural, and socio-economic diversity and the imperative for planners to take this diversity into account.

The updates support a consistent pan-Canadian approach to pandemic planning and response while providing scope for provinces and territories to adapt their own plans and responses to their local and regional circumstances. The CPIP Main Body is intended to be an evergreen document that will be updated as required to align with the F/P/T all-hazards emergency management plans as they become available.

It is anticipated that the revised version of the CPIP Main Body will be released in 2015.

Pandemic Vaccine Strategy

In February 2011, the federal government secured a new 10-year pandemic influenza vaccine supply contract with a domestic manufacturer – GlaxoSmithKline (GSK) – as the primary supplier of pandemic influenza vaccine with a responsibility to provide vaccine for all Canadians on a priority basis. As a readiness measure, GSK provides the majority of seasonal flu supply. This requirement ensures vaccine production readiness in the event of an influenza pandemic. The contract is valued at \$430.5M including the purchase of seasonal influenza vaccine which is a provincial and territorial responsibility.

A four-year contract for a backup supply of a pandemic influenza vaccine from Sanofi Pasteur Ltd. to mitigate the risk of the primary domestic supply being disrupted or delayed has just expired and a new Request for Proposal will be issued in the coming months for a replacement arrangement. That contract was valued at \$43.7 M including the purchase of seasonal influenza vaccine. If needed, this backup supply would be available in sufficient quantity to immunize up to [REDACTED] and would likely be used to target priority vaccination groups based on the epidemiology of the disease or in other words based on the age

group/population group most severely impacted by the disease.

Novel (new) influenza A virus, H7N9, has emerged in China with limited human-to-human transmission. As with all novel influenza viruses, this virus has the potential to become a pandemic. Both companies, GSK and Sanofi Pasteur Ltd., have been engaged on H7N9 to assist the Agency in increasing pandemic preparedness, if required. The mechanism to trigger the Agency's pandemic influenza vaccine contract would be by a World Health Organization (WHO) declaration of a pandemic.

Domestic Stockpile of H5N1 Vaccine

As a pre-pandemic measure, the federal government has acquired components (antigen and adjuvant) necessary for the production of H5N1 vaccine, sufficient to produce approximately [REDACTED] This product is held in Canada by GSK.

Antiviral Strategy

Antiviral drugs are a key aspect of pandemic influenza planning as they are the only pharmaceutical intervention available, during an initial pandemic response, until vaccines become available. In 2004, F/P/T governments collaborated to establish national antiviral stockpiles ensuring equitable access to antiviral medication for all Canadians in the event of an influenza pandemic.

For the past decade, Canada has stockpiled antivirals as a key component of pandemic planning. The National Antiviral Stockpile (NAS) was created in 2004, with F/P/T cost-sharing (60% F, 40% P/T), to be held and managed by P/Ts.

NAS replenishment was required as a result of NAS use during the 2009 H1N1 pandemic or product expiry. [REDACTED]

As of March 31, 2014, federal funding for cost-sharing for antiviral replenishment has expired. Over the course of the three years of cost-sharing, the federal government has supported P/Ts in replenishment of antiviral stockpiles to overall population coverage of 17.7 percent (range of 10-23 percent) based on confirmed orders for 2013-14, with a total federal expenditure of approximately \$10 M.

Each P/T is at liberty to make their own decisions about their antiviral stockpile requirements, based on their jurisdiction-specific considerations.

A number of products have been developed to support P/Ts in their antiviral stockpile decision-making, such as :

- Scientific Recommendations for National Antiviral Stockpiles report, which provided recommendations for antiviral stockpile size and composition (2011);
- Mathematical modelling of antiviral stockpile requirements (2011);
- Sustainable Antiviral Stockpiles for Pandemic Influenza report, which provided recommendations and best practices for the logistical and operational management (2013);
- NAS: Considerations for Policy-Makers report, which outlined factors to be considered by jurisdictions when making decisions for appropriate NAS size and composition. (2013)

A second antiviral stockpile, funded entirely by the federal government, is held within the National Emergency Strategic Stockpile (NESS) and is intended to provide surge capacity with a commitment to maintain population coverage of 2.5% unless there are significant changes to the relevant science. With its current antiviral stockpile, NESS will be above 2.5% coverage of the population until the end of 2020.

The Agency closely monitors the scientific literature related to the effectiveness of antivirals for the prevention and treatment of influenza, and the balance of evidence supports their use during a pandemic.

Influenza Surveillance

The Government of Canada participates in both national and international programs to protect Canadians and monitor the spread of seasonal influenza, animal influenza and other illnesses. These include surveillance and diagnostics to detect and report circulating influenza viruses at both the national and international level, as well as programs to evaluate the effectiveness of vaccines and drugs to treat influenza infections.

Current national human influenza surveillance includes laboratory analysis of influenza viruses on a regular basis by the Agency and ongoing monitoring of the spread of flu and flu-like illnesses through FluWatch, Canada's national surveillance system. The Agency, with the Canadian Food Inspection Agency (CFIA), also conducts surveillance for highly pathogenic avian influenza viruses in wild birds, and has ongoing plans to engage agricultural partners to establish surveillance in livestock.

The Agency, as well as CFIA, will continue to work closely with international partners to monitor influenza risks globally, and to better understand any potential risks to Canadians.

The Agency works in collaboration with P/Ts to enhance its ability to detect, monitor, and track emerging public health threats.

Pathogen Control in Canada

Canada has a robust pathogen control regime, and is a world leader in the approach to the oversight of pathogens. The current Human Pathogens Importation Regulations require that all facilities in Canada that import human pathogens (risk groups 2, 3 and 4), work with them at the appropriate level of safety. The *Human Pathogens and Toxins Act* (HPTA) requires that anyone working with risk group 2, 3, or 4 human pathogens or toxins in Canada to take all reasonable precautions to protect the health and safety of the public, which includes

following the Canadian Biosafety Standards and Guidelines. The regulations to support the HPTA come into force in 2015, and will involve the issuance of licences to facilities who work with human pathogens or toxins. In addition to the regulatory requirement relating to human pathogens and toxins, the Agency issues Biosafety Advisories and Notifications that provide critical information about the biosafety requirements for working with new or emerging pathogens.

International Collaboration

The Government of Canada has been working with international partners to strengthen global pandemic preparedness and response. We are engaging with the United States and Mexico to implement the revised *North American Plan for Animal and Pandemic Influenza* (NAPAPI). The revised Plan will strengthen cooperation to prepare for future animal and pandemic influenza, and enhance the health and safety of residents in all three nations. Additionally, there is ongoing collaboration with the WHO and the Global Health Security Action Group, which includes G7 Nations and Mexico. Canada is working closely with international partners, including the WHO, United States Centers for Disease Control and Prevention (U.S. CDC), Chinese Center for Disease Control and Prevention related to the control, containment measures and prevention of A(H7N9).

Human Avian A(H7N9)

An outbreak of human infections with a new influenza A (H7N9) virus was first reported in China by the WHO on April 1, 2013. Cases have been reported in China from twelve Provinces and two Municipalities. In addition, travel-related cases have been reported in Malaysia, Taiwan, Hong Kong and more recently in Canada. Most human infections are believed to have occurred after exposure to infected poultry or contaminated environments. As of March 31, 2015, 631 confirmed human cases, including 221 deaths that have been reported globally. The Agency has conducted a risk assessment on A(H7N9) and it has been determined that the public health risk posed by A(H7N9) to Canada is considered low based on the evidence and the most current information available.

On January 26, 2015, The Government of Canada and the Ministry of Health in British Columbia (BC) confirmed the first case of H7N9 in a human in North America. The individual recently returned from a trip to China and was not symptomatic during travel. All evidence is indicating that the individual was likely infected following exposure in China. The individual was not sick enough to require hospitalization and has recovered from their illness. Following this case, a second individual in BC, who had travelled with the first mentioned case, tested positive for H7N9 on January 29, 2015. BC officials are taking a responsive approach. The Agency notified China, the World Health Organization and other international partners about the case, in keeping with our international commitments. To date, the H7N9 strain has not been detected in birds in Canada.

H5N1 Avian Influenza A Virus

H5N1 avian influenza A virus first emerged in an outbreak in poultry in Hong Kong in 1997. Globally, since 2003 to March 3, 2015, the WHO has reported a total of 784 laboratory-confirmed cases of infection with MERS-CoV, including 429 deaths. Cases have been reported from 16 countries, including one imported case identified in Canada in January 2014. This virus currently circulates in birds in Asia, parts of Africa and has caused sporadic outbreaks in birds in Europe. The risk to Canadians of transmission of A(H5N1) is very low.

Pandemic Preparedness Strategic Research Initiative

In 2006, the Canadian Institutes of Health Research (CIHR) received \$21.5 million for pandemic influenza research, which was used to create the Pandemic Preparedness Strategic Research Initiative (PPSRI), under the leadership of its Institute of Infection and Immunity (III). CIHR's III showed tremendous leadership in developing this initiative by forming linkages and building partnerships with stakeholders from various sectors. This has allowed CIHR to increase the total amount of available funds for research from \$21.5 million to \$43.3 million and to support 92 projects involving 345 researchers.

PPSRI-funded projects produced a variety of research and commercialization outcomes in each research area of interest. Over a third of projects researching vaccines and immunization produced results that could lead to a new vaccine or drug. Examples of such discoveries include: early detection of influenza variants and their correlation with variation in vaccine effectiveness; studies demonstrating that current vaccines are less effective in the elderly, thus leading to the development of better vaccines for this age cohort. Three-quarters of the projects researching virus biology and diagnostics resulted in new research methods, patents and licenses, or intellectual property claims. The PPSRI provided support for the PHAC-CIHR Influenza Research Network (PCIRN), which develops and tests methodologies related to the evaluation of influenza vaccines as they pertain to safety, immunogenicity and effectiveness, and program implementation and evaluation.

Although the PPSRI initiative as a whole ended in 2011 and PCIRN comes to the end of its mandate in 2014-15 (total federal contribution for PCIRN \$18.4M), many of the research projects have made a lasting impact and have contributed to the development of additional research partnerships. For example, modelled on the success of PCIRN, CIHR and PHAC are collaborating to support a new research network, focused on a wide range of issues related to immunization. The Canadian Immunization Research Network (CIRN) addresses various biomedical research questions and aspects of the vaccine life cycle including safety, short/ long-term effectiveness and protection, as well as social issues like vaccine hesitancy and uptake. Three year funding for this network began in June 2014.

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Stakeholder and P/T Considerations

- *The Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector (CPIP)* is currently undergoing revisions in collaboration with P/Ts.
- In collaboration with the P/Ts, several tools have, and continue to be developed related to novel and emerging influenza viruses for use by P/Ts. These include surveillance guidelines, infection prevention and control guidance, a protocol for microbiological investigations, a risk assessment, case definitions, and a decision-making and management algorithm.
- Antiviral guidance for treatment and prophylaxis of seasonal influenza, as well as for avian Influenza A (H7N9) was developed through contract with the Association of Medical Microbiology and Infectious Disease Canada (AMMI).
- Guidance for severe acute respiratory infection (SARI) was also developed through a contract with the Canadian Critical Care Society, and disseminated to targeted stakeholders and P/Ts.
- Public health measures guidance were developed related to A(H7N9).

CONTACT INFORMATION

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Approved by: [redacted]	Telephone: [redacted]



MEMORANDUM TO THE PRESIDENT AND THE CHIEF PUBLIC HEALTH OFFICER

Update on NESS Modernization – Sale of Stretchers

SUMMARY

- The National Emergency Strategic Stockpile (NESS) is proceeding with its modernization as authorized by the Minister.
- The modernization process includes the sale of surplus assets that no longer address the Canadian risk environment. The NESS has [REDACTED] outdated stretchers in Ottawa that are surplus to its requirements and causing operational issues as they occupy space that is required for modernization efforts.
- The stretchers will be listed for sale with Public Works and Government Services Canada (PWGSC), in compliance with the Treasury Board's *Policy on Management of Materiel* and *Directive on Disposal of Surplus Materiel*.
- This is the first large NESS sale since approval of the modernization package. You will continue to be briefed periodically with updates on NESS modernization initiatives.

BACKGROUND:

The NESS modernization package was developed to provide policy direction and strategic guidance to modernization efforts, which include better alignment of the NESS with the current risk environment. The package was approved by the Minister in September 2013 (MECS 13-110241-95).

The NESS holds approximately [REDACTED] stretchers from the 1960's [REDACTED] are held in federal warehouses and the remaining [REDACTED] in provincial and territorial (P/T) managed pre-positioned sites.

In 2011, subject matter experts reviewed these holdings and recommended against the use of the stretchers for patient movement due to safety concerns (e.g., no straps, canvas cannot be cleaned properly, too low to the ground for treatment, require four people to carry). In addition, the World Health Organization *Guidelines for Health Care Equipment Donations* specifically note that equipment that does not meet the standards of a donor country is not suitable for international donation.

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The stretchers can be used as emergency beds, but they are very low to the ground. The Canadian Red Cross Society, which has agreements for emergency support with most P/Ts and more than 1000 municipalities, maintains a substantial volume of modern cots that are much more suitable for sleeping (NESS emergency social service assets generally provide surge capacity to Red Cross supplies).

CURRENT STATUS:

The NESS currently has [REDACTED] surplus stretchers in [REDACTED]. They occupy approximately one-third of a transitional warehouse that is being used for modernization efforts. These stretchers will be sold through PWGSC, with no impact on emergency preparedness in Canada.

As indicated in a previous update (MECS 14-106507-595), stakeholder engagements on NESS modernization are proceeding well. The Public Health Infrastructure Steering Committee (PHISC) and all P/T health emergency management directors have now been engaged a number of times and there has been unanimous support of the modernization efforts. A letter to the P/T DMs of Health has also been developed to inform them of these efforts and ongoing P/T engagements (MECS 14-111593 – 910).

CONSIDERATIONS:

NESS modernization is intended to maintain NESS relevance to the P/Ts by eliminating outdated holdings that do not address the current risk environment. The NESS stretchers have not been requested by provinces or territories for medical use since the NESS received Cabinet authority to provide support to P/Ts in 1965.

This disposal is instrumental to moving NESS modernization forward as the transitional space occupied by the stretchers is required for the clean-up of other warehouses and pre-positioned sites. In addition, due to the abundance of surplus assets, the main NESS warehouse is nearing capacity and moving in additional assets could contravene the Ontario Fire Code.

As per the Health Canada and Public Health Agency of Canada *Standard on Assets Management*, Cost Center Managers are responsible for identifying surplus assets for disposal.

The Treasury Board *Directive on Disposal of Surplus Materiel* requires Ministerial approval only if the sale is for less than the market value, or for the donation of assets with a value greater than their disposal cost (Appendix A).

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The Treasury Board *Policy on Management of Materiel* requires that the disposal of surplus assets be concluded as soon as possible after the assets become surplus (Appendix B).

The fair market value of the stretchers is not currently known, but it will be found through the open market sale. The market interest in purchasing the outdated stretchers is unknown; however, they represent a significant volume of recyclable aluminum.

This sale will leave the NESS with almost [REDACTED] stretchers across the country; given their extremely limited usability, most of these will be declared surplus as the modernization proceeds. If it is determined that there is a future need for stretchers in the NESS, efforts will be made to acquire more modern equipment.

All sales of surplus NESS assets will be conducted in collaboration with PWGSC. The assets will be offered to other federal departments before being posted for sale, through GCTransfer, a new feature of PWGSC's sales site GCSurplus.ca.

NEXT STEPS:

The surplus stretchers will be listed for sale on GCSurplus.ca by the end of May 2015.

The Health Security and Infrastructure Branch will continue to provide you with periodic updates on NESS modernization progress.

[REDACTED]
Health Security Infrastructure Branch
[REDACTED] [REDACTED] [REDACTED]

MECS# 15-103758 - 755

Contact: [REDACTED]

Telephone: [REDACTED]

Attachments:

Appendix A – Treasury Board *Directive on Disposal of Surplus Materiel*

Appendix B – Treasury Board *Policy on Management of Materiel*

Directive on Disposal of Surplus Materiel

1. Effective date

This directive takes effect on November 1, 2006.

2. Application

This directive applies to all departments as defined in section 2 of the *Financial Administration Act*, with the exception of paragraph 2(c) thereof, unless specific acts or regulations override it.

This directive does not apply to the disposal of intellectual property, records, information, financial assets, or seized or confiscated property.

3. Context

The Treasury Board *Policy on Management of Materiel* provides direction for the management of departmental materiel assets throughout their life cycle, and, with regard to disposal, requires that deputy heads ensure that:

"The disposal of surplus materiel assets is concluded as effectively as possible, as soon as possible after they become surplus to the requirements of program delivery, in a manner that obtains highest net value for the Crown, and in compliance with the Treasury Board *Directive on Disposal of Surplus Materiel*."

This directive sets out additional and more specific requirements that departments must meet during the disposal phase of the life cycle of their materiel assets. This directive is issued pursuant to the *Financial Administration Act*, subsections 7(1), 9(2) and 62, and the *Surplus Crown Assets Act*, subsection 3(1)(b).

4. Directive requirements

4.1 Departments must offer right of first refusal of all surplus personal computers, laptops, servers, monitors, keyboards, mice, printers, modems, hubs, network cards, hard drives, etc., to the Industry Canada Computers for Schools Program.

4.2 Departments must place all surplus books in Canada in the care or custody of the Librarian and Archivist of Canada.

4.3 Whenever practicable, departments must make surplus materiel assets available, whether gratuitously, at book value, or at market value, to other federal departments and agencies before disposing of them outside the federal domain.

4.4 When the estimated total costs (including the costs to the Crown Assets Distribution Directorate and Crown Asset Distribution Centres operated by Public Works and Government Services Canada [PWGSC]) of a disposal are likely to exceed the proceeds of sale, departments must consider and select one of the following cost minimizing options:

- a. gratuitous transfer of the surplus asset to another federal organization or to organizations in other levels of government in Canada, including First Nations, or to other national governments, treaty organizations of which Canada is a member, or the United Nations;
- b. donation of the surplus asset to a recognized charitable or non-profit organization;
- c. conversion of the surplus asset to waste in an environmentally sustainable manner; and
- d. other means of disposal, including sale through Crown Assets Distribution, but the latter only when gratuitous transfer, donation, conversion to waste or other means of disposal is not practical, feasible or economical.

4.5 When trading in surplus assets for which procurement through a standing offer is not mandatory, departments must:

- a. ensure that trade-ins are transacted as an integral part of the contracts for replacement assets;
- b. use the fair market value of the assets as the basis of contract negotiation; and
- c. ensure that the value of the trade-in is accounted for as the proceeds of disposal.

4.6 When the sale of valuable (market value exceeds disposal cost) surplus materiel assets at less than market value or to a limited market will serve the public interest more than sale to the public at market value, departments must ensure that the terms of each such disposal are approved by the minister through whom the department reports to Parliament.

4.7 When the donation of valuable (market value exceeds disposal cost) surplus materiel assets to designated recipients will serve the public interest more than sale to the public at market value, departments must ensure that the donation is authorized in writing by the minister through whom the department reports to Parliament. Departments must make these donations directly, i.e., not through PWGSC.

4.8 When selling surplus materiel assets in Canada, departments must:

- a. use remarketing standing offers or other contractual arrangements whenever these have put in place by PWGSC;
- b. for direct sales conducted under departmental authorities (granted either by legislation or by the Treasury Board), ensure that as broad and as transparent an opportunity as possible is made available to Canadians to purchase surplus assets; and
- c. otherwise (unless a disposal site is too remote for PWGSC to effectively manage the sale) use the disposal services of the Crown Assets Distribution Directorate or one of the Crown Assets Distribution Centres operated by PWGSC in Canada.

4.9 When selling surplus materiel assets at sites in Canada too remote for PWGSC to effectively manage sales and at sites outside Canada, departments are authorized to sell their surplus materiel assets directly.

4.10 When spending the proceeds of disposal, departments must:

- a. ensure that, to the maximum possible extent, proceeds are spent in the fiscal year in which they are recorded. Should proceeds be recorded too late in a fiscal year to be spent in that same year, they may be carried forward to the next fiscal year, after which time any unused spending authority will lapse; and
- b. ensure that proceeds are used only for disposal, operating and capital expenditures and are not used for transfer payments.

4.11 Departments must maintain auditable records of the costing analyses that were used to justify disposal decisions.

4.12 Departments must have a delegation instrument in place that clearly sets out departmental authorities and accountabilities for the disposal of surplus moveable materiel assets.

4.13 PWGSC must endeavour on an ongoing basis to optimize the roles of the private sector and the non-federal public sector in Canada in the disposal of surplus materiel assets.

4.14 When selling or putting arrangements in place to sell surplus materiel assets on behalf of departments, PWGSC must ensure that as broad and as transparent an opportunity as possible is made available to Canadians to purchase these assets.

5. Responsibilities of other government organizations

Note: This section is meant to inform departments of other significant players in the disposal of surplus materiel assets. In and of itself, it does not confer an authority.

5.1 PWGSC is responsible under the Surplus Crown Assets Act for disposal of all surplus materiel assets for which authority has not been given either by legislation or by the Treasury Board to another department.

PWGSC is also responsible for the provision of strategic, procedural, and technical advice on the disposal of surplus materiel.

5.2 Industry Canada is responsible for the management of federal equipment contributions to the Computers for Schools Program.

6. References

Legislation

- Financial Administration Act
- Surplus Crown Assets Act

Related Treasury Board policy instruments

- Policy on Management of Materiel
- Directive on Controlled Goods

7. Enquiries

Please direct enquiries about this policy instrument to the organizational unit in your department responsible for this subject matter. For interpretation of this policy instrument, the responsible organizational unit should contact: TBS Public Enquiries.

Policy on Management of Materiel

1. Effective date

1.1 This policy takes effect on November 1, 2006.

1.2 Together with the four directives listed in section 3.5 below, it replaces the following Treasury Board policies:

- Materiel Management Policy, dated June 8, 1995;
- Disposal of Surplus Moveable Crown Assets, dated February 10, 2000;
- Motor Vehicle Policy, dated June 19, 1996; and
- Executive Vehicle Policy, dated June 1, 2002.

2. Application

2.1 This policy applies to all departments as defined in section 2 of the Financial Administration Act, unless specific acts or regulations override it.

2.2 This policy does not apply to the management of intellectual property, the management of records, the management of information, the management of financial assets, or to the management of seized or confiscated property.

3. Context

3.1 Federal materiel assets are vital corporate resources that, when managed well, support the cost-effective and efficient delivery of government programs.

3.2 This policy is issued pursuant to the Financial Administration Act, subsections 7(1), 9(2) and section 62, and the Surplus Crown Assets Act, subsection 3(1)(b).

3.3 Ministers are accountable for the management of materiel to support the delivery of programs according to their departmental mandates. Deputy heads are accountable to their respective minister and to the Treasury Board for the sound stewardship of the materiel entrusted to them or used by their organization.

3.4 This policy is framed by the principles set out in the *Policy Framework for the Management of Assets and Acquired Services*. The policy must be read in the context of related Treasury Board policies, especially those governing investment planning, procurement and project management.

3.5 Additional mandatory requirements are set out in the four Treasury Board directives associated with this policy:

- *Disposal of Surplus Materiel*;
- *Fleet Management: Executive Vehicles*;
- *Fleet Management: Light Duty Vehicles*; and
- *Controlled Goods*.

4. Definitions

4.1 Definitions to be used in the interpretation of this policy and its associated directives can be found in the Appendix.

5. Policy statement

5.1 Objective

The objective of this policy is that materiel be managed by departments in a sustainable and financially responsible manner that supports the cost-effective and efficient delivery of government programs.

5.2 Expected results

Compliance with the requirements of this policy is expected to result in a federal materiel management regime that:

- respects ministerial accountability;
- embodies sound materiel management practices;
- demonstrates due diligence;
- generates the maximum long-term economic advantage to the Crown;
- protects and preserves Canadian heritage and the environment;
- is fair, transparent, and financially responsible; and
- is compliant with relevant federal legislation and policies.

6. Policy requirements

6.1 Deputy heads are responsible for ensuring that:

6.1.1 A materiel management framework is in place that reflects an integrated approach to risk management; provides relevant performance information; sets out clear accountability and decision-making regimes that are consistent with organizational resources and capacity; and supports timely, informed materiel management decisions and the strategic outcomes of departmental programs.

6.1.2 The overall extent to which their materiel assets meet program requirements is measured by an ongoing and systematic assessment of the physical condition, functionality, use and financial performance of these assets against established targets based on appropriate benchmarks.

6.1.3 Capital acquisition, operations and maintenance, and disposal strategies are developed based on the findings of this ongoing and systematic performance assessment and on an economic and program analysis that considers the full life cycle costs and benefits of alternative solutions to meeting program needs for materiel assets.

6.1.4 The risk of loss of, or damage to federal materiel assets is minimized.

6.1.5 Heritage collections are identified and protected; the heritage value of these assets is assessed; and a record of these assets is kept that includes accurate information on their nature and condition.

6.1.6 Light duty vehicle fleets and executive vehicles are managed as set out in the Treasury Board *Directive on Fleet Management: Light Duty Vehicles* and in the Treasury Board *Directive on Fleet Management: Executive Vehicles*.

6.1.7 Materiel assets are managed and disposed of in an environmentally responsible manner consistent with the principles of sustainable development.

6.1.8 A materiel management information system is in place that:

- is compliant with the requirements of all applicable Treasury Board policies and standards governing the management of information and information technology;
- enables the collection and generation of complete and accurate data on materiel asset holdings (capital assets, inventories, and materiel in use);
- incorporates a risk-based stocktaking schedule;
- is integrated with departmental financial information systems;

- is integrated with program objectives and the *Management, Resources and Results Structure* of the department; and
- supports timely, informed materiel management decisions.

6.1.9 Acceptance and treatment of sponsored and donated assets are consistent with the requirements set out in the *Communications Policy of the Government of Canada* and in the *Policy on Alternative Service Delivery*.

6.1.10 Every loan of a materiel asset is made by way of a written contract that meets the legal requirements set out in the *Public Property Loan Regulations*.

6.1.11 Materiel assets designated as controlled goods, as defined in Part 2 of the *Defence Production Act*, are given the level of protection necessary to prevent their unauthorized examination, possession or transfer. Controlled goods must be managed in compliance with the Treasury Board *Directive on Controlled Goods*.

6.1.12 The disposal of surplus materiel assets is concluded as effectively as possible, as soon as possible after they become surplus to the requirements of program delivery, and in a manner that obtains highest net value for the Crown. The disposal of surplus materiel assets must be carried out in compliance with the Treasury Board *Directive on Disposal of Surplus Materiel*.

6.2 Monitoring and reporting requirements

6.2.1 Deputy heads are responsible for monitoring and reporting on the management of materiel in their departments. More specifically, they are responsible for ensuring that:

6.2.1.1 a control and oversight regime is in place to monitor adherence to this policy and its associated directives;

6.2.1.2 performance relative to the obligations under this policy and its associated directives is measured and documented;

6.2.1.3 the management framework for materiel is reviewed as an ongoing component of departmental risk-based audit planning; and

6.2.1.4 departmental records, plans, policy instruments or any other required information are provided to Treasury Board Secretariat, upon request, in support of the Secretariat's monitoring responsibilities.

6.2.2 The Secretary of the Treasury Board is responsible for:

6.2.2.1 assessing departmental performance in the management of materiel through such activities as ongoing dialogue and committee work with departments, review of departmental investment plans and submissions as well as other departmental records,

plans, policy instruments, etc., and by taking note of relevant audits and reviews conducted by departments or the Auditor General of Canada; and

6.2.2.2 reviewing the effectiveness of the policy and its associated directives at the five-year mark of their implementation and for ensuring that an evaluation is conducted when supported by a risk-based analysis.

7. Consequences

7.1 Based on its assessment of departmental performance in the management of materiel, the Secretary of the Treasury Board will make appropriate recommendations to the deputy head of a department and to the Treasury Board.

8. Roles and responsibilities of other government organizations

Note: This section informs departments of other significant players in the management of materiel. In and of itself, it does not confer an authority.

8.1 Environment Canada (EC) provides advice and recommendations to all federal departments on environmental matters. Through a full consultative process, EC works with departments to establish federal environmental goals and objectives and to develop regulations, directives, guidelines, standards or codes affecting federal departments and agencies.

8.2 The Canadian Environmental Assessment Agency advises federal departments and agencies of their obligations under the Canadian Environmental Assessment Act and provides administrative support for public reviews.

8.3 Canadian Heritage is responsible for the initiation, recommendation, co-ordination, implementation and promotion of national policies, projects and programs concerning Canadian identity and values, cultural development, heritage and areas of natural or historical significance to the nation.

8.4 Public Works and Government Services Canada (PWGSC) is responsible for the provision of a range of asset-related common services to departments, including:

- contracting for goods, services and construction;
- managing seized property, forensic accounting, controlled goods, industrial security and traffic;
- managing the Vehicle Statistical Information System; and
- disposing of goods on behalf of departments.

8.5 PWGSC and National Defence share responsibility for providing materiel identification and related services to departments.

8.6 National Defence is responsible for the administration and maintenance of the Canadian Government Cataloguing System.

8.7 The President of the Treasury Board is responsible for:

- reporting to Parliament, as soon as practicable, but not later than six months following the end of each fiscal year, on the application of the Alternative Fuels Act in respect of all federal bodies (excluding Crown corporations); and
- recommending to the Treasury Board that it make regulations to give effect to the purpose or any provision of the Alternative Fuels Act.

8.8 Treasury Board Secretariat, in addition to the explicit responsibilities outlined in this policy, provides the appropriate tools and guidance necessary to support this policy and its associated directives. The Secretariat also supports the professional development of the materiel management community.

9. References

9.1 Legislation

- Alternative Fuels Act
- Canadian Environmental Assessment Act
- Canadian Environmental Protection Act, 1999
- Defence Production Act
- Department of Public Works and Government Services Act
- Export and Import Permits Act
- Financial Administration Act
- Library and Archives of Canada Act
- Surplus Crown Assets Act

9.2 Regulations

- Alternative Fuels Regulations
- Controlled Goods Regulations
- Public Property Loan Regulations
- Export Control List (Export and Import Permits Act)

9.3 Treasury Board Policies

- Policy on Accounting for Inventories
- Policy on Acquisition Cards

- Policy on Alternative Service Delivery
- Common Services Policy
- Communications Policy of the Government of Canada
- Policy on Managing Procurement - Standard and Specialized Goods and Services
- Government Security Policy
- Policy Framework for the Management of Assets and Acquired Services
- Policy on Losses of Money and offences and Other Illegal Acts Against the Crown
- Policy on the Management of Government Information
- Management of Information Technology Policy
- Policy on Project Management
- Risk Management Policy

9.4 Treasury Board Standards

- Security and Contracting Management Standard
- Standard on Physical Security
- TB Accounting Standard 3.1.1-Software
- TB Accounting Standard 3.1-Capital Assets
- TB Accounting Standard 3.4-Inventories
- TB Information and Technology Standard 25: Materiel Coding-Implementation Criteria

9.5 Treasury Board of Canada Secretariat Publications

- Financial Information Strategy Accounting Manual
- Guide to Fleet Management
- Guide to the Management of Materiel
- Guide to the Management of Movable Heritage Assets
- Integrated Risk Management Framework
- Integrated Risk Management Implementation Guide
- Management Accountability Framework
- Managing Collaborative Arrangements: A Guide for Regional Managers
- Materiel Management-Review Guide

9.6 Other References

- Policy on Green Procurement (Public Works and Government Services Canada)

10. Enquiries

Please direct enquiries about this policy instrument to the organizational unit in your department responsible for this subject matter. For interpretation of this policy instrument, the responsible organizational unit should contact: TBS Public Enquiries.

Appendix - Definitions

Acquisition (*Acquisition*)

A transaction that adds materiel property to a department's inventory, including by means of a donation, sponsorship or lease.

Controlled goods (*Marchandises contrôlées*)

Those goods specified in the schedule ("Controlled Goods List") to the Defence Production Act.

Donation (*Don*)

The provision by contribution, gift or bequest by a person, group or organization external to the Government of Canada of funds, goods, facilities or services without cost to the Government of Canada. The contribution is made without expectation of any benefit in return (other than public acknowledgement, if agreed to by both parties, or a tax receipt). The contribution may or may not support a particular Government of Canada event or activity.

Fair market value (*Juste valeur marchande*)

The price that would be agreed to in an open and unrestricted market between knowledgeable and willing parties dealing at arm's length who are fully informed and not under any compulsion to transact.

Federal heritage collections (*Collections du patrimoine fédéral*)

Collections of art, historical artifacts, archaeological artifacts and archival collections that are of artistic, historical, ceremonial, documentary, technological or associative importance and that are owned by federal departments (excepting those managed by Parks Canada under its legislative mandate). New objects of potential heritage value are also considered to be valid cultural property.

Financial performance (*Rendement financier*)

A performance measure that addresses the cost of operating and sustaining an asset relative to established standards or targets.

Functionality (*Fonctionnalité*)

A performance measure that addresses how effectively an asset meets defined program and service requirements.

Heritage value (*Valeur patrimoniale*)

A value determined by assessing the symbolic value, the age and/or rarity value. The associative or representative value of an asset; artistic value, historical value, aesthetic value, monetary value, etc., do not in themselves constitute elements of heritage value, though they do play a role in determining significance.

Inventory (*Inventaire*)

Materiel held in stock at storage facilities, including materiel that is undergoing repair or is in the supply system.

Inventory control (*Contrôle des stocks*)

The control of materiel by means of established materiel accounting and management methods and procedures.

Life cycle management (*Gestion du cycle de vie*)

The effective and efficient management of assets along the entire continuum from the identification of a requirement to the disposal and replacement of the asset acquired to meet the requirement. The phases of life cycle management include assessing requirements; analyzing options; planning acquisition; acquiring; operating, using, and maintaining; and disposing and replacing.

Materiel (*Matériel*)

All movable assets, excluding money and records, acquired by Her Majesty in right of Canada.

Materiel management (*Gestion du matériel*)

All activities necessary to acquire, hold, use and dispose of materiel, including the notion of achieving the greatest possible efficiency throughout the life cycle of materiel assets.

Net proceeds (*Montant net*)

The difference between the revenue generated for the Crown through the disposal of an asset and the cost to the Crown of disposing of it. The total cost of disposal should include all the costs of the custodial department (e.g., administrative, direct handling, warehousing, transportation, fees, commissions, etc.), as well as all costs incurred by Public Works and Government Services Canada in excess of any commissions paid by the custodial department.

Physical security (*Sécurité physique*)

The use of physical safeguards to prevent and delay unauthorized access to assets, detect attempted and actual unauthorized access, and activate an appropriate response.

Record (*Document*)

Any correspondence, memorandum, book, plan, map, drawing, diagram, pictorial or graphic work, photograph, film, microform, sound recording, videotape, machine readable record, and any other documentary material, regardless of physical form or characteristic, and any copy thereof.

Seized property (*Bien saisi*)

Any property seized under the authority of any act of Parliament or pursuant to any warrant of any rule of law in connection with any designated offence.

Sponsorship (*Parrainage*)

A collaborative arrangement between the Government of Canada and persons, groups or organizations external to the Government of Canada. In such an arrangement, funds, goods, facilities or services are provided to the Government of Canada to support a particular event or activity in exchange for some appropriate non-monetary benefit of approximately equal value.

Stocktaking (*Prise d'inventaire*)

The procedure of counting and reconciling actual holdings against automated or manual records for stocking accounts. The aim is to resolve discrepancies, update computer and manual records regarding the balance of stock on hand, identification, condition and location of materiel.

Surplus Crown asset (*Biens de surplus de la Couronne*)

Property (excluding real property or immovables as defined in the Federal Real Property and Federal Immovables Act or licences in respect thereof) of Her Majesty which is in the custody or under the control of a department or federal body that has determined that the property is surplus to its requirements (i.e., there is no current or foreseen requirement for it).

Sustainable development (*Développement durable*)

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Use (*Utilisation*)

A performance measure that addresses the type, suitability and intensity of use of an asset relative to its capacity or potential.



FOR CONCURRENCE

14-111593 - 910

MEMORANDUM TO THE PRESIDENT AND THE CHIEF PUBLIC HEALTH OFFICER

**Letters to P/T DMs of Health regarding National Emergency
Strategic Stockpile modernization**

SUMMARY

- National Emergency Strategic Stockpile (NESS) officials have been working with provincial and territorial representatives to move forward on the modernization of NESS holdings and management.
- As authorized by the Minister, the modernization includes the closure of three federal warehouses and most pre-positioned sites, and potentially the donation of surplus assets to provinces and territories (P/Ts) or municipalities.
- At the working level, P/Ts have expressed support for NESS modernization efforts, through discussions with the Public Health Infrastructure Steering Committee and with P/T Health Emergency Management Directors.
- Through P/T engagements on NESS modernization it has become clear that P/Ts would like the Public Health Agency of Canada (Agency) to engage P/T Deputy Ministers (DMs) of Health on NESS modernization.
- Your signature is requested on the attached letters to P/T DMs of Health to ensure their awareness of the NESS modernization initiatives (Appendix A). The Public Health Network Council (PHNC) would be made aware of this letter at their June 4, 2015 meeting (Appendix B).

BACKGROUND:

The modernization of the NESS was outlined in the 2012 NESS Policy Frame and described in detail in the subsequent NESS Optimization Plan. The full modernization package was approved by Minister Ambrose in September 2013 (Appendix C).

The approved Engagement Plan discussions are proceeding well and nearing completion. The NESS modernization efforts have been discussed with the Public Health Infrastructure Steering Committee of the PHNC and P/T Health Emergency Management Directors, and all are supportive of the modernization efforts. The Council of Chief Medical Officers of Health was informed of NESS modernization at their October 22, 2014 meeting.

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It is proposed that the P/T DMs of Health be formally notified of the NESS modernization, as identified in the Engagement Plan. To ensure that PHNC members are aware that the Agency is formally contacting P/T governments, speaking points have been developed for the Chief Public Health Officer, for the June 4, 2015 PHNC roundtable update. PHNC members would also receive copies of the DM letters.

Federal engagement on NESS modernization took place through the Public Safety Canada led Interdepartmental Logistics Networking Group, which includes all federal departments with an emergency management responsibility.

CONSIDERATIONS:

The approved modernization involves an increased focus on medical countermeasures and modern medical equipment. It also includes the closure of most prepositioned sites and the disposal of overstocked and outdated assets, with no impact on emergency preparedness in Canada. Overstocked assets, such as beds and blankets, are available for donation to P/Ts or municipalities.

Nova Scotia Health and Wellness has requested that a formal letter on NESS modernization, outlining the modernization efforts and the opportunity for P/Ts to obtain surplus supplies (Appendix D). Furthermore, P/T Health Emergency Management Directors have suggested that Agency engagement of DMs of Health would help facilitate their efforts to support NESS modernization.

The Intergovernmental and Stakeholder Policy Division of the Strategic Policy, Planning and International Affairs Branch has recommended that a letter be sent to DMs of Health to inform them of NESS modernization efforts, as well as the ongoing engagement with the Public Health Infrastructure Steering Committee and P/T Health Emergency Management Directors.

The Communications and Public Affairs Branch, the Department of Justice and Public Works and Government Services Canada continue to be engaged with regard to the NESS modernization.

COMMUNICATIONS IMPLICATIONS:

Minimal media attention is anticipated and a responsive approach is recommended. Existing pre-approved media lines on the NESS modernization are available for use if required.

RECOMMENDATIONS/CONCLUSION:

It is recommended that you indicate your concurrence to the letters to DMs of Health and the speaking points to PHNC by signing the "concur" block below and the 13 attached letters. The Briefing Unit would fax the letters to the Deputy Ministers.



Health Security Infrastructure Branch

MAY 08 2015

☐ do not concur

☐ concur



MAY 26 2015



JUN 03 2015

MECS# 14-111593 - 910

Contact:

Telephone:

Attachments

Appendix A – Letters to each P/T DM of Health

Appendix B – Speaking points for PHNC

Appendix C – MECS 13-110241-95 – NESS Modernization Package

Appendix D – Letter from Nova Scotia Health and Wellness



JUN 24 2015

[REDACTED]
[REDACTED]
Province of British Columbia
[REDACTED]
Victoria, British Columbia V8W 3C8

Dear [REDACTED]:

We are writing to inform you of the changes the Public Health Agency of Canada is making to modernize the National Emergency Strategic Stockpile (NESS).

The NESS is maintained by the Agency as surge capacity to assist the provinces and territories in their response to a variety of emergencies with health impacts, including pandemics, terrorism events and natural disasters. Its roles include:

- maintaining a supply of medical countermeasures for use in the event of an unexpected public health emergency (e.g. smallpox); and
- providing medical and social service supplies to supplement provincial and territorial capacity if their resources are overwhelmed during a major public health emergency.

Since the inception of the NESS in 1952, there have been significant shifts in the health emergency management context, including emerging public health threats, enhanced capacity among partners, technological advances in pharmaceuticals and medical equipment, and improved transportation infrastructure.

The Agency is modernizing the NESS to better address the current risk environment in light of this changing context. The Public Health Network's Public Health Infrastructure Steering Committee has been engaged in this process, as well as all 13 provincial and territorial Health Emergency Management Directors. The key elements of the modernization include:

- enhancing the ability to provide assets such as medical countermeasures for unexpected health events with significant impact for Canadians;
- strategically realigning the network of federal warehouses to ensure that supplies are accessible to the majority of the Canadian population in a timely manner, while removing duplication of federal capacity;

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- disposing outdated medical equipment and supplies;
- reducing excess emergency social service assets to a level that better reflects the current public health risks in Canada; and
- investigating provincial and territorial interest in receiving surplus NESS assets.

Currently, a significant quantity of NESS assets are held in more than 800 legacy pre-positioned sites managed by provincial and territorial or local authorities. The vast majority of assets in these pre-positioned sites are obsolete or held in quantities that do not align with the current risk environment. As such, most of these sites will be closed. Sites will only be maintained in locations with specific needs or requirements that cannot be fulfilled through a network of six federal warehouses. These warehouses form a network of logistical hubs intended to provide emergency support for all regions of the country.

Discussions around specific locations requiring pre-positioned sites have been initiated through your respective health emergency management organizations. The Agency will continue to engage Health Emergency Management Directors in the coming months to develop the logistical plans associated with NESS modernization and, as applicable, facilitate the donation of surplus assets.

At this time, we would like to emphasize that the intended closure of the legacy pre-positioned sites will not affect the ability of the NESS to provide surge capacity in times of emergency. The Agency will continue to consult with our provincial and territorial counterparts as we move forward.

Should you have any concerns with this proposed approach, we would be grateful to hear of them.

Thank you for your continued support and cooperation.

Sincerely,





JUN 24 2015

[REDACTED]
[REDACTED]
Government of Newfoundland and Labrador
[REDACTED]
[REDACTED]
St. John's, Newfoundland and Labrador A1B 4J6

Dear [REDACTED]:

We are writing to inform you of the changes the Public Health Agency of Canada is making to modernize the National Emergency Strategic Stockpile (NESS).

The NESS is maintained by the Agency as surge capacity to assist the provinces and territories in their response to a variety of emergencies with health impacts, including pandemics, terrorism events and natural disasters. Its roles include:

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Should you have any concerns with this proposed approach, we would be grateful to hear of them.

Thank you for your continued support and cooperation.

Sincerely,



c.c. [Redacted]
Department of Advanced Education and Skills
Government of Newfoundland and Labrador

[Redacted]
Fire and Emergency Services
Government of Newfoundland and Labrador



JUN 24 2015

[REDACTED]
[REDACTED]
Province of Alberta
[REDACTED]
[REDACTED]
Edmonton, Alberta T5J 1S6

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Sincerely,





JUN 24 2015

[Redacted]
[Redacted]

Government of the Northwest Territories

[Redacted]
[Redacted]

Yellowknife, Northwest Territories X1A 2L9

Dear [Redacted]:

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Sincerely,





JUN 24 2015

[Redacted]

Province of Ontario

Queen's Park, [Redacted]

[Redacted]

Toronto, Ontario M7A 2C4

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- investigating provincial and territorial interest in receiving surplus NESS assets.

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At this time, we would like to emphasize that the intended closure of the legacy pre-positioned sites will not affect the ability of the NESS to provide surge capacity in times of emergency. The Agency will continue to consult with our provincial and territorial counterparts as we move forward.

Should you have any concerns with this proposed approach, we would be grateful to hear of them.

Thank you for your continued support and cooperation.

Sincerely,





JUN 24 2015

Gouvernement du Québec

Québec (Québec) G1S 2M1

La présente vise à vous informer des modifications apportées par l'Agence de la santé publique du Canada pour moderniser la Réserve nationale stratégique d'urgence (RNSU).

La RNSU est gérée par l'Agence comme capacité de pointe permettant d'aider les provinces et les territoires durant leurs interventions lors de diverses situations d'urgence ayant des répercussions sur la santé, notamment les pandémies, les actes de terrorisme et les catastrophes naturelles. Parmi les rôles de la RNSU, on compte les suivants :

- maintenir une réserve de contre-mesures médicales pouvant être utilisées lorsqu'une situation d'urgence imprévue liée à la santé publique survient (p. ex. variole); et
- fournir aux provinces et territoires des fournitures d'appoint liées aux soins médicaux et aux services sociaux lorsqu'ils n'ont pas suffisamment de ressources pour leurs interventions ciblant une situation d'urgence d'envergure liée à la santé publique.

Depuis le lancement de la RNSU en 1952, d'importants changements ont eu lieu en ce qui a trait au contexte de gestion des urgences sanitaires, y compris les menaces émergentes pour la santé publique; une meilleure capacité des partenaires; les progrès technologiques dans le domaine des médicaments et de l'équipement médical; et une infrastructure de transport améliorée.

À la lumière de ce contexte en évolution, l'Agence a décidé de moderniser la RNSU afin de mieux tenir compte de l'environnement de risque actuel. Le Comité directeur de l'infrastructure de santé publique du Réseau de santé

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publique participe à ce processus, tout comme les 13 directeurs provinciaux et territoriaux responsables de la gestion des urgences sanitaires. Les principales étapes de la modernisation sont les suivantes :

- augmenter la capacité de fournir des services, comme les contre-mesures médicales, lors des événements de santé inattendus ayant d'importantes répercussions sur les Canadiens;
- restructurer de façon stratégique le réseau d'entrepôts fédéraux afin que les fournitures soient accessibles à la majorité des Canadiens en temps opportun, tout en éliminant les chevauchements des capacités fédérales;
- éliminer les fournitures et équipements médicaux périmés;
- réduire l'excès de biens destinés aux services sociaux d'urgence à un niveau qui reflète davantage les risques actuels en matière de santé publique au Canada;
- déterminer dans quelle mesure les provinces et territoires aimeraient recevoir les biens excédentaires de la RNSU.

Actuellement, une quantité importante de biens de la RNSU sont entreposés dans plus de 800 sites préétablis gérés par les autorités provinciales et territoriales ou locales. La grande majorité des biens entreposés dans ces sites préétablis sont désuets ou conservés dans des quantités qui ne correspondent pas à l'environnement de risque actuel. Par conséquent, la majorité de ces sites seront fermés. Les seuls endroits où des sites demeureront ouverts sont ceux où il y a des exigences ou des besoins particuliers auxquels le réseau de six entrepôts fédéraux ne pourra pas répondre. Les entrepôts fédéraux forment un réseau de centres logistiques dont le but est de fournir un soutien d'urgence dans toutes les régions du Canada.

Des discussions à propos des endroits où il est nécessaire de conserver des sites préétablis ont été amorcées par vos organisations respectives de gestion des urgences sanitaires. L'Agence continuera de communiquer avec les directeurs responsables de la gestion des urgences sanitaires au cours des prochains mois pour élaborer des plans logistiques relatifs à la modernisation de la RNSU et, s'il y a lieu, pour faciliter le don des biens excédentaires.

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En ce moment, nous voulons souligner le fait que la fermeture prévue des sites préétablis ne réduira en rien la capacité de la RNSU à fournir des services d'appoint lors des situations d'urgence. Par ailleurs, l'Agence continuera de consulter ses homologues provinciaux et territoriaux.

Si vous avez des préoccupations au sujet de l'approche proposée, nous serions heureux que vous nous en fassiez part.

En vous remerciant de votre appui et de votre collaboration soutenus, veuillez agréer, Monsieur, l'expression de nos sentiments les meilleurs.





JUN 24 2015

[REDACTED]
[REDACTED]
Province of Saskatchewan
[REDACTED]
[REDACTED]
Regina, Saskatchewan S4S 6X6

Dear [REDACTED]

We are writing to inform you of the changes the Public Health Agency of Canada is making to modernize the National Emergency Strategic Stockpile (NESS).

The NESS is maintained by the Agency as surge capacity to assist the provinces and territories in their response to a variety of emergencies with health impacts, including pandemics, terrorism events and natural disasters. Its roles include:

- maintaining a supply of medical countermeasures for use in the event of an unexpected public health emergency (e.g. smallpox); and
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Should you have any concerns with this proposed approach, we would be grateful to hear of them.

Thank you for your continued support and cooperation.

Sincerely,





JUN 24 2015

[Redacted]
[Redacted]
[Redacted]

Province of Manitoba

[Redacted]
[Redacted]

Winnipeg, Manitoba R3C 0V8

Dear [Redacted]

We are writing to inform you of the changes the Public Health Agency of Canada is making to modernize the National Emergency Strategic Stockpile (NESS).

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Thank you for your continued support and cooperation.

Sincerely,





JUN 24 2015

Province of New Brunswick

Fredericton, New Brunswick E3B 5G8

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Sincerely,





JUN 24 2015

[REDACTED]
[REDACTED]
Province of Prince Edward Island
[REDACTED]
[REDACTED]
Charlottetown, Prince Edward Island C1A 7N8

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Thank you for your continued support and cooperation.

Sincerely,





JUN 24 2015

[REDACTED]
Government of the Yukon, [REDACTED]
[REDACTED]
Whitehorse, Yukon Y1A 3H7

Dear [REDACTED]:

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Thank you for your continued support and cooperation.

Sincerely,





JUN 24 2015

[Redacted]
Government of Nunavut
[Redacted]
Iqaluit, Nunavut X0A 0H0

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Sincerely,





JUN 24 2015

[Redacted]
[Redacted]

Province of Nova Scotia

[Redacted]
[Redacted]

Halifax, Nova Scotia B3J 2R8

Dear [Redacted]:

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Public Health Network Council

Round Table Speaking Points for [REDACTED]

- National Emergency Strategic Stockpile is currently modernizing its management practices and holdings, including acquiring new medical countermeasure that may not be held by other jurisdictions in Canada.
- As you know, the NESS is a Public Health Agency of Canada program that is able to provide assets to support P/T efforts to respond to major public health emergencies.
- Since this program has existed since the 1950s, the modernization also includes the elimination of outdated assets and other adjustments to better reflect the evolving risk environment in Canada.
- The Public Health Infrastructure Steering Committee (PHISC) and your Health Emergency Management Directors have been engaged in the modernization efforts.
- To ensure that your respective jurisdictions are fully aware of the improvements that are being made, the Agency will be sending letters to your Deputy Ministers of Health shortly.



Health and Wellness

PO Box 488
Halifax, NS B3J 2R8

T 902 424 5868
F 902 424 2149

September 15, 2014

[REDACTED]
[REDACTED]
Public Health Agency of Canada
[REDACTED]
Ottawa, ON K1A 0K9

Dear [REDACTED]:

Thank you for your visit on June 17, 2014, when we discussed the National Emergency Strategic System (NESS) modernization. It is our understanding that once you have completed all of your visits with the provinces and territories that you will be sending a formal letter to us that will detail the Public Health Agency of Canada's plan and forecasted dates for the implementation of this project.

The Nova Scotia Department of Health and Wellness' lead for this work is [REDACTED]. Please do not hesitate to contact him either by phone at [REDACTED] or by email at [REDACTED]@gov.ns.ca if you require any follow up.

Sincerely,

[REDACTED]
Health Services Emergency Management

cc: [REDACTED]



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

National Emergency Strategic Stockpile

April, 2016

PROTECTING AND EMPOWERING CANADIANS
TO IMPROVE THEIR HEALTH



Purpose

- To provide an overview of the National Emergency Strategic Stockpile (NESS)

What is NESS?

- Provider of health emergency assets for surge capacity when local and P/T resources are overwhelmed
 - There is an expectation that P/Ts can manage the initial response to routine emergencies (e.g. annual flooding)
- Provider of niche assets such as medical countermeasures for exceptional health events that would have a high-impact on society
 - e.g. unlikely terror attacks, CBRNE events
- Operates 24/7; delivery of assets anywhere in Canada targeted for within 24 hours
- Assets are maintained in federal warehouses and pre-positioned sites across Canada
 - Pharmaceuticals are maintained in the [REDACTED] warehouse

Evolution of NESS

- Established in 1952, in response to the threats of the Cold War
- Expanded in the 1960s through the acquisition of portable medical facilities
- NESS has since adapted to the changing risk environment and broader public health threats:
 - Medical countermeasures (MCMs) to counter CBRNE agents (e.g. [REDACTED])
[REDACTED]
 - Pandemic preparedness (e.g. antivirals, ventilators, protective equipment)
[REDACTED]
 - Acquisition of mini-clinics for triage and minor treatment

Current NESS Holdings

- Social service supplies
 - Generators, beds, blankets and towels
- Medical equipment, devices and supplies
 - Mini-clinics, x-ray machines, ventilators, stretchers, wound dressings
 - Masks, gloves and disposable gowns
- Therapeutic Products
 - Antibiotics, Antivirals, Antitoxins, Vaccines
 - Drugs to support ventilators

NESS MCM Holdings

Threat	Vaccines	Therapeutics	Comments

NESS Modernization

- Since NESS was established, risks to public health and available resources have changed significantly
 - New threats (pandemics, terrorism) have emerged
 - Capacity among partners (federal, provincial and NGOs) has been significantly enhanced
 - Transportation infrastructure (air and road) have improved
- New NESS Policy Frame and Optimization Plan approved by the Minister of Health in September 2013

NESS Modernization

From	To
<ul style="list-style-type: none"> • General response to disasters 	<ul style="list-style-type: none"> • Focused on strategic health emergency assets
<ul style="list-style-type: none"> • A single point for P/T surge capacity 	<ul style="list-style-type: none"> • Part of a larger, collaborative system e.g. Red Cross, Mutual Aid
<ul style="list-style-type: none"> • Reactive decision making 	<ul style="list-style-type: none"> • Risk-informed and evidence-based decision making
<ul style="list-style-type: none"> • Ad-hoc procurement of products as funding is available 	<ul style="list-style-type: none"> • Strategic procurement based on analysis of threats, risks and capabilities
<ul style="list-style-type: none"> • 1,300 locations across Canada 	<ul style="list-style-type: none"> • Strategically located with pre-positioning at special events
<ul style="list-style-type: none"> • Designed for mass casualties 	<ul style="list-style-type: none"> • Adapted for response to chemical, biological and radio-nuclear events and pandemics
<ul style="list-style-type: none"> • General role in providing emergency social service supplies 	<ul style="list-style-type: none"> • Strategic role in emergency surge social service supplies

NESS Optimization

- Disposal of outdated assets and reduction of overstocked assets
 - Assets that no longer have an emergency management role will be sold or recycled
 - Social service supplies offered for donation to increase P/T capacity
 - Huge volumes of beds and blankets now used for social service capacity
- Optimization of warehouse management system
 - Federal warehouses offering redundant capacity will be closed
 - The closures will not affect delivery times; target is still within 24 hours
 - Location of warehouses

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Current Challenges – MCM Strategy

- While its policy authorities expanded under the PSAT initiative to include CBRN MCMs, NESS currently lacks sufficient and ongoing funding to acquire and replenish these products on a regular basis
- Current acquisition of costly MCMs for risks such as [REDACTED] or a CBRN event is done on an ad-hoc basis through internal funding opportunities/incremental funding
- Industry lacks incentive to invest in costly, risky and time consuming MCM development and Canadian capacity in MCM development is challenged
- As a result, the NESS holds limited MCM products, and is not sufficiently resourced to develop acquisition strategies to leverage MCM R&D
- An MCM Strategy is under development that would enhance federal coordination and strategic partnerships with industry and academia; advance R&D at critical stages and develop domestic capacity, when feasible; and support long-term acquisition planning.

WITHHELD / RETENUE

(Are) exempted and/or excluded pursuant to section(s)
st(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

Current approach and future directions for acquiring and managing medical countermeasures in the National Emergency Strategic Stockpile

Briefing to the President and Chief Public Health Officer
September 29, 2016

PROTECTING AND EMPOWERING CANADIANS
TO IMPROVE THEIR HEALTH



Objectives

- To articulate the complex process of defining requirements for, acquiring, stockpiling and deploying medical countermeasures (MCMs) to protect the health security of Canadians
- To outline the mechanisms informing evidence-based decision-making for MCM investments
- To discuss current challenges and strategic opportunities for an improved future state

National Emergency Strategic Stockpile (NESS)

- PHAC is the Government of Canada lead responsible for protecting the health security of Canadians from threats related to:
 - Natural disasters (e.g., floods, earthquakes, etc.);
 - Intentional or unintentional release of chemical, biological, radiological, and nuclear (CBRN) agents (e.g., [REDACTED]);
 - Naturally occurring diseases (emerging and re-emerging infectious diseases such as Ebola, Zika and Antimicrobial-resistant pathogens)
- NESS was established to respond to civil emergencies and its stockpile evolved over time to respond to the changing threat and risk environment
- Review of the NESS was conducted in 2012; role of NESS clarified with dual mandate:
 - Provider of health emergency assets for surge capacity when local resources are overwhelmed
 - Provider of niche assets such as MCMs for exceptional health events that would have a high-impact on society
 - Not meant to solve market disruption

NESS Budget

- Defining requirements, acquiring, stockpiling and deploying MCMs requires thoughtful planning and analysis to manage investments in relation to the evolving threat environment
- Annual NESS Budget for FY 2016/17:
 - Capital: \$500K
 - Salaries: \$1.24M
 - O&M: \$1.36M (e.g., infrastructure management, transportation, operating, asset management, low \$ value assets – gloves, masks, etc.)
- Total value of NESS assets: [REDACTED]

Medical Countermeasures (MCMs)

- MCMs are a critical component of efforts to prevent, prepare and respond to health threats
 - In some areas, the federal government can be the sole provider of MCMs during a public health event or emergency
 - Accordingly, the NESS focus is on MCMs for low-probability, high-impact events for products that will be difficult to obtain during an emergency
- Availability and development of MCMs is a recognized problem and interdepartmental work is on-going to draft an MCM Strategic Framework
- There are four pillars of the MCM Strategic Framework:
 - Governance;
 - Strategic Engagement and Partnerships;
 - Research, Innovation and Development Investments; and
 - **Acquisitions for Prevention, Emergency Preparedness and Response**
- See Annex A for the MCM Strategic Framework

Process for Defining Requirements and Acquiring Assets

1

MCM
Requirements
Setting

2

Identify
Product
Candidates

3

Acquisition
Planning

4

Stockpiling

5

Deployment /
Replenishment

Engagement with Subject Matter Experts (SMEs)

- Pharmaceutical and Therapeutics Committee (P&TC)
 - Comprised of SMEs from various sectors (health, defence, etc.)
 - Reviews scientific data regarding MCMs (licensed and unlicensed)
 - Provides recommendations on pharmaceuticals for stockpile management
 - Conducting review of the Committee to clarify role and improve alignment with evolving needs
- Medical Equipment and Supply Advisory Committee (MESAC)
 - Comprised of technical SMEs
 - Provides recommendations on the composition of medical equipment and supplies in the NESS
- Health Canada
 - Provides recommendations on chemical emergency preparedness and radiation protection
 - Advises on the regulatory process
- Others as required:
 - Other Government Departments (PSPC, DND, NRC, etc.)
 - International partners (Quadrilateral MCM Consortium, Global Health Security Initiative – GHSI)
 - Industry (Emergent/Cangene, Bavarian Nordic, Medicago, etc.)

1. MCM Requirements Setting

- Threat and risk assessments inform analysis on the likely impact of risks to the health of Canadians
- MCM requirements are based on threat scenarios and risks to public health as well as literature reviews and SME advice
- MCM capability analysis and identification of gaps are performed by comparing MCM needs and current NESS holdings
- Prioritize MCM requirements in consultation with SMEs using methodology based on pre-established criteria

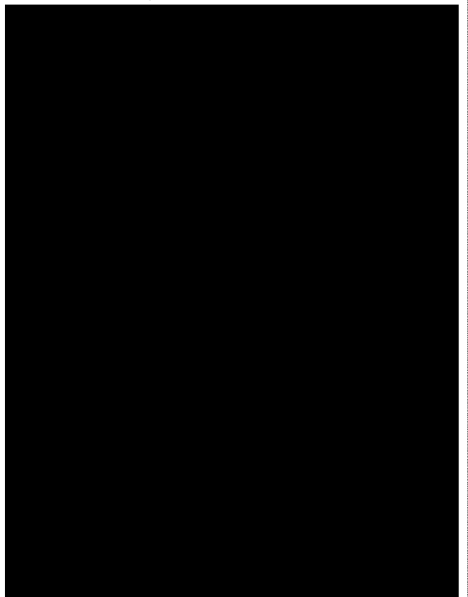
Challenge:

- Need for on-going evidence-based threat and risk assessments to understand the evolving risk environment

2. Identify Product Candidates

- MCM market assessment is conducted by scanning drug databases
- Non-clinical and clinical data (unlicensed MCMs) is reviewed to assess product safety and efficacy in consultation with SMEs
 - Types and quantities of MCMs to acquire for the NESS is determined
 - Regulatory requirements are identified
- Regulatory mechanism (unlicensed MCMs) is chosen and Health Canada is engaged for potential drug products in active clinical trials, under review, and/or close to licensure
 - Special Access Program (SAP)
 - Clinical Trial Application
 - Interim Order
 - Draft Block Release Regulations (in discussion)

Challenge:

- 
- Discussions are underway with HC

3. Acquisition Planning

- Budget planning is conducted by considering costs associated with MCM products, storage requirements (e.g., freezers), maintenance and life-cycle management
- PSPC is engaged to begin negotiations with industry suppliers
 - Confirm MCM availability, manufacturer production capacity, shelf-life, timelines, and costs
 - HC is engaged
- Acquisitions are prioritized and a long-term acquisition plan is developed including life-cycle management based on product and funding availability
- MCMs are procured
 - Historically, MCM acquisitions have been based on one-time funding (e.g., internal reallocation such as banking day and extraordinary public health events and emergencies)

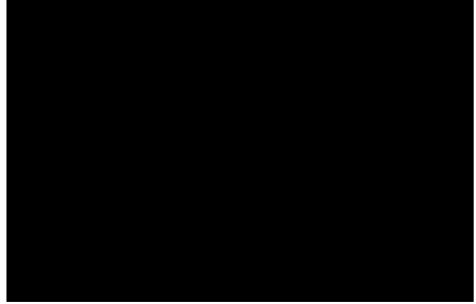
Challenge:

- No sustained, flexible funding for MCM acquisitions
- Economies of scale, such as joint acquisitions with other government departments both domestically and internationally could be achieved

4. Stockpiling

- MCM life-cycle under Good Manufacturing Practices (GMP)
- Inventory management and reporting system is updated
 - P&TC and MESAC conduct reviews of assets
 - See Annex B for Stockpile Management Strategies
- Strategic positioning of NESS assets
- PHAC holds asset on behalf of OGD
 - E.g., Canadian Food Inspection Agency – antivirals; Health Canada First Nations and Inuit Health Branch – personal protective equipment, etc.

Challenge:

- 
- Optimization of footprint under discussion with P/Ts
- Co-locating federal assets could realize cost-savings

5. Deployment

- NESS has a domestic mandate to deploy assets as requested
- When possible, assets are recovered however, products that are consumed or that have issues with cold chain or GMP compliance cannot be recovered
- Very limited funding to replenish assets

Challenge:

- NESS has been called upon for international deployment but lacks an approved mandate (see Annex C for Major NESS Deployments - Domestic and International)
- Workaround is available as a temporary fix but not optimal

Current Activities Underway to Enhance Program Management

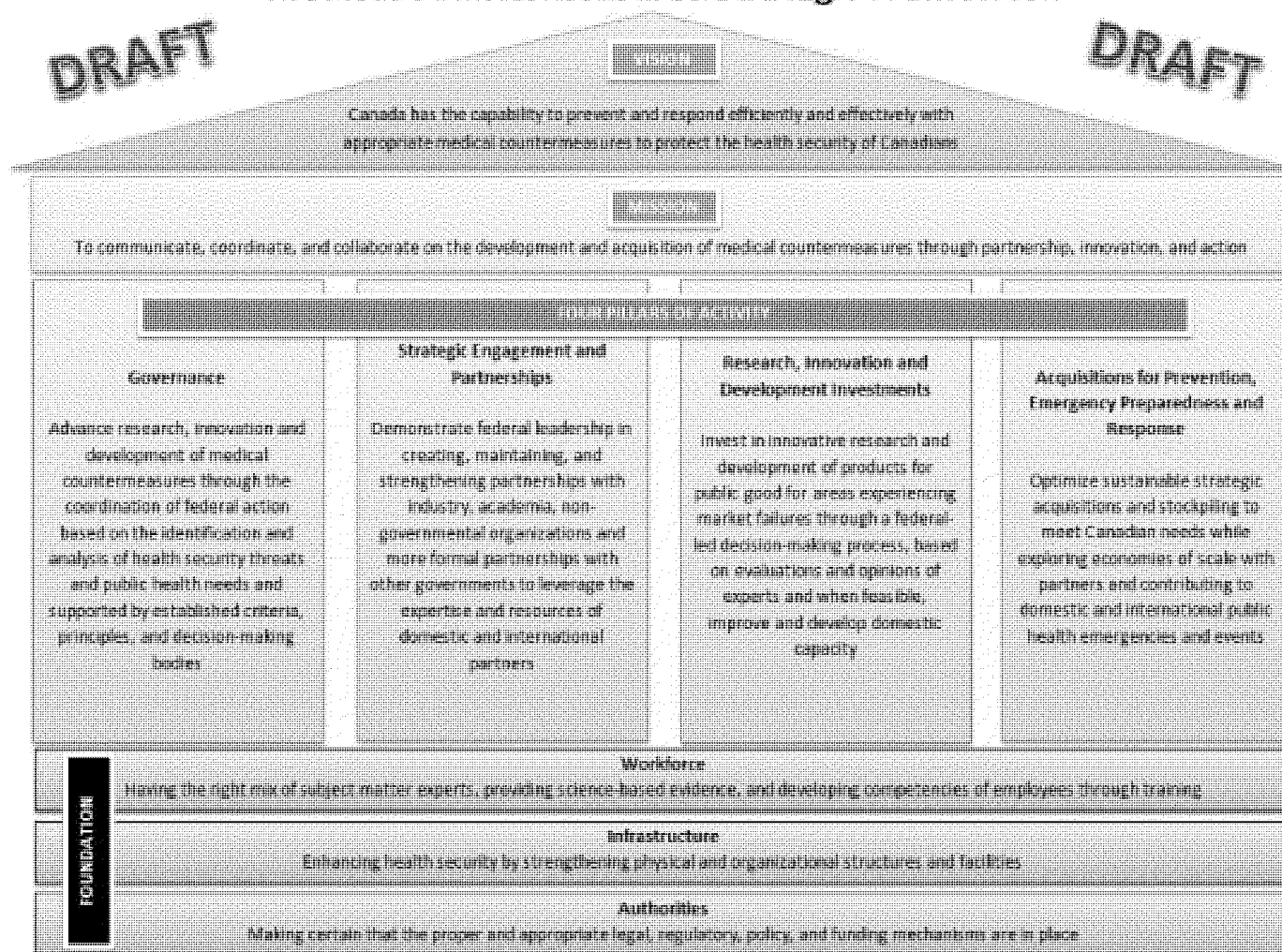
- Threat and Risk Analysis
 - Translating risk assessments into MCM requirements
- SMEs (P&TC, MESAC, etc.)
 - More frequent engagement on current stockpile and planned acquisitions
- Health Canada
 - Proactive engagement on regulatory challenges and planned procurements
- Infrastructure Review
 - Work is underway to determine warehousing and footprint needs
- P/T Engagement
 - Prepositioning of assets and concept of use
- Policy
 - Advancement of R&D of MCMs
 - Long-term and flexible funding for NESS acquisition
 - International authorities for timely deployment of assets

Annexes

Medical Countermeasures Strategic Framework

DRAFT

DRAFT



Annex B: Stockpile Management Strategies

- Decision-making is supported by P&TC and MESAC Advisory Committees, who make recommendations through risk-informed and evidence-based analysis
- In alignment with the NESS Policy Frame and Optimization Plan, NESS disposes assets that are:
 - Obsolete – unsafe to use by modern medical standards or use technology that is no longer relevant to modern medical practice
 - Oversupply – refers to an asset that is still required but the quantity exceeds what is required
 - Not aligned with the current risk environment or with the NESS principles
- Surplus assets can be:
 - Transferred, donated, or sold to OGDs, P/Ts, recognized charitable or non-profit organizations in accordance with the *Surplus Crown Assets Act* (SCAA)
 - Waste
 - Proper disposal of pharmaceuticals or supplies (e.g., incineration)
- Pharmaceuticals that are set to expire are reviewed to determine whether they need:
 - Replacement
 - Shelf-life extension (includes potency testing, relabeling and regulatory approvals)
- Some MCMs can be vendor managed; stock rotation remains a challenge with lack of funds; and donation mechanisms are limited to surplus items (i.e., purchasing assets during a public health emergency solely to declare them surplus goes against SCAA)

Annex C: Major NESS Deployments (Domestic)

Year	Receiving Location	Event	Item
Domestic			
1998	Various	Ice Storm	Beds, Blankets, Generators, Stretchers, etc.
2001	Various	US Terrorist Attack	Stretchers, Beds, Blankets
2003	Ontario	SARS Response	PPE
2009	Alberta, Quebec, Northwest Territories	H1N1 Response	Ventilators, Antivirals
2010	British Columbia	Winter Olympics	MCMs, Mini Clinics (pre-positioned)
2011	Nova Scotia	Canadian Winter Games	Mini Clinic, Beds, Blankets
2011	Alberta, Ontario	Forest Fires	Beds, Blankets, Pillows
2013	Alberta	Floods	Beds, Blankets, Pillows
2013	Quebec	Canada Winter Games	MCMs (pre-positioned)
2014	Various	Ebola Outbreak	Vaccine
2015	Ontario	Pan Am and Parapan Am Games	MCMs (pre-positioned)
2015	Ontario, Quebec	Syrian Refugees	Mini Clinics, Privacy Screens (pre-positioned)
2016	Alberta	Fort McMurray Wildfires	Beds, Blankets, Pillows

Annex C: Major NESS Deployments (International)

Year	Receiving Location	Event	Item
International			
1991	Turkey	Kurdish Refugee Relief, Aftermath of Persian Gulf War	Mobile Feeding Units
1994	Rwanda	Rwanda Refugee Relief	Blankets, Safety Pins
1994	Iraq	War	Water Purification Tablets
1995	Chechnya	Response to Rebel Forces	Stretchers
1996	Cuba	Hurricane	Water Purification Tablets
1996	Zaire	Relief	Blankets
1998	Honduras	Hurricane	Antibiotics, Water Purification Tablets
1999	Yugoslavia	Albanian Refugee Response	Blankets
1999	Turkey	Earthquake	Water Purification tablets
2005	Maldives	Tsunami	Antibiotics, Generators, Pain Medication, Blankets
2005	Louisiana, United States	Hurricane	PPE, Blankets, Cots
2014	West Africa	Ebola Outbreak	PPE

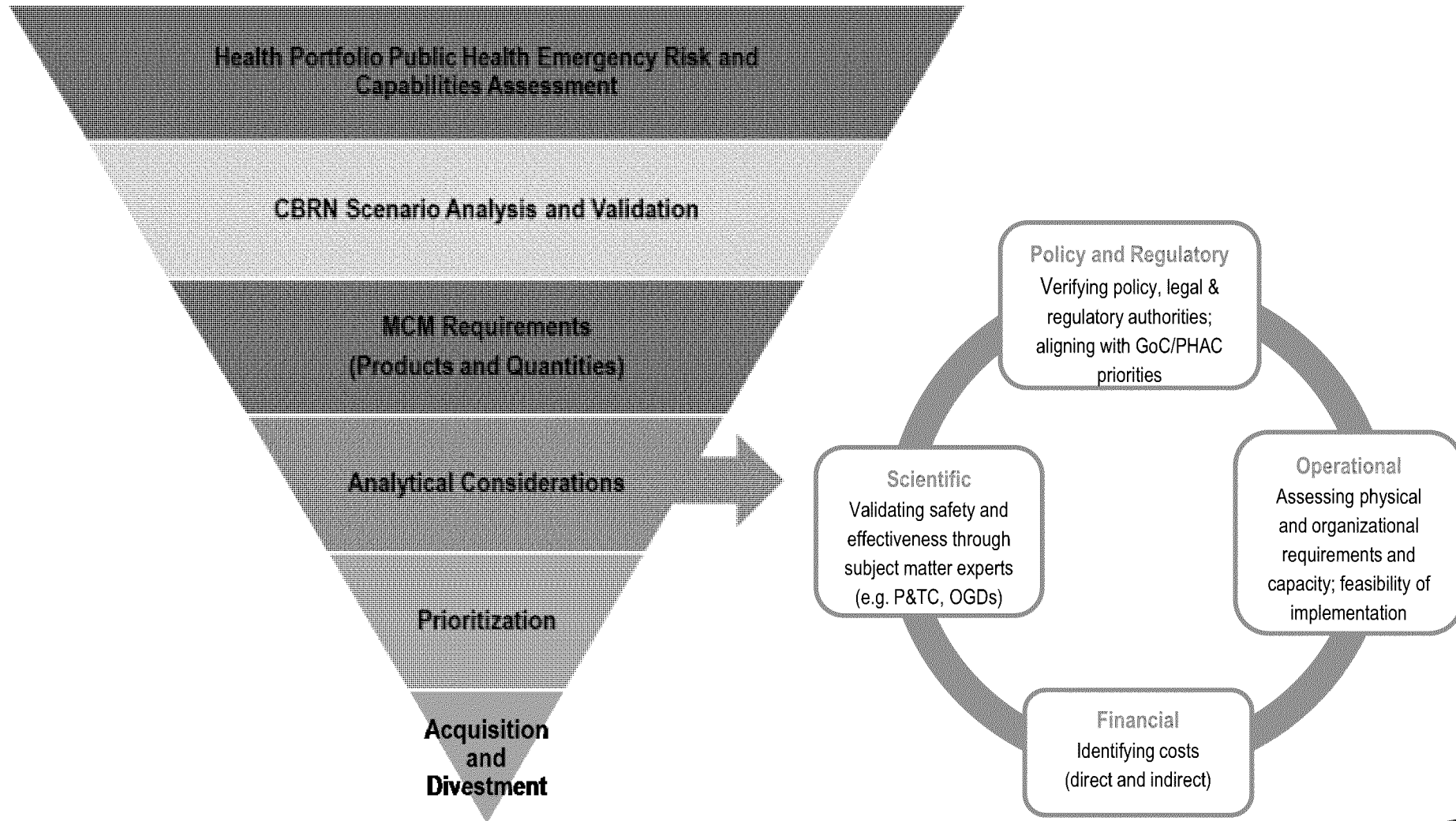
NESS: Non- Pharmaceutical Health Assets

	Item	Inventory/Quantity
Emergency Social Services (ESS)		
Health Medical Equipment and Supplies		
Personal Protective Equipment (PPE)		

NESS: MCM Holdings

	Threat	Vaccines	Therapeutics
Biological			
Radio-nuclear			
Chemical			

Decision-making Framework for MCMs



NESS Modernization Timelines

NESS Stockpile

Completion Date

- Bilateral Discussions with P/T's on:
 - Surplus assets to be transferred to jurisdictions
 - Removal/Disposal of outdated assets.
 - Negotiation of proposed pre-positioned Mini-Clinics

May 31, 2017
- Implementation of agreed approach for Transfer/Disposal of ESS and pre-positioned Mini-Clinics

Mar 31, 2020

NESS Modernization Timelines – Con't

Medical Countermeasures* (MCM)

Timeline

- | | |
|---|-----------------------|
| • Discussion of FPT Stockpile composition | March 2017 |
| • Threat and Risk Assessment Methodologies | TBD – for discussion |
| • MCM Planning <ul style="list-style-type: none">– Requirement setting– Deployment plans | TBD – for discussions |

* Medical countermeasures (MCMs) are the prophylactic and therapeutic products (i.e., drugs, vaccines, and medical devices, as defined by the *Food and Drugs Act*) that may be used to respond to intentional, unintentional or naturally occurring public health threats and events affecting Canada.

HEALTH EMERGENCY MANAGEMENT

SYNOPSIS

What is Canada’s role in the event of an infectious disease outbreak/global pandemic situation? Assuming the pandemic is foreign to Canada, how have we (and are we) prepared should this reach Canadian borders?

KEY MESSAGES

- The Government of Canada is prepared to respond to public health emergencies, including pandemics, and takes precautions to prevent the introduction and spread of communicable diseases into and out of Canada.
- We work closely with international partners to detect emerging infectious diseases through early alerting and reporting systems. Through the International Health Regulations, global partners share information within hours of a pandemic threat being identified.
- We administer the Quarantine Act 24 hours a day, 7 days a week to detect ill travelers and work with provinces and territories to respond appropriately.
- We have demonstrated our ability to implement our plans and respond effectively to public health emergencies, such as H1N1 and Ebola, supported by a national stockpile of antivirals, medical equipment and supplies for emergency response efforts.

MESSAGE CLES

- *Le gouvernement du Canada est prêt à intervenir en cas d’urgences de santé publique, y compris les pandémies, et il prend des mesures préventives pour contrer l’introduction de maladies transmissibles au Canada et la propagation de telles maladies à l’extérieur du pays.*
- *Nous collaborons étroitement avec nos partenaires internationaux afin de détecter l’émergence de maladies infectieuses au moyen de systèmes d’alerte et de signalement rapide. Dans le cadre de l’application du Règlement sanitaire international, des partenaires de partout dans le monde échangent de l’information dans les premières heures suivant la détection d’une menace de pandémie.*
- *Nous appliquons la Loi sur la mise en quarantaine en tout temps afin de repérer les voyageurs malades et nous travaillons avec les provinces et les territoires pour réagir adéquatement.*

- *Nous avons démontré notre capacité de mettre en œuvre nos plans et d'intervenir efficacement lors d'urgences de santé publique, comme dans le cas des virus H1N1 et Ebola, en utilisant notre réserve nationale d'antiviraux, notre équipement médical et nos fournitures d'intervention en cas d'urgence.*

BACKGROUND

Pandemic Influenza Preparedness and Antiviral Stockpile:

In the event of an influenza pandemic, FPT governments have in place a number of planning and preparedness measures. The Canadian Pandemic Influenza Plan: Planning Guidance for the Health Sector is an FPT plan that outlines how governments will respond to pandemic influenza. In addition, the Government of Canada has in place a long term contract with a domestic vaccine manufacturer to produce enough pandemic influenza vaccine for everyone in Canada on a priority basis. Further, all governments hold stockpiles of antiviral medications - the only influenza-specific pharmaceutical intervention available until pandemic vaccine becomes available.

The National Antiviral Stockpile is comprised of antiviral stockpiles owned and managed by each province and territory. In addition, the Government of Canada's National Emergency Strategic Stockpile (NESS) holds antivirals and is available to provide surge to the provinces and territories if needed. [REDACTED] are the two antivirals currently held in these stockpiles

The GC collaborated with PTs on the establishment of the NAS, which occurred from 2004-2009. The stockpile covered 17.5% of the Canadian population. [REDACTED]

[REDACTED] Both stockpiles were accessed during the 2009 H1N1 influenza pandemic.

Health Portfolio Emergency Management:

The Public Health Agency of Canada (the Agency) manages and maintains the Health Portfolio Operations Centre (HPOC), which serves as the single window for the coordination of response activities to significant public health events for Health Canada and the Agency.

The HPOC supports emergency operations by facilitating information sharing and coordinating response activities and communications among federal, provincial, territorial and international partners including notifications under the International Health Regulations (IHRs). To ensure a coordinated response, the HPOC maintains a 24/7 situational awareness function. It also serves as the 24/7 single window for the mobilization of Agency experts deployed at the domestic or international level. In the last 12 months the HPOC has activated to:

- support Canada's response to the Ebola outbreak in West Africa,
- coordinate domestic health activities related to the Whole of Government Operation to expedite the arrival in Canada of 25,000 Syrian Refugees; and, most recently,
- coordinate the portfolio response to increased concern related to Zika Virus.

The Agency is responsible for the control and maintenance of the National Emergency Strategic Stockpile (NESS). The NESS contains a reserve of medical equipment and supplies, pharmaceuticals and medical countermeasures to counteract biological threats. The assets serve as surge capacity to P/Ts, as required in times of emergency.

The Agency also has epidemiological, laboratory and other public health experts, together with equipment and supplies that can be deployed to support P/Ts as needed in response to outbreaks, health emergencies and natural disasters. The Agency's Canadian Field Epidemiology Program can deploy epidemiologists to help investigate the cause of an outbreak and determine how to control it.

General Background:

There are two key plans that guide emergency management for the Health Portfolio, the Health Portfolio Strategic Emergency Management Plan (HP SEMP) and the Health Portfolio Emergency Response Plan (HP ERP).

- The HP SEMP is the overarching plan that provides a comprehensive approach to emergency management activities by linking the Health Portfolio’s emergency response plans and outlining the internal governance mechanisms that will be in effect during an emergency.
- The HP ERP provides operational and directional support to the HP SEMP, which in turn is supported by hazard-specific and/or program-specific annexes and standard operating procedures. Together, these plans, along with the Federal Emergency Response Plan (FERP) Emergency Support Function (ESF) # 5, Public Health and Essential Human Services, constitute the Health Portfolio’s core emergency management plans.

The Health Portfolio participates in a number of major federal, national and international exercises each year with health and security partners. These include the Nanook series focusing on national sovereignty in the North, NATO exercises with our North American Treaty Organisation partners, the Beyond the Border and North American Plan for Animal and Pandemic Influenza (NAPAPI) exercises with the United States and with Mexico. In addition, the portfolio designs and/or delivers thirty or more localized exercise activities per year with provinces, territories and other government departments.

To identify information about disease outbreaks and other events of potential international public health concern, the Agency monitors, assesses and reports on public health risks through the Global Public Health Intelligence Network (GPHIN), a secure internet-based multilingual early-warning tool that continuously searches global media sources.

The HPOC routinely shares information with Public Safety Canada’s Government Operations Centre, which provides the platform for the coordination of activities for a whole-of-government response during an emergency.

Key Stakeholders and Interests:

Federal, provincial and territorial collaboration mechanisms are in place and ready to escalate operations should the need arise. In the event of an emergency or health event, the Chief Public Health Officer maintains close contact with all P/T Chief Medical Officers of Health.

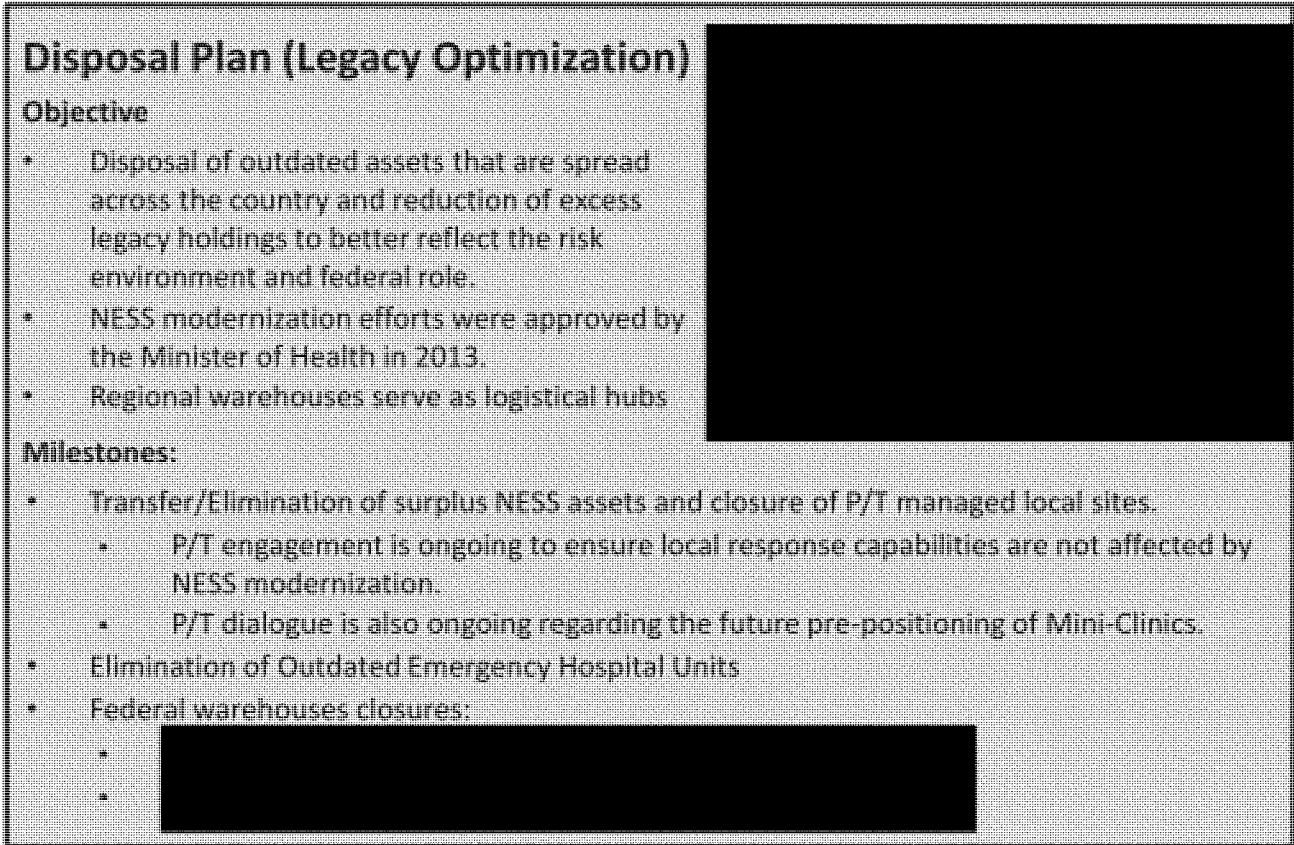
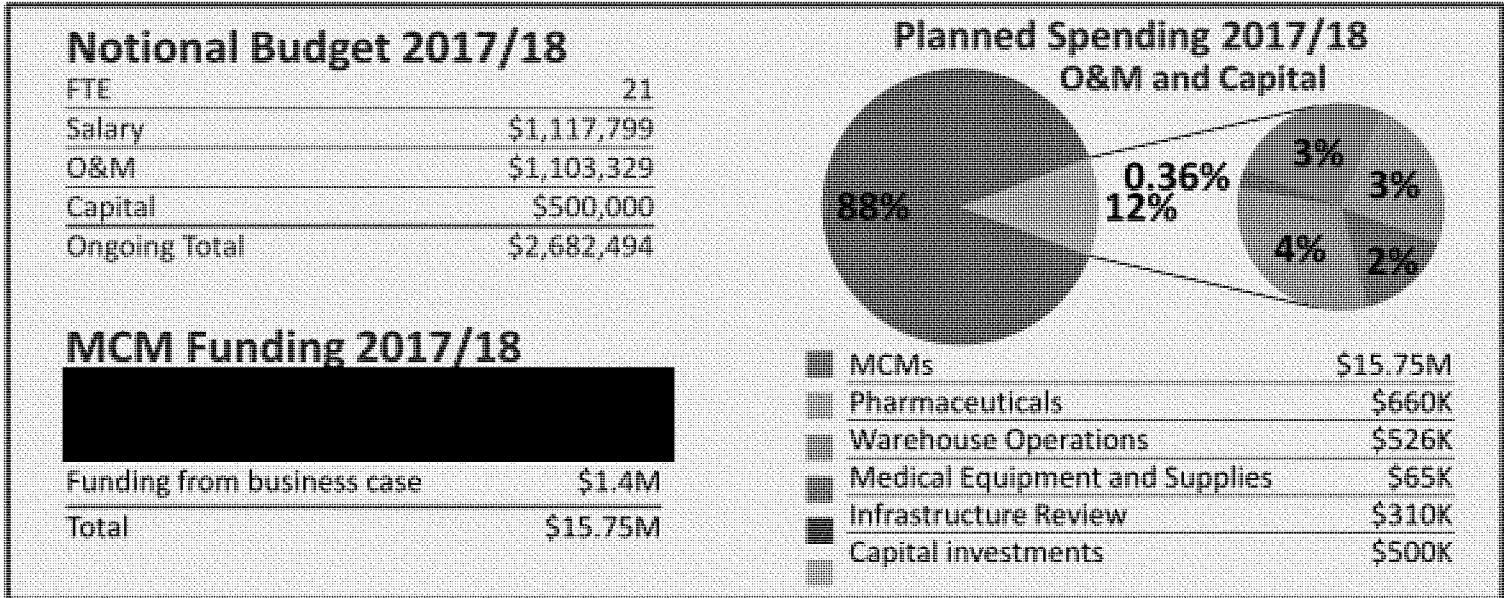
In addition to P/Ts and other federal departments, the Agency works with other stakeholders, including non-governmental organizations and international partners, to ensure an effective and coordinated response that meets both domestic preparedness and responds to international response needs.

CONTACT:
Approved by:

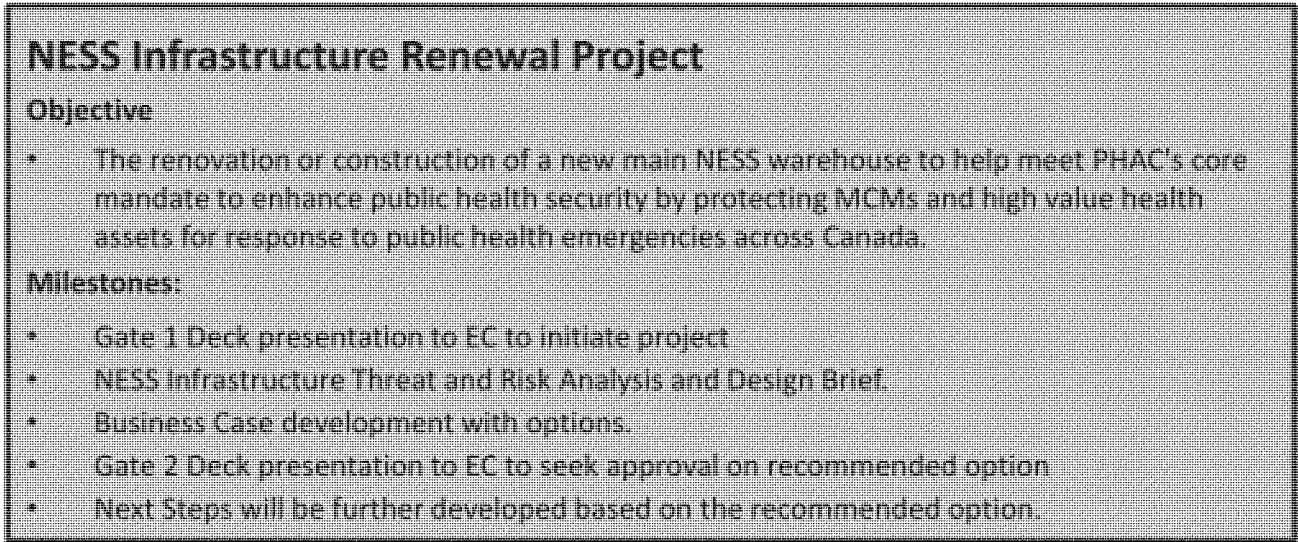
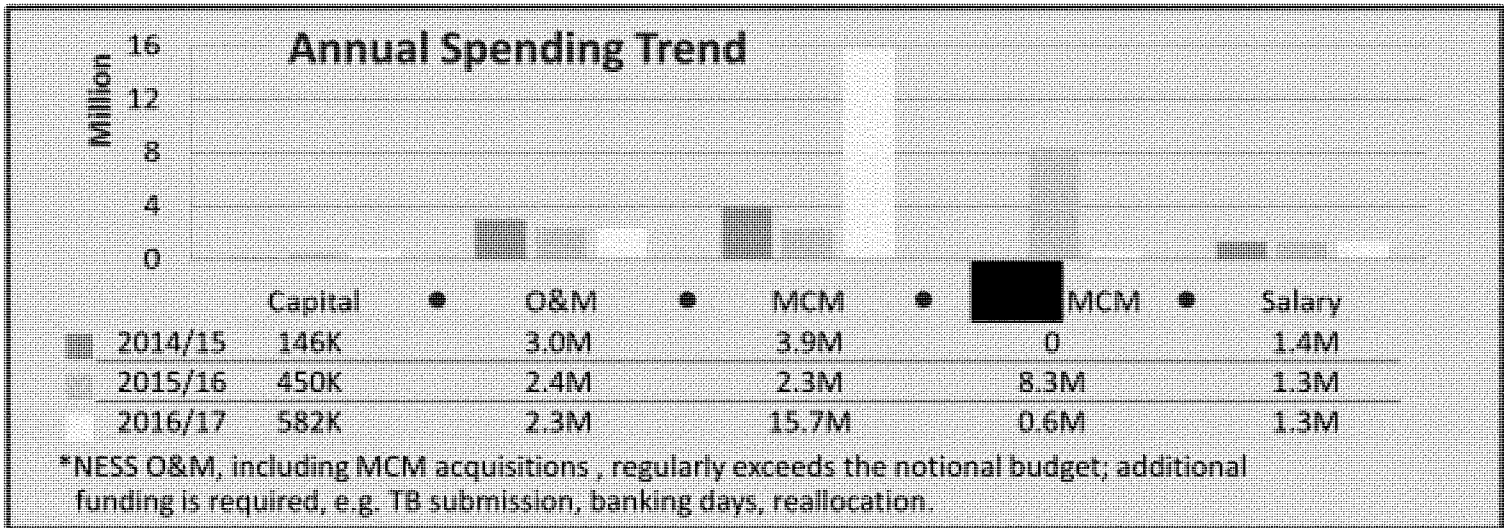
National Emergency Strategic Stockpile (NESS) Modernization

June 6, 2017

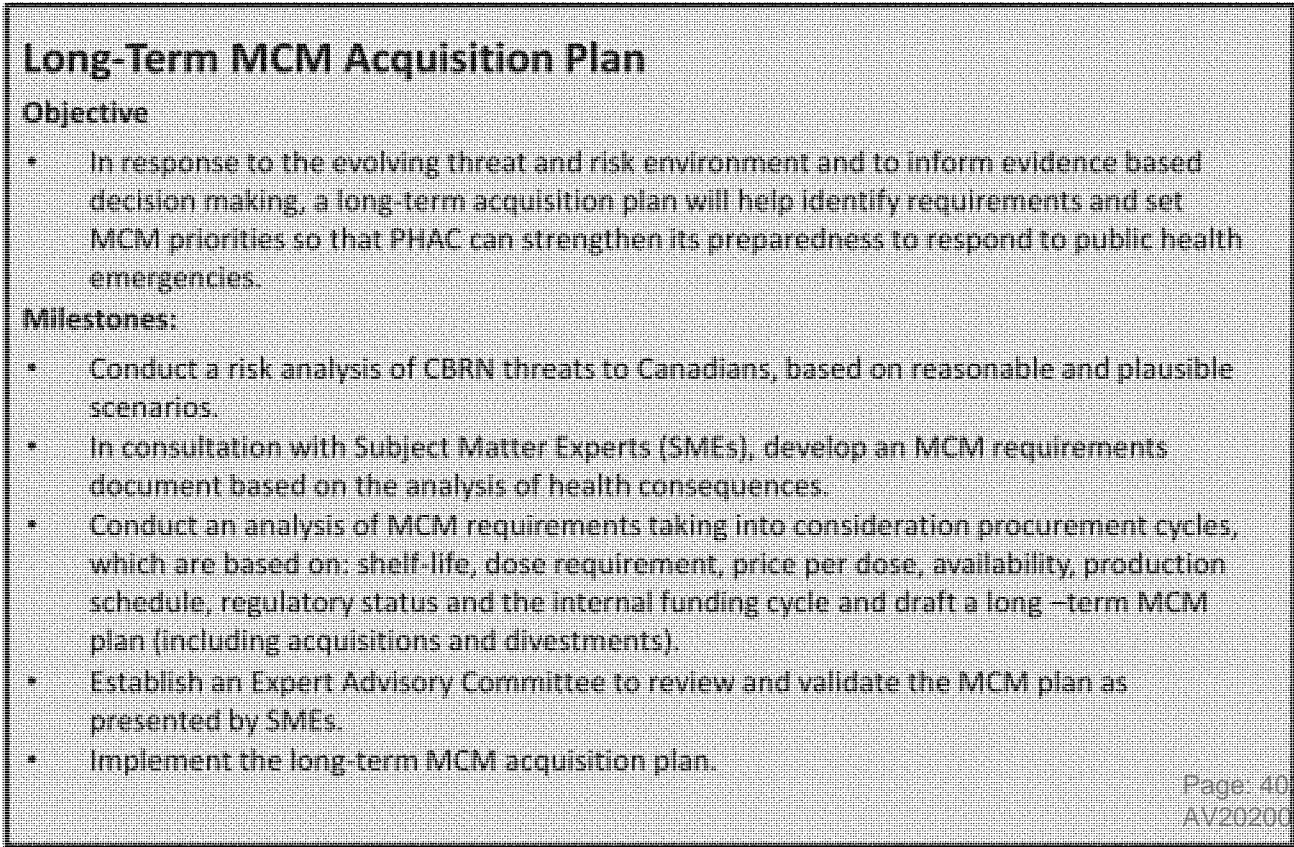
- Established in 1952, as part of civil defence; expanded during the 1960s through the acquisition of portable medical facilities. Authority to use assets to support P/Ts during peacetime in 1965.
- NESS has adapted to the evolving risk environment and broader public health threats: CBRNE medical countermeasures (MCMs) authority in 2001; pandemic preparedness authority in 2006; ongoing acquisition of mini-clinics for triage and minor treatment.
- The NESS is a highly operational unit and is responsive to both policy and emergency response issues, which can delay modernization processes.



Timeline
Completion by 2019
Completion by 2019
2017/18
2018/19



Timeline
Targets:
Jun 2017
Jul 2017
Oct 2017
Mar 2018



Timeline
Completed
Completed
Summer 2017
Fall 2017
Fall 2018

Routing Slip / Bordereau d'envoi

Docket Number / Numéro du dossier :
17-106022-73

Program Contact / Responsable du	Signature	Date: May 25, 2017
	Signature	Date: May 25, 2017
	Signature	Date: May 31, 2017

ed with / Avec l'accord de (if applicable / s'il y a lieu)

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<input type="checkbox"/> HR / RH	Date:
<input type="checkbox"/> Legal Services / Services juridiques	Date:
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Approved / Noted – Approuvé / Noté

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Quality Control / Contrôle de la qualité
Correspondence – Briefings / Correspondance - Services ministériels: Approved / Approuvé:

Special instructions



FOR CONCURRENCE

Your file *Votre référence*

Our file *Notre référence* 17-106022 - 73

MEMORANDUM TO THE PRESIDENT AND THE CHIEF PUBLIC HEALTH OFFICER

Creation of a Medical Countermeasures External Advisory Committee

SUMMARY

- Your approval is sought to create a Medical Countermeasures (MCM) External Advisory Committee which will be used to inform the Agency's acquisition and divestment of MCMs for the National Emergency Strategic Stockpile (NESS)
- It is proposed that membership will include subject matter expertise, some of whom will have provincial/territorial, interdepartmental, or international affiliations or perspectives. The committee will meet annually and as required.
- This committee builds upon efforts to modernize the NESS, including the use of a rigorous, science-based and evidence-informed process to establish and validate MCM requirements to protect the health security of Canadians.

BACKGROUND:

The Public Health Agency of Canada (PHAC) maintains a stockpile of MCMs and other health emergency assets in the NESS that can be deployed to provinces and territories to help respond to a chemical, biological, radiological, or nuclear (CBRN) emergency when their resources are insufficient.

The current PHAC decision-making process to establish a relevant, evidence-based stockpile of MCMs in the NESS begins with development, analysis, and validation of Government of Canada (GoC) CBRN risk scenarios. Based on these scenarios, MCM requirements are determined through a combination of policy, regulatory, scientific, and operational considerations.

Acquisition decisions include consideration of limitations/availability of supply; access to funds for procurement; and regulatory status – many MCMs may be unlicensed in Canada and require importation under special regulatory mechanisms (e.g., Special Access Program).

.../2

CONSIDERATIONS:

In order to inform and validate a long-term MCM acquisition plan, and ensure a rigorous, evidence-informed approach to decision-making, it is proposed that an external advisory committee be created to provide expert advice on the acquisition and divestment of MCMs (e.g. type, quantity), based on our threat and risk analysis.

The committee, comprised of subject matter experts, some of whom will have provincial/territorial, interdepartmental, or international affiliations or perspectives, will meet annually, or as needed. Membership will seek to balance expertise in defense, emergency management, and CBRN terrorism. Draft terms of reference are attached (Annex A). These will be finalized during the first committee meeting.

The committee's scope will be limited to vaccines, biologicals, antitoxins, or chelating products that address intentional CBRN threats. Products outside of the committee's scope (e.g. pandemic influenza antivirals) will be assessed by program staff followed by targeted consultations with subject matter experts.

The committee will report to the Vice President, Health Security Infrastructure Branch. Membership will be proposed by the Director General, Centre for Emergency Preparedness and Response, and confirmed by the President and Chief Public Health Officer. A list of potential candidates has been attached (Appendix B).

Due to the sensitive subject matter and national security considerations, such as threat and risk intelligence, members will require SECRET clearance to participate. Meetings will be held face-to-face.

PORTFOLIO CONSIDERATIONS:

Health Canada has been consulted on potential committee members in the chemical and radiological domains.

RESOURCE IMPLICATIONS:

Costs associated with travel, hospitality, and allowances would be covered by the Agency (estimated at \$20K to \$30K per meeting depending on membership). These costs would be absorbed from existing budgets. Should the committee's scope increase in the future, additional financial and human resource requirements may be required.

RECOMMENDATION:

It is recommended that you indicate your concurrence with the establishment of an MCM External Advisory Committee, in accordance with the attached draft Terms of Reference, by signing the "concur" block below.

The Health Security Infrastructure Branch will return to confirm committee membership in the coming months.

acting for



Health Security Infrastructure Branch

☐ do not concur

☐ concur

MECS# 17-106022 - 73

Contact: _____
Telephone: _____

Attachments:

Appendix A – Draft Terms of Reference

Appendix B – List of Potential Candidates for the Expert Advisory Committee



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

National Emergency Strategic Stockpile: Overview of enhancement initiatives

August 3, 2017

PROTECTING AND EMPOWERING CANADIANS
TO IMPROVE THEIR HEALTH



Purpose

- To provide an overview on the National Emergency Strategic Stockpile (NESS) enhancement efforts.

Context

- Since NESS was established in 1952, risks to public health and available resources have changed significantly:
 - New threats (pandemics, terrorism) have emerged.
 - Capacity among partners (federal, provincial and NGOs) has been significantly enhanced.
 - Transportation infrastructure (air and road) have improved.
- NESS has adapted to the changing risk environment and broader public health threats:
 - Medical countermeasures (MCMs) to counter CBRNE agents (e.g. smallpox vaccine) through Public Safety and Anti-Terrorism (PSAT) authority in 2001.
 - Pandemic preparedness (e.g. antivirals, ventilators, protective equipment) through Avian and Pandemic Influenza Preparedness authority in 2006.
 - More recently NESS has acquired Mini-Clinics for triage and treatment, as well as biomedical equipment that can increase their functionality.

NESS Modernization and current enhancement work

- The evolving NESS modernization efforts were authorized by the Minister of Health in September 2013 (NESS Policy Framework and Optimization Plan).
- Current areas of NESS enhancement include:
 - Completion of the optimization of the NESS warehouse footprint
 - Completion of disposal of outdated assets and reduction of overstocked assets
 - Enhancement of the Threat and Risk Assessment capacity
 - Development of a long term MCM acquisition plan
 - NESS infrastructure renewal project
 - Renewed engagement with PTs through PHI-SC

Optimization of NESS footprint

Two types of warehouses are going to be maintained:

Federal Warehouse Network

- 7 federal warehouses in 6 cities will serve as logistical hubs to ensure 24 hour response target. This will result in a significant reduction from the previously 26 federally-leased locations.
- Assets in the Federal warehouse in the regions (5 cities/warehouses) are mainly Beds/Blankets and Mini-Clinics.
- The two Federal warehouses [REDACTED] include in Pandemic supplies (AV, ventilators, PPE) as well as MCM.

Local P/T managed sites:

- To be eliminated, with exception of specific sites where local risk environment does not enable effective response from the Federal Warehouses.
- Location of these local sites will be determined based on discussion with P/Ts through PHI-SC.
- Surplus assets in redundant and to be closed sites are being offered to PT for transfer

WITHHELD / RETENUE

(Are) exempted and/or excluded pursuant to section(s)
st(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

Status of NESS footprint optimisation

Areas of NESS Modernization	Original 2012/13	Current 2016/17	Final 2019/20	Additional Details
Federally Regional Warehouses	33	10	7	
Local PT managed sites	1300	481	TBD	<ul style="list-style-type: none"> • Beds, old military-style litters/cots, blankets, generators; transferable to local community. • Old medical equipment and trauma kits not up to current standards to be removed/disposed. • Bulk of sites remaining in [REDACTED] • PT dialogue ongoing re: future pre-positioning of mini-clinics (triage/urgent care clinic) based on risk environment

*NESS has large volume sales that cannot be conducted from the secure main warehouse.

NESS P/T Managed Prepositioned Sites

Province/Territory	Remaining Prepositioned sites*
British Columbia	
Alberta	
Saskatchewan	
Manitoba	
Ontario	
Quebec	
New Brunswick	
Nova Scotia	
Newfoundland and Labrador	
Prince Edward Island	
Yukon	
North West Territories	
Nunavut	
TOTAL	

*Bulk of assets for transfer are beds, blankets, old military style litters/cots, generators

Short Term Acquisition Plan

Develop interim strategy that will include:

- A detailed process on determining and validating requirements;
 - NESS acquisitions for 2017-18, identifying
 - Rationale
 - Prioritization
 - Funding source
- Interim strategy to be presented to:
- Vice President by August 2017;
 - President by September 2017.

Long Term Acquisition Plan

- Objectives: To develop a long-term NESS acquisition and sustainability plan by 31 March 2018
- The long term acquisition plan will identify MCM acquisition priorities taking into consideration:
 - Threats & Risks;
 - Products development and supportive evidences;
 - Regulations;
 - Concept of use and logistic;
 - Contracting;
 - Manufacturing availability;
 - Alignment with partners;
 - Scheduling; and
 - Financial capacity.
- The plan will be developed in close consultation with GoC and P/T partners.

NESS Infrastructure Renewal Project

Objective:

- The renovation or construction of a new main NESS warehouse to help meet PHAC's core mandate to enhance public health security by protecting MCMs and high value health assets for response to public health emergencies across Canada.

Next Steps:

- Development of a detailed business case and options analysis.

NESS Enhancement initiatives timelines

Implementation of long-term acquisition plan	April 2018
Completion of NESS footprint optimization	Fall 2019
Elimination of outdated and overstocked assets	Winter 2019
Long term MCM acquisition plan	Fall 2018
NESS infrastructure renewal Options (Gate 2)	Spring 2018

Enhancement initiatives timeline considerations

- The NESS is a highly operational unit and is responsive to policy and emergency response issues and situations, which can delay optimization processes.
- Examples of events that have caused significant operational pressures include:
 - Pan-American Games preparedness and deployment activities;
 - 2015 election (moratorium on sales/disposals);
 - Ebola response (moratorium on sales/disposals);
 - Syrian Refugee Response efforts; and,
 - Fort McMurray Fire response efforts.
- Future events may affect projected completion targets.



MEMORANDUM TO THE MINISTER OF HEALTH

Hurricane Harvey: Donation of Assets from the National Emergency Strategic Stockpile

SUMMARY

- On August 31, 2017, the Government of Canada received a formal request from the United States Federal Emergency Management Agency (FEMA) for assistance with relief efforts in the aftermath of Hurricane Harvey.
- The Government Operations Centre (GOC) is coordinating Government of Canada efforts and has formally requested available supplies from various federal departments and other partners. This has included a request to the Public Health Agency of Canada (PHAC).
- The Public Health Agency of Canada has identified assets from the National Emergency Strategic Stockpile (NESS) that could be made available for donation. Ministerial concurrence is required to complete this international donation of NESS assets.

BACKGROUND:

Under the formal Request for Assistance from FEMA, an urgent need for the following items has been identified: hygiene kits, bed pillows, bath towels, baby formula, baby disposable bottles, baby cribs and baby linens (Appendix A). On August 31, the Prime Minister and the Minister of Public Safety publicly confirmed that the Government of Canada will assist with relief efforts.

As part of the Minister of Health's mandate under the *Emergency Management Act* to prepare for and respond to the health consequences of either naturally occurring or deliberate events/emergencies, the PHAC maintains the National Emergency Strategic Stockpile. The NESS contains medical supplies, including mobile mini-clinics, modern medical equipment and medical countermeasures, including anti-virals and other pharmaceuticals. The NESS also contains supplies of beds and blankets that can be used in the event of mass evacuations resulting primarily from natural disasters, such as floods and fires.

.../2

In response to the FEMA request, PHAC has initially identified the following NESS assets as available for donation:

- Bed pillows
- Pillow cases
- Disposable bath towels
- Baby cribs

Transportation of assets to the United States is being coordinated by the GOC. PHAC will be responsible to deliver assets to a pre-identified area for onward transportation to the United States.

CONSIDERATIONS:

The primary mandate of the NESS is to support domestic emergency response efforts. The Public Health Agency's authority to donate assets from the NESS is outlined in the 2011 "Policy on the Donation, Loan and Sale of PHAC Supplies to Foreign Governments and International Organizations", and is consistent with the *Financial Administration Act*, the *Surplus Crown Assets Act* and the *Treasury Board Directive on Disposal of Surplus Materiel*.

There is no objective test under the *Surplus Crown Assets Act* to assist in determining whether assets are surplus. It becomes the decision of individual departments to determine that an asset is surplus to its requirements.

Assets from the NESS have been provided internationally in response to past events, including the 2014-15 Ebola outbreak in West Africa (personal protective equipment) and Hurricane Katrina in 2005 (basic medical supplies, bedding).

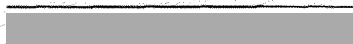
The value of the proposed donation, based on value at time of purchase, is \$9,459.00. Ministerial approval is required to proceed with this donation since the minimal costs for disposal are less than the value of the assets to be donated.

The donation of NESS assets in response to this request would not compromise the Agency's capacity to provide critical assets to provinces and territories should the need arise.

Public Safety is also speaking with other federal departments, provinces and territories, and auxiliary organizations such as the Canadian Red Cross to determine what assets they may also be able to contribute.

RECOMMENDATIONS/CONCLUSION:

It is recommended that you indicate your concurrence with the donation of the proposed supplies by signing the "I concur" block below.



☐ I do not concur

☒ I concur


Minister

2017-09-01
Date

MECS# 17-110047 - 333

Contact:

Telephone:



Attachments:

Appendix A – Government Operations Centre RFA

National Antiviral Stockpile

Speaking Points:

- Can you elaborate on what the objective of this item would be?
- Would it be a paper item to inform Deputies of the work that was done to develop a proposed stockpile range, or would you be seeking a decision?
- Our colleagues have confirmed that a CDMH decision is not necessary in order to proceed with bulk procurement.
- The Government of Canada is ready to begin the procurement process to renew antiviral contracts through the Bulk Procurement Process (BPP). This process will be led by Public Services and Procurement Canada and facilitated by the Public Health Agency of Canada.

If pressed – Would still like the NAS to be brought forward to Deputies:

- Given that provinces and territories are solely responsible for the replenishment of the National Antiviral Stockpile, this may be an item that would be more appropriate for a meeting of P/T Deputy Ministers of Health only.
- As you know, the Government of Canada does not provide financial support to National Antiviral Stockpile purchases (cost sharing of AVs ended in 2014).

If pressed further – Insists that the NAS should be brought forward to CDMH:

- Before bringing this item forward to CDMH, we would suggest sending a message to PHNC members to confirm that they are comfortable with this approach.
- The PHNC record of decision does not explicitly state that we will be bringing this item forward to Deputies, so some jurisdictions may need time to prepare for this discussion.
- In advance of CDMH, we would also suggest raising this item at a Health Support Committee meeting.
- This will ensure that Deputy Ministers and the officials who support them are aware of the issue before it is raised at CDMH.

Background:

- In April, the Canadian Pandemic Influenza Preparedness (CPIP) Task Group delivered a presentation at a joint PHNC-CCMOH meeting on recommendations concerning the use, size and composition of the NAS. During this meeting, members expressed support for the recommended stockpile to be a range, rather than a fixed percentage.
- This was followed by a subsequent presentation to the PHNC in June, where members discussed a CID-SC recommendation that the NAS be sufficient to cover 17.14 to 23.19% of the population. The record of decision from this meeting states that “members

agreed in principle to the recommended stockpile size range...with the understanding that further details would be worked out regarding procurement and pricing by the F/P/T negotiating team that will be established.” It also states that the “ [REDACTED] will discuss the necessity of bringing this forward to F/P/T Deputy Ministers of Health with the [REDACTED].”

- On September 25, a briefing was arranged between the [REDACTED] and the [REDACTED] liaison. [REDACTED] [REDACTED] of the Centre of Immunization and Respiratory Infectious Diseases (CIRID), was invited to support the call from a technical perspective. During this briefing, the [REDACTED] was provided with an overview of the recommended NAS range and indicated that she felt the rationale for the size range was appropriate. She also suggested that she thought the CDMH would be interested in this item.
- NAS procurement and maintenance is the sole responsibility of provincial and territorial jurisdictions. The Government of Canada’s cost-sharing of antivirals with P/Ts ended in 2014.
- The Government of Canada can provide support to the procurement process by renewing antiviral contracts through the Bulk Procurement Process (BPP). The process is led by Public Services and Procurement Canada and is facilitated by the Public Health Agency of Canada.
- New antiviral contracts to be negotiated under the BPP will focus on:
 - Obtaining best prices;
 - Obtaining the longest product shelf life possible;
 - Negotiating options to decrease product wastage; and,
 - Spreading out purchases over multiple years, so P/Ts can purchase according to their needs over 3-4 year contracts.
- The Government of Canada is also solely responsible for the maintenance and replenishment of the National Emergency Strategic Stockpile (NESS). The NESS, which also contains antivirals, is intended to provide surge support to P/Ts.



FOR INFORMATION

19-104979-217

MEMORANDUM TO THE MINISTER OF HEALTH

**DONATION OF ARTIFACTS FROM THE NATIONAL EMERGENCY STRATEGIC
STOCKPILE /
DONATION D'ARTEFACTS DE LA RÉSERVE NATIONALE STRATÉGIQUE
D'URGENCE**

SUMMARY

- The Public Health Agency of Canada (PHAC) maintains the National Emergency Strategic Stockpile (NESS). The NESS was originally established in the 1950s to protect Canadians from threats posed during the Cold War.
- Today, the NESS contains medical supplies and equipment, pharmaceuticals and social services supplies that are available to augment the capacity of provinces and territories during public health emergencies. Some of the contents of the NESS are outdated.
- With the purpose of preserving the history of NESS and promoting the evolution of emergency preparedness and response in Canada, PHAC will be offering artifacts of heritage value obtained in the 1950s and 1960s for donation to eligible Canadian organizations, such as museums, academic institutions, science centres, and cultural or historic centres.
- PHAC will launch the Call for Expression of Interest in March 2019 on Canada.ca.

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SOMMAIRE

- L'Agence de la santé publique du Canada (ASPC) gère la Réserve nationale stratégique d'urgence (RNSU). La RNSU a été établie dans les années 50 en vue de protéger les Canadiens et les Canadiennes des menaces liées à la Guerre froide.
- De nos jours, la RNSU contient des fournitures et de l'équipement médicaux, des produits pharmaceutiques et des fournitures destinés aux services sociaux, disponibles dans le but d'accroître les capacités des provinces et des territoires en cas d'urgence de santé publique. Une partie du contenu de la RNSU est obsolète.
- Dans le but de préserver l'histoire de la RNSU et de promouvoir l'évolution des mesures et interventions d'urgence au Canada, l'ASPC fera don d'artéfacts ayant une valeur de patrimoine datant des années 50 et 60 aux organisations canadiennes admissibles, comme les musées, les établissements universitaires, les centres scientifiques et les centres culturels ou historiques.
- L'ASPC lancera un appel de manifestation d'intérêt en mars 2019 sur le site Canada.ca.

BACKGROUND:

Established in the 1950s, Canada's stockpile program originally consisted of medical and social services supplies required for the civil defense program. Starting in the 1960s, 200-bed field hospitals and other portable health units were acquired to provide acute and short-term medical care capacity to provinces and territories during a disaster.

There have been significant shifts in health emergency management since the 1950s, including the evolution of public health risks, increased capacity among partners, technological advances in pharmaceuticals and medical equipment, and an increased emphasis on the inter-jurisdictional sharing of medical supplies and equipment.

PHAC has been modernizing the NESS to support an integrated, coordinated pan-Canadian approach to the management of supplies for emergency public health response. This includes reducing or discontinuing specific holdings that do not address the current risk environment.

A portion of the supplies stored in the NESS is out of date and/or no longer meets medical standards or practices. A number of disposal options are possible in

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accordance with the *Surplus Crown Assets Act* (1985) and the Treasury Board *Directive on Disposal of Surplus Materiel* (2006), including sale through Public Services and Procurement Canada; transfer to other federal organizations, other levels of government or international governments or organizations; conversion to waste in an environmentally sustainable manner; or donation to a recognized charitable or non-profit organization.

CURRENT STATUS:

In October 2018, PHAC retained the services of a museum curator to help with the identification and assessment of NESS surplus assets for heritage value using the Treasury Board *Guide to the Management of Movable Heritage Assets*. The curator determined that the NESS holds equipment and supplies that have historic or scientific significance, such as surgical tools, portable operating tables, x-ray machines, sterilizers, stretchers, first-aid kits, and propane lanterns.

An on-line application process will be used to evaluate the eligibility of interested organizations (e.g., museums, academic institutions, science centres). All donations will be subject to a transfer agreement between PHAC and the receiving organization that outlines the terms and conditions of the donation.

CONSIDERATIONS:

Legal Services was consulted in determining PHAC's authority to donate the artifacts, and in establishing the donation eligibility criteria and the Transfer Agreement.

The [REDACTED] confirmed that PHAC has the financial and asset authority to donate the items under the *Surplus Crown Assets Act* and the Treasury Board *Directive on Disposal of Surplus Materiel*.

Health Canada confirmed that there are no regulatory restrictions to donating obsolete medical devices from the NESS under the *Medical Devices Regulations* of the *Food and Drug Act*, provided that the items are clearly labelled as historical artifacts and are not for use as medical devices.

Privacy Management was consulted regarding the collection, use and retention of personal information of interested organizations under the *Privacy Act*.

COMMUNICATIONS IMPLICATIONS:

Various stakeholder groups including the following, will receive an email with an

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invitation to express interest and share information with their networks: the Canadian Museums Association, the Canadian Association of Science Centres, the Canadian Association of Heritage Professionals, the Canadian Medical Association, Universities Canada, and Colleges and Institutes Canada. Media lines will be developed, if necessary to respond to media enquiries.

NEXT STEP:

The Call for Expression of Interest will be launched in March 2019 at the Canada.ca website.



Public Health Agency of Canada

MECS# 19-104979-217

Contact: [REDACTED] Health Security Infrastructure Branch
Telephone: [REDACTED]

Proposal to EC: Replenishment of Expiring Antiviral Supplies (for Pandemic Influenza) in the National Emergency Strategic Stockpile (NESS)

Proposal Description:

Influenza pandemics are unpredictable but recurring events, which may have severe consequences on the Canadian population. Based on federal commitment to the Public Health Network Council (PHNC), the NESS (federal stockpile of health-related assets for which PHAC is responsible) should maintain sufficient quantities of influenza antivirals to treat 2.5% of the Canadian population. There are two antivirals held in the NESS: stockpiles of ██████████ will partially expire in October 2019, reducing capability to 87% of the recommended level; and stockpiles of ██████████ will expire by the end of May 2020.

- If antivirals are not replenished, it will significantly impact PHAC's response capabilities in the event of a pandemic.
- Current P/T antiviral supplies are also diminishing, therefore NESS may be called upon more quickly to provide surge capacity.
- The WHO has identified pandemic influenza as one of the top potential threats to global health in 2019.

Funding Requirement:

2019-20: \$5.4M: \$2.6M for delivery of ██████████ in Q3/Q4 (as close to Oct 2019 expiry as possible); \$2.8M for delivery of ██████████ in Q4.
 2020-21: \$2.8M: For delivery of remaining portion of ██████████ in Q1; financial commitment is needed in FY 2019-20 to enter into contract with supplier.

This is a temporary funding requirement; on-going funding for procurement of medical countermeasures (MCMs) is being sought through Medium-Term Planning.

Risks Associated with Proposal:

- Should this business case not be approved, the federal commitment to PHNC cannot be met (i.e., ██████████).
- In procurement of MCMs there is always the risk of time delays based on production schedule of suppliers. This risk can be minimized by receiving financial commitment as soon as possible to enter into contracts for timely delivery.

Key Milestones and Deliverables:

PSPC has indicated it is feasible to replenish ██████████ this fiscal year, provided that a funding commitment can be made as soon as possible. In addition, PSPC has started negotiations to align replenishment for all F/P/T expiring ██████████ for delivery over the next two fiscal years. Exact delivery dates can be negotiated with suppliers as soon as funding is committed.

Fiscal Year	FTE	Salary (\$K)	EBP (\$K)	O&M (\$M)	Capital (\$K)	G&C (\$K)	Total (\$M)
2019-2020				\$5.4M			\$5.4M
2020-2021				\$2.8M			\$2.8M



National Emergency Strategic Stockpile

September 16, 2019

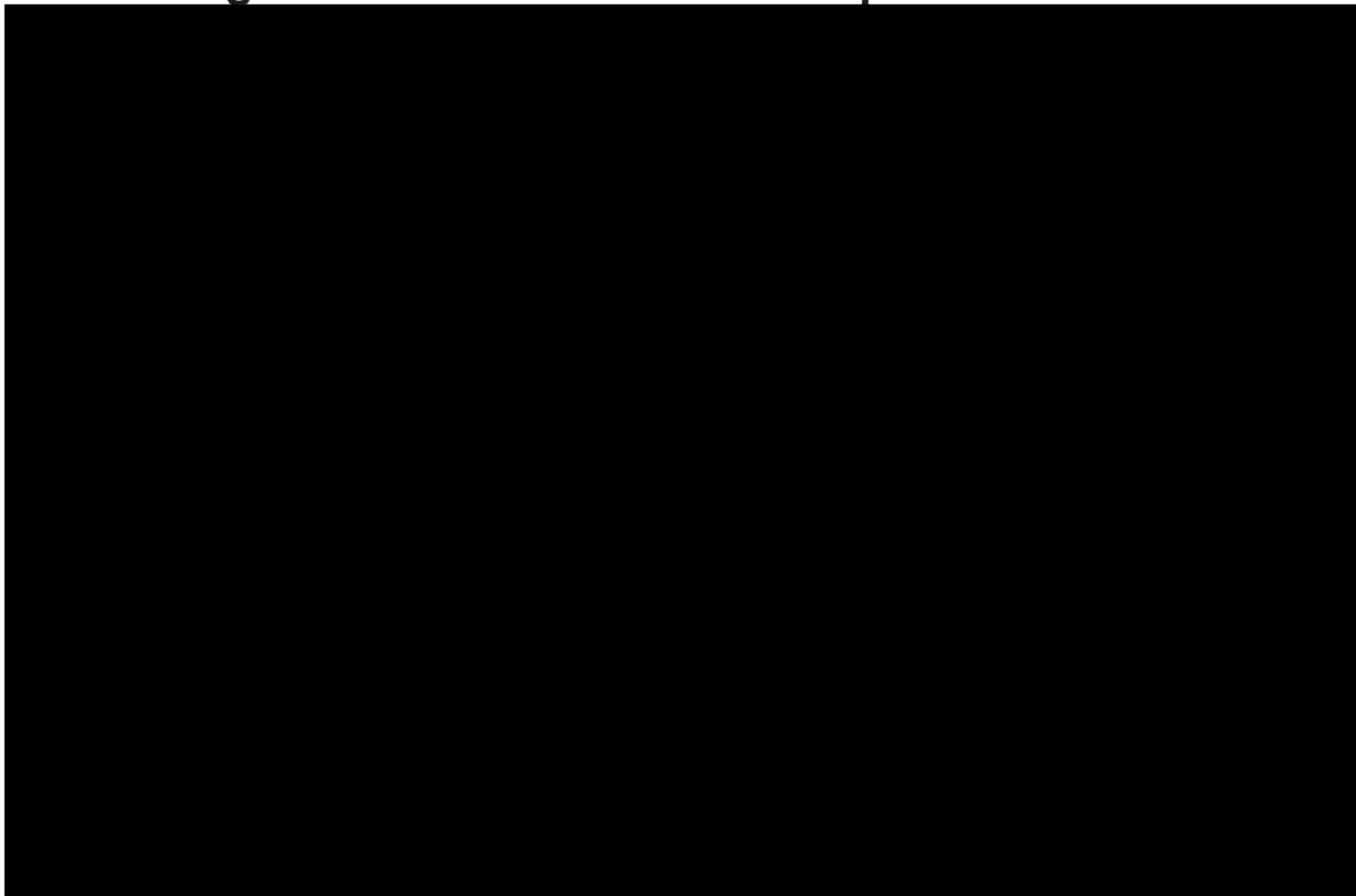
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What is the NESS?

- The NESS is a federal stockpile of supplies managed by PHAC's Centre for Emergency Preparedness and Response (CEPR) to support provinces, territories and other federal departments when responding to major public health emergencies.
- The target timeline to deploy assets is within 24 hours of the PT or OGD request.
- NESS has adapted to the changing risk environment:
 - 9/11 Terror attacks: pharmaceuticals to respond to the risk of bioterrorism
 - SARS/Pandemic Preparedness: antivirals, ventilators
 - Ebola: enhanced level of personal protective equipment
 - Acquisition of mini-clinics for triage and minor treatment

Strategic Federal Warehouse Footprint



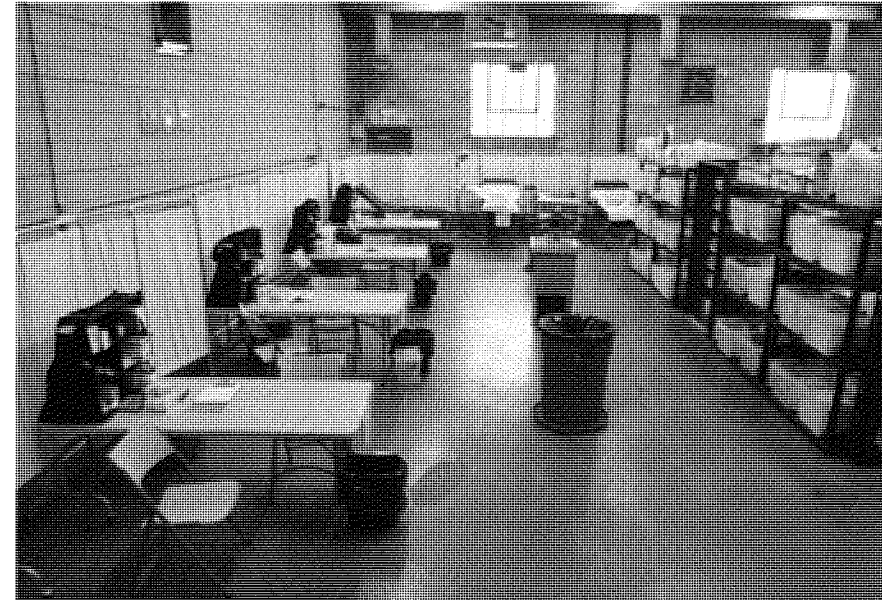
NESS Holdings



- Medical equipment and supplies:
 - mini-clinics, x-ray machines, ventilators, personal protective equipment including masks, gloves and disposable gowns
- Pharmaceuticals:
 - antivirals, antibiotics, analgesics, anesthetics, and countermeasures against chemical, biological and radio-nuclear events
- Social service supplies:
 - generators, beds, blankets, sheets, pillows, towels
- Estimated replacement value [REDACTED]

Mini-Clinics for Triage and Minor Treatment

- Contains medical equipment and supplies that would typically be found in a walk-in clinic.
- Scalable and flexible to adapt to various circumstances.
- Can reduce demands on existing medical facilities during a health emergency by permitting care for less-urgent patients at a secondary site.
- Can be augmented with advanced X-ray and/or ventilators.





FOR CONCURRENCE

Votre référence Your file

20-101963-590

Notre référence Our file

MEMORANDUM TO THE MINISTER OF HEALTH

Donation of Personal Protective Equipment to China/
Don d'équipement de protection individuelle à la Chine

SUMMARY

- China has requested donations of personal protective equipment (PPE) to support ongoing efforts in preventing the spread of the novel coronavirus (2019-nCoV).
- On January 30, 2020, the World Health Organization (WHO) declared the event as a Public Health Emergency of International Concern (PHEIC). In addition to China, there have been cases in 24 other countries, including Canada.
- The Public Health Agency of Canada (PHAC) manages Canada's National Emergency Strategic Stockpile (NESS), and has identified supplies appropriate for donation, specifically coveralls, face shields and gloves. The donations will not compromise Canada's domestic preparedness, as the proposed donations will either be expiring shortly or are considered surplus to Canada's needs.
- Global Affairs Canada (GAC) is the lead department for Canada's international response, and is working with the Canadian Red Cross who will be facilitating logistics, i.e., transportation and delivery. It is expected that shipments will leave Canada for China on February 2, 2020 and February 4, 2020.
- Your concurrence is sought to proceed with this donation.

BACKGROUND:

On January 30, 2020 the WHO declared the 2019-nCoV outbreak originating in Wuhan, China a PHEIC, as it is considered an "extraordinary event" that constitutes a risk to other countries and requires a coordinated international response.

China first informed WHO about cases of the new virus in late December 2019. As of January 31st, China has reported more than 9,600 cases including 213 deaths. Twenty-four other countries have since reported cases. Canada has four confirmed cases.

Preventing transmission of the virus and protecting healthcare workers is supported by proper use of PPE.

The NESS is a federally owned and managed stockpile of emergency supplies that is funded and held by PHAC. It contains a variety of emergency supplies for different types of emergencies, including PPE, beds and blankets, and a supply of pharmaceuticals.

CONSIDERATIONS:

The mandate of the NESS is to help protect the health of Canadians. While this is typically achieved by mobilizing assets domestically, there are times such as this when the donation of assets internationally is in the best interests of Canada in order to prevent the entry of the disease into Canada.

Based on an assessment of current supplies and estimated ongoing requirements for PPE in Canada, PHAC has identified a quantity of PPE that could be donated to the international response.

The proposed amounts of PPE for donation include:

- 27,870 level 4 coveralls (various sizes). The level 4 coveralls (procured during the 2014-16 Ebola outbreak in West Africa) will be expiring in March 2020.
- 50,000 face shields. [REDACTED]
- 200,000 pairs of nitrile gloves [REDACTED]

The donation of these proposed amounts of supplies are not anticipated to compromise our ability to support domestic needs. The donation would follow the *Public Health Agency of Canada's Policy on the Donation, Loan, and Sale of PHAC Supplies to Foreign Governments and International Health Organizations and the Provision of Public Health Agency of Canada Supplies to the (former) Department of Foreign Affairs, Trade, and Development*.

PHAC has determined that the NESS assets are surplus Crown assets as defined in the *Surplus Crown Assets Act*. The NESS assets are surplus to PHAC's requirements because they are either close to expiry or they are stockpiled in large enough quantities that the proposed donations will have minimal impact on Canada's preparedness. PHAC will deliver the surplus assets to GAC who is working with the Canadian Red Cross to deliver the donations to China.

RESOURCE IMPLICATIONS:

The replacement value of the proposed donations is approximately \$0.5M.

GAC is working with the Canadian Red Cross on logistics, and is expected to cover transportation costs.


COMMUNICATIONS IMPLICATIONS:

GAC and PHAC will work together to confirm the proposed communications approach.

RECOMMENDATIONS/CONCLUSION:

It is recommended that you indicate your concurrence with the donation of the proposed PPE supplies to China signing the "I concur" block below.

JAN 31 2020



I, , **concur** with the recommendation.
Patty Hajdu, Minister of Health

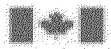
Date

I, _____, **do not** concur with the recommendation.
Patty Hajdu, Minister of Health

Date

MECS# 20-101963-590

 Health Security Infrastructure Branch
Telephone: 



Public Health
Agency of Canada

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NESS Personal Protective Equipment (PPE) Update

Status of Current NESS PPE Stockpile: February 9, 2020

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Context

- Attempts to secure high-demand assets, such as N95 and surgical masks, by the NESS are ongoing;
- NESS able to secure modest supplies of surgical masks and N95 masks with deliveries staggered by industry due to mounting market pressures;
- While we work to augment our supplies, we continue to receive requests for assistance, both internationally and domestically, including to support CFB Trenton quarantine operations;
- Global supply chain demands for PPE continue to rise with prolonged industry lead times for production and delivery.

Personal Protective Equipment (PPE) Donation to China

- A request for assistance for PPE was received for China through GAC;
- The Canadian Red Cross (CRC) coordinated the donation of assets;
- NESS declared PPE assets surplus, under the Crown Assets Act;
- NESS PPE donation to China represented [REDACTED] of asset holding in those categories, did not include any items on the potential shortage list, and have already been replaced.

PHAC was approached by GAC on February 9 to make an additional donation to China of these and other items

Item	PHAC donated stock	CRC purchased stock	Total
Coveralls	27,870	8,482	36,352
Nitrile Gloves (pair)	200,000		200,000
Goggles	50,000	118	50,118
Respirator N100		1,798	1,798
Google Faceshield combo		881	881
Face mask N95		220	220
Apron		3,000	3,000

NESS Responses to Requests for Assistance (RFA) for PPE Assets

RFA received from Ministry of Health Ontario for Belleville Health Facilities:

- N95 masks (500 units)

RFA received from DND-GAC for Canada1 and Canada2 staff and passenger use:

- Hand sanitizer (120 units)
- N95 masks (4,580 units)
- Nitrile gloves (3,000 pairs)
- Isolation gowns (650 units)

RFA received from Yukon Territory for NESS Assets due to Supply Chain Shortages:

- Isolation gowns (8,000 units)

****Additional RFAs are expected as global supply chain pressures continue to build.**

NESS Assets Deployed to CFB Trenton Quarantine Operations

- To date, the NESS has deployed the following PPE assets, in support of CFB Trenton quarantine operations:
 - Face Shields (2,425 units)
 - N95 masks (2,600 units)
 - Surgical masks (78,000 units)
 - Nitrile gloves (27,900 pairs)
 - Isolation gowns (2,500 units)
 - Goggles (180 units)
 - Hand sanitizer (108 bottles)
- Additional asset deployments are expected as deployed PPE supplies are utilized during quarantine operations.

Residual NESS PPE Stockpile Levels Post RFAs and Donation

- Current NESS stock levels for 2019-nCoV PPE related response needs as follows:



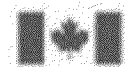
*high demand items, on order

NESS PPE Replenishment Strategy

- Supply chain pressures related to 2019-nCoV were identified early as a risk;
- The NESS pro-actively began to procure PPE assets to secure high-demand items, such as surgical and N95 masks in January (delivery staggered with some supplies received already);
- Ongoing procurements by the NESS for N95 masks, surgical masks, hand sanitizer, coveralls, disinfectant wipes, face shields, etc. is underway;
- Currently the NESS has committed approximately \$600K in 2019-nCoV PPE-related procurements;
- The budget ask from now until fiscal year end for NESS PPE procurements is \$2M;
- Analyses of supply chain pressures, in collaboration with PSPC, is ongoing and market pressures may affect the NESS' capacity to secure large quantities of surge PPE.

Collaboration and Partnerships

- FPT governance is discussing supply chain risk, including the Special Advisory Committee (SAC) and the Public Health Infrastructure Steering Committee (PHI-SC) – the latter is conducting a PPE survey of provincial and territorial partners to identify PPE areas of vulnerability.
- The North American Plan for Animal and Pandemic Influenza (NAPAPI) Health Security Working Group recently met and identified ongoing access to PPE as a concern. The United States flagged significant market failures in global capacity to protect front line workers. It was also noted that vendors are putting existing customers on allocation and were not accepting orders from new customers.
- The Global Health Security Initiative (GHSI) is discussing supply chain risk, and the WHO has activated its Pandemic Supply Chain Network to ascertain and forecast availability of crucial supplies.



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NESS Personal Protective Equipment (PPE) Update

Update – Interim Request
February 13, 2020

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Overview - Personal Protective Equipment and Interim Request

- In response to Coronavirus Disease 2019 (COVID-19), PHAC is requesting an additional [REDACTED] for 2019-20 and 2020-21:
 - [REDACTED] in 2019-20, and [REDACTED] in 2020-21. This assumes that funding we cannot use in this fiscal year can be rolled into carry forward and allocated for 2020-21.
- NESS contains a modest stockpile of personal protective equipment (PPE), including surgical masks, respirators, gloves, gowns, and coveralls. (See annex 1)
- We have received requests for, and provided personal protective equipment to various partners, internationally and domestically.
- We anticipate increased demand and further requests, and also shortages, limits to availability and impacts on the global supply chain. We want to be as ready as possible to meet immediate needs and continue to replenish stockpiles.

Deployment of Personal Protective Equipment

- Since January 2020, PHAC has received and responded to a number of requests for the deployment of personal protective equipment from: China, Trenton – repatriation efforts, Ontario and Yukon. (See annex 2)
- We anticipate further requests:
 - We are concurrently surveying provinces and territories to assess their stockpiles and to identify gaps nationally.
 - China has made a request for further supplies - our initial donation was valued at approximately \$0.5 million and we will assess viability of an additional donation.
 - Those federal departments who have federal employees abroad (e.g.: missions).
 - WHO/PAHO for multilateral response.
 - Potential distribution of masks at airports.
- In making deployment decisions, our priorities are:
 - Domestic needs: supporting local and P/T requirements for health care workers, persons in self-isolation, and their direct contacts;
 - Canadians abroad; and,
 - Containment efforts globally.

NESS PPE Replenishment and Stockpiling Strategy

- We want to be as ready as possible to meet immediate needs and continue to replenish stockpiles.
 - Requirements, availability and costs for specific purchases can only be determined as the situation unfolds.
 - Logistics (e.g. costs of shipment, etc., particularly for remote areas such as Yukon, are also a consideration).
- This fiscal year:
 - NESS has committed approximately [REDACTED] in COVID-19 PPE-related procurements (e.g. masks, gloves, hand sanitizer, coveralls), we are drawing, largely, on standing orders. Suppliers have indicated potential challenges in providing masks.
 - PHAC is exploring other options for similar assets, and has possibilities for some smaller orders.

NESS PPE Replenishment and Stockpiling Strategy

- Next fiscal year (2020-2021) PHAC would:
 - Continue ongoing procurement for N95 masks, surgical masks, hand sanitizer, coveralls, disinfectant wipes, face shields, etc.:
 - The goal would be to:
 - Ensure national stockpiles (i.e. working with PTs) are sufficient;
 - Work with international partners to leverage global purchasing and best manage approaches where there are shortages, including:
 - » the Global Pandemic Supply Chain Network (co-chaired by WHO and World Economic Forum);
 - » the North American Plan for Animal and Pandemic Influenza (NAPAPI) Health Security Working Group; and,
 - » The Global Health Security Initiative.
 - Be positioned to contribute to China/Multilateral efforts.
 - Preposition Canada should there be promising progress with regard to medical countermeasures.
 - Revisit NESS Inventory Management Systems – we have been looking at upgrades and may need to expedite portions (Estimated cost of whole system is about [REDACTED] but there may be an initial investment that could facilitate in short-term).

Annex 1: Current PPE Inventory and items on order (February 12, 2020)

	Current Inventory (on hand + recently received shipments)	Items On order
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Annex 2: NESS PPE Deployments to date (February 12, 2020)

	China	Ontario	Yukon	Quarantine @ CFB Trenton	DND/GAC – Canada1 & 2 flights	TOTAL DEPLOYED

NESS PPE Deployments: January to March 18, 2020

(Note Excludes Cornwall and CFB Trenton #2 quarantines, totals will be assessed at end of quarantine when remaining stock will be returned)

[illegible]

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-03-20 5:08 PM
To: [REDACTED] PHAC/ASPC
Cc: [REDACTED]; [REDACTED]
[REDACTED] (PHAC/ASPC)
Subject: NESS PPE update - Feb 12 2pm.pptx
Attachments: NESS PPE update - Feb 12 2pm.pptx

[REDACTED]

Further to your request, please find attached a list of NESS PPE deployments from January to March 18, 2020. It was fairly quiet, responding to requests for China, Trenton, Ontario, Yukon and Manitoba. Note that it does not include PPE deployed to Cornwall or for the CFB Trenton second quarantine – those materials were moved from site to site, and at the end of the most recent Trenton quarantine some will be returned and then accounted for.

However, we are facing a real crunch today. We have received urgent requests from Nunavut, NWT, NFLD, BC and Medivac (North) for PPE, primarily N95. The requests, particularly for N95, far exceed our stockpile. The team is working to try and triage, and we have modest stock coming in – but too late. BC says they will run out Monday (and the others are close behind).

The team is on this, and we will update when we land on a way forward.

[REDACTED]

Situation Awareness Report

COVID-19 Personnel Protective Equipment and Medical Equipment

As of 5:00 pm, March 20, 2020

NESS INVENTORY

- The National Emergency Strategic Stockpile (NESS) acquiring personnel protective equipment (PPE) to provide surge capacity to meet the demands of F/P/T health care and front-line workers.

NESS Inventory of PPEs and Ventilators

Equipment	Quantity

PROCUREMENT

- PHAC is working with F/P/T Logistic Advisory Committee on collaborative procurement of PPEs and medical equipment.
- PHAC is actively engaged with Public Services and Procurement Canada in managing the procurement from PPE suppliers, assessing technical compliance, and determining quantities in terms of immediate need and delivery.
- **On March 20, PHAC formalized an interdepartmental Technical Review Committee that will help expedite the assessment of product specifications from suppliers.**
- PHAC identified a requirement for 550 ventilators to support P/T response.
 - On March 18, a contract has been awarded for 200 portable ventilators. Delivery of 50 units is expected the week of April 1, then 50 units the week after.
 - PSPC finalized contracts for the remaining units (350). Deliveries are anticipated within 10 to 16 weeks for most units.

REQUEST FOR ASSISTANCE

- PHAC has 4 requests for assistance (RFA) from provinces and territories in process (NL, NU, NWT and BC).
 - The RFA for NU was approved and PHAC is coordinating delivery.
 - PHAC is reviewing the requests for NL, NWT and BC for various supplies.
Current requests for N95 masks exceeds the NESS inventory.
- PHAC is anticipating a RFA for ON.

- PHAC also has PPE requirements for screening at airports and land crossings, and repatriation efforts at Trenton.

DONATIONS

- PHAC continues to work with international partners to assess and receive donations of PPE and other medical supplies.
- **Active donations:**
 - The Jack Ma and the Alibaba Foundation has donated 100K test kits and 500K masks; shipping has been arranged.
 - **Ctrip (China) is donating 100,000 face masks. Logistic information has been provided to the company.**
 - **Humanwell Health Care (China) has offered to donate various PPEs and medical equipment. Logistics are being arranged.**

The next update will be provided on March 21, 2020.

NATIONAL EMERGENCY STRATEGIC STOCKPILE (NESS)

Q1. Is it true that the Public Health Agency of Canada has not released any of its National Emergency Strategic Stockpile of personal protective equipment?

This is not true. The Public Health Agency of Canada (PHAC) has released items from the National Emergency Strategic Stockpile (NESS) in support of provincial and territorial COVID-19 response efforts. This has included specific types of personal protective equipment such as surgical masks, gloves and N95 respirators, as well as other items such as disinfectant and hand sanitizer.

Canada's stockpile has always offered support in instances when a jurisdiction may have run out of equipment while waiting for orders to come in and facilitates transfers of personal protective equipment between jurisdictions. In addition, PHAC is actively working with Public Services and Procurement Canada, to advance bulk procurement orders on behalf of jurisdictions. A number of requests have been actioned and others underway. The federal government is working to enhance its own stockpile to support provincial requests or those from other federal partners who may also be in need of equipment.

Q2. How large is the stockpile and how will the supplies be allocated and distributed?

It is not the practice of the National Emergency Strategic Stockpile (NESS) to divulge details about the specific type and quantity of stock in its holdings. The NESS contains supplies of personal protective equipment and ventilators. Allocation and distribution are always determined based on need.

In addition to ventilators that have already been procured and are held within the NESS, the federal government has contracted for more than 600 ventilators and is also working to support the acquisition of additional ventilators in response to provincial/territorial requests. The demand for ventilators globally is high and the Government is pursuing a variety of purchasing strategies to increase the number of ventilators available for use should there be a need to augment existing supply in the short term.

Q3. What adjustments, if any, were made to NESS supply levels after the outbreak in Wuhan was identified?

Orders for PPE and medical supplies were placed early on by federal, provincial and territorial governments to supplement their existing stocks.

Q4. Is there an effort underway to add to the stockpile?

The Government of Canada is working closely with its provincial and territorial counterparts to plan for the adequate supply of ventilators.

The Government uses several strategies to plan for resource requirements, including looking at the dynamics of the outbreak (e.g., how many people are infected, the affected age groups and other characteristics of the population) as well as the impact of public health interventions (e.g., physical distancing) on the observed trends.

NATIONAL EMERGENCY STRATEGIC STOCKPILE (NESS)

Based on the science to date, about 80% of COVID-19 cases are relatively mild and can be treated at home. However, there is a smaller percentage of individuals who may need medical care and hospitalization. In the worst cases, assisted breathing through a ventilator may be required.

In addition to ventilators that have already been procured and are held within the National Emergency Strategic Stockpile (NESS), the federal government has contracted for more than 600 ventilators and is also working to support the acquisition of additional ventilators in response to provincial/territorial requests. The demand for ventilators globally is high and the Government is pursuing a variety of purchasing strategies to increase the number of ventilators available for use should there be a need to augment existing supply in the short term.

There is also a mutual provincial and territorial assistance agreement in place should there be a need for ventilators or even personnel or other resources from one province to another.

Q5. Was a recent notice on the Government Buy and Sell site a call out to identify additional suppliers for NESS?

The Government of Canada is exploring all avenues to secure medical supplies, including personal protective equipment (PPE), in order to prepare for and respond to the COVID-19 outbreak.

The Notice that went out on Buy and Sell to identify additional suppliers will benefit federal, provincial and territorial governments, including the National Emergency Strategic Stockpile (NESS).

More information on the Government of Canada's response can be found [here](#).

Q6. Does PHAC have to go to tender to replenish NESS supplies or can it use the Emergency Rule to buy directly?

PHAC follows appropriate laws, policies and guidelines with respect to the procurement of supplies or assets for the NESS. Competitive procurement practices such as the use of established supply arrangements, or requests for proposal, are routinely utilized to access the supply chain.

On March 14, 2020, PHAC requested, and received, a National Security Exception for the Procurement of Goods and Services required by the Government of Canada to respond to the COVID-19 outbreak. With this authority, PHAC will not be required to go to tender to replenish NESS supplies and will work with Public Services and Procurement Canada to determine the best procurement strategy.

Q7. What has changed since the 2011 evaluation report of the NESS?

Since the 2011 evaluation, the NESS has evolved to better align with the ever-changing risk environment and is investing in strategic assets, such as medical counter-measures and mini-clinics, to enhance the Agency's ability to support surge requests during health emergencies. In

NATIONAL EMERGENCY STRATEGIC STOCKPILE (NESS)

addition, there has been increased engagement with provincial and territorial partners and other stakeholders to increase awareness of NESS capabilities.

Q8. Will 3D printed medical devices be allowed to be used to alleviate supply shortages in Canada during this pandemic?

Health Canada is aware that groups here in Canada and in other countries (e.g. the UK, the U.S., Italy, China) may be using various manufacturing techniques to address some supply issues.

Health Canada, together with other federal organizations and private sector, is facilitating the assessment of existing 3D printing capacity in Canada and will help determine possible next steps to augment capacity where needed.

It is important to note that Health Canada remains the regulatory authority for all medical devices that are intended to be sold or imported and has dedicated processes to quickly assess safety, efficacy, and quality for medical devices manufactured for the COVID-19 response, including those manufactured by 3D printing.

Health Canada has reached out to its trusted 3D printing network in the medical device industry, hospitals, universities, colleges and industrial manufacturing facilities. As of March 20, we have received responses from 34 organizations with 3D printing experience who are willing to help.

Q9. Are there any concerns about these items being produced without the usual quality checks or certification processes?

Medical devices sold, imported or distributed in Canada must meet the safety, effectiveness, and quality regulatory requirements of the *Medical Devices Regulations* or the *Interim Order* in cases of devices involving COVID-19. These regulated devices include medical devices manufactured via 3D printing. Health Canada is the regulatory authority for all medical devices and has dedicated processes to quickly assess safety, efficacy and quality for medical devices manufactured for the COVID-19 response.

There are risks if devices such as personal protective equipment are not of high enough quality to properly protect patients and healthcare workers. We are working with conventional medical device manufacturers and certified 3D printing organizations regarding required device specifications and quality so Canadians can have timely access to medical devices that are safe, efficacious and of high quality.

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

CONTEXT

The Federal government, working with Provincial and Territorial (F/P/T) governments, is sourcing scarce products through collaborative procurement processes to respond to the COVID-19 outbreak. This operational allocation plan outlines: principles, scope, references for fair and optimal use of personal protective equipment (PPE), a concept of operations, and operational considerations including donations.

PRINCIPLES

The ethical considerations include:

- **Openness and transparency:** With regard to current stock (federal, provincial and territorial), use (burn rates), shortages, purchases, delivery and distribution. With respect to any requests, transparency as to whether requests include items for non-front line health care workers, and the timeframe the order is expected to cover (3 months, 6 months, 12 months or beyond). This principle will take into account the availability of the relevant data.
- **Stewardship:** Jurisdictions are expected to promote the judicious and appropriate use of PPE and viable alternatives.
- **Trust and solidarity:** Resource allocation recommendations are built on trust and relationships, characterized by open communication and collaboration and the need to ensure that all jurisdictions have access to scarce supply.
- **Equity, fairness and reasonableness:** Using criteria for prioritization (e.g. per capita allocation, immediacy of need, demographic considerations, geographic considerations and outbreak intensity).
- **Reciprocity/Reallocation:** If the National Emergency Strategic Stockpile (NESS) is insufficient to address differential/critical needs in jurisdictions, Provinces and Territories may use the Federal/Provincial/Territorial Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public to seek support and respond to requests from each other to the extent possible. The MOU explicitly states that “provision of assistance will not endanger or severely limit public health capacity in any Jurisdiction providing assistance.”

Provinces and Territories are expected to provide appropriate PPE to their respective Indigenous communities/organizations in a manner consistent with the allocation and guidelines in place in their jurisdiction.

SCOPE

This approach will guide the resource allocation decisions associated with Canada's response to COVID 19, and may be adjusted as the situation evolves.

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

The immediate scope includes PPE such as: gloves, masks, face shields, and gowns.

Separate processes exist or are being established for diagnostics and specialized equipment such as ventilators.

OPTIMAL USE OF PPE

F/P/T governments recognize and commit to take action on the full range of protective measures to minimize risks associated with COVID-19 exposure and transmission. This includes utilizing engineering controls (workplace design), administrative controls (infection prevention and control policies, procedures and programs), and the use of PPE – including technology and processes to extend the use of PPE.

Overarching guidance has been provided to support specific application in each jurisdiction.

- Infection prevention and control for coronavirus disease (COVID-19): Interim guidance for acute healthcare settings has been developed by PHAC's National Advisory Committee on Infection Prevention and Control. This approach is aligned with the guidance provided by the WHO and is endorsed by Canada's F/P/T Special Advisory Committee on COVID-19.
 - <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/interim-guidance-acute-healthcare-settings.html#a4>
- WHO guidance: Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19)
 - https://apps.who.int/iris/bitstream/handle/10665/331215/WHO-2019-nCov-IPCPPE_use-2020.1-eng.pdf

Given the limited supply of products, alternative products may need to be considered within jurisdictions – such as different types of N95 respirators. Health Canada has published related guidance on optimizing the use of masks and respirators during the COVID-19 outbreak. This includes guidance on the use of expired N95 respirators and masks; and guidance on the use of commercial-grade respirators for medical purposes.

- Optimizing the use of masks and respirators during the COVID-19 outbreak
 - <https://www.canada.ca/en/health-canada/services/drugs-health-products/medical-devices/masks-respirators-covid19.html>

Given scarcity, jurisdictions are encouraged to explore alternatives, and the federal government will procure viable alternatives wherever possible when desired product is not available.

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

CONCEPT OF OPERATIONS

F/P/T governments have identified both immediate and longer-term needs. The Federal Government has established new and expedited processes for procurement, and Provinces and Territories are receiving daily updates on the status of procurement.

In addition to the jurisdictions that submitted requests to join federal procurement efforts, the federal government also proactively sought to purchase supplies. The federal government will continue to proactively order on behalf of all jurisdictions. Jurisdictions can continue to identify products and volumes of interest.

We anticipate deliveries to start the week of March 30, 2020, subject to availability of global supply, company production timelines and logistical considerations. Orders delivered to Canada are staggered over a period of time, and distribution is dependent upon product availability, per capita allocation, and surge for immediate need.

The proposed approach will support rapid distribution of products, through a formula-based per capita allocation, with surge capacity retained in the National Emergency Strategic Stockpile (NESS) that can be subsequently allocated to address critical shortages identified by P/Ts.

If the surge capacity for NESS is unable to meet urgent/immediate needs, Provinces and Territories may use the Federal/Provincial/Territorial Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public to seek support and respond to requests to the extent possible.

Specifically:

There will be complete transparency in terms of procurement, orders, delivery, and distribution. Jurisdictions will receive information about product allocation in a transparent and open way. This will include procurement and delivery of viable alternatives.

As product is ready to be delivered:

- 80% would be distributed to P/Ts based on a per capita allocation;
- 20% would be allocated to the NESS.

Annex A provides an illustrative example of how this would work.

The purpose of the NESS allocation would be to:

- facilitate surge capacity and target allocation to jurisdictions facing critical needs;
- provide additional support to the Territories on a “per capita plus” model whereby the Public Health Agency of Canada works with each Territorial Government to determine an appropriate amount based on need;

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

- provide federal surge including Indigenous Services Canada and Correctional Services Canada; and
- provide modest flexibility to address unanticipated events.

The 20% allocation to the NESS may be adjusted depending on how the situation evolves. The intent is to ensure timely and equitable distribution of resources, not to build a stockpile. Information on how to make a Request for Assistance to the NESS can be found in Annex B.

Should the 20% surge capacity not be sufficient to address requests for assistance, the Federal/Provincial/Territorial Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public and the Operational Framework for Mutual Aid Requests (OFMAR) provide F/P/T governments with a mechanism to share resources within Canada.

In the event that NESS is limited in supply, PHAC can facilitate mutual assistance between F/P/T partners, with a simplified process (i.e. not requiring formal request from a specific P/T to launch exchange, but an immediate call out from PHAC on behalf of jurisdictions).

Logistics/Prepositioning

Surge capacity and transportation channels can be limited, including in Canada's remote, isolated, and northern communities. PHAC may, working with Provinces and Territories, preposition supports for early access to products and timely distribution of necessary supplies.

PHAC will work with jurisdictions on logistical matters including shipping, and potentially storing product on behalf of a government should immediate delivery not be practical. PHAC may provide viable alternatives.

DONATIONS

The Public Health Agency of Canada is receiving donations of PPE. Where the quality of items is validated, they will be distributed based on the allocation formula.

Allocation of Scarce Resources COVID-19 – Interim Response Strategy

Annex A: Allocation Formula

**Total Amount of "X Product"
Being Delivered**

20,000

20% for NESS - surge capacity*

4,000

Distribution to P/Ts

16,000

Province, Territory	Percentage of Population	Amount
Newfoundland and Labrador	1.38%	221
Prince Edward Island	0.42%	67
Nova Scotia	2.58%	413
New Brunswick	2.06%	330
Quebec	22.55%	3,608
Ontario	38.79%	6,206
Manitoba	3.64%	582
Saskatchewan	3.12%	499
Alberta	11.63%	1,861
British Columbia	13.51%	2,162
Yukon	0.11%	18
Northwest Territories	0.12%	19
Nunavut	0.10%	16

*for subsequent distribution

Allocation of Scarce Resources COVID-19 – Interim Response Strategy

Annex B – Guidance on making a Request for Assistance to the NESS

Notification

Jurisdictions should notify PHAC of critical needs as soon as possible, and ideally no less than three to four weeks prior to depletion of their resources. Jurisdictions should also provide information about current stockpiles and burn rates to help manage effective allocation.

Allocation Model

NESS will proceed with a conservative “in-crisis” allocation model for the deployment of its held assets to focus on imminent need of F/P/T partners. This model will allow for a utilitarian approach to the allocation of scarce healthcare resources. This implies that RFAs will be prioritized based on the urgency of the need and individual RFAs will be triaged and filled based on availability of supplies within the NESS.

Prioritization criteria for decision-making include the following:

- If the supplies are available;
- If the RFA is COVID-19 or active health response related;
- If the supplies are for frontline healthcare or client focused activities; and,
- If P/Ts have considered all other options, including depleting their internal stockpiles, and exhausted procurement options.

During this time, NESS may allocate supply that covers a shorter time-frame than requested, to a maximum of 2 weeks supplies and/or up to a maximum of 10% of the stockpile, to support strategic deployment of existing resources as the crisis evolves. This could include the partial fulfillment of RFAs and staggering responses to multiple simultaneous requests. Please note that for RFAs that are declined or not fulfilled in their entirety, PHAC will follow-up on a weekly basis, as product is made available, to re-visit needs.

In addition, if the NESS is unable to fulfill an RFA in its entirety, P/Ts will be asked to explore all mutual aid agreements with neighbouring jurisdictions, notify the Logistic Advisory Committee of critical supply gaps, and adopt a scarce resource allocation plan.

Preliminary Criteria for Prioritization of Requests for Assistance

- Is the RFA support for an active COVID-19 response or an active health response?
- Has the requesting authority depleted their own stockpile?
- Has the requesting authority exhausted all possible procurement mechanisms?
- Has the requesting authority explored the reallocation of supplies within their jurisdiction to meet their needs?

Allocation of Scarce Resources COVID-19 – Interim Response Strategy

P/T Specific Questions

- Has the requesting authority explored all existing MOUs with other P/TS and/or cross border mutual aid agreements?
- Is the requesting jurisdiction north or south of the 60th parallel?
- For above the 60th parallel:
 - Is the jurisdiction within 2 weeks of a point of criticality for supplies?
- For below the 60th parallel:
 - Is the jurisdiction within 1 week of a point of criticality for supplies?

Point of criticality can be defined as a time when health care services delivery will be **severely** affected due to a critical shortage of the requested supplies.

Testing Requirements for Masks and Testing Swabs

KEY MESSAGES

- Testing may be an ongoing requirement with procured product in addition to donated personal protective equipment and other medical supplies; therefore, PHAC is pursuing multiple avenues in parallel as the process for technical assessment varies depending on the medical device.
- Pending the development of a domestic solution, we are sending N95 and KN95 masks [REDACTED] for testing, and surgical masks and gowns to [REDACTED]. [REDACTED] The Canadian Armed Forces is supporting to expedite this process and finalize testing.
- Testing Swabs are distributed directly to P/T public health laboratories. Upon arrival in Canada, PHAC conducts a visual inspection on-the-ground and a sample batch is sent to the NML for their records.
- Once shipments arrive, they are sorted, inventoried and as required, samples are taken for testing within 24 hours of arrival, depending on the size of the shipment and how long the sorting process takes.
- This entire process, from aircraft arrival to finalization of testing takes between 48 and 72 hours.
- Concurrently, the shipments are prepared for distribution to the provinces and territories so that they can be shipped pending conclusion of the testing.

SUPPLEMENTARY MESSAGES

N95/KN95 Masks

- Testing involves visual inspection to verify for defects in design and construction, and masks are tested to assess that flow rate, pressure drop and penetration meet specifications for filtering face pieces.
- The KN95 mask is a suitable alternative for the typical NIOSH approved N95 respirator, and requires the same testing process when labelling and valid certification is unavailable.
- When testing is required, it is currently being undertaken [REDACTED]
[REDACTED] Furthermore, domestic capacity is being established: the current environment is the following:
 - Testing equipment has been ordered from [REDACTED] in the United States by both PHAC and NRC. Delivery date is to be confirmed and upon receipt the equipment will take one day to set up and calibrate.
 - Additionally, the NRC is also building a test system expected to be ready to start testing on April 9.


Surgical Masks

- Surgical masks undergo a fluid resistance test and a breathing resistance test to ensure appropriate function.
- When required, testing of surgical masks is sent to [REDACTED] and additional testing sights in Canada are being explored [REDACTED]
[REDACTED].

Gowns

- When required, gowns undergo a fluid resistance test. Gowns are also sent to [REDACTED] and additional testing sights in Canada are being explored ([REDACTED]).

Test Swabs

- A visual inspection is conducted by PHAC for colour or gross contamination before swabs are distributed to P/Ts.
- Testing swabs are distributed to P/T public health laboratories by


Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

CONTEXT

The Federal government, working with Provincial and Territorial (F/P/T) governments, is sourcing scarce products through collaborative procurement processes to respond to the COVID-19 outbreak. This operational allocation plan outlines: principles, scope, references for fair and optimal use of personal protective equipment (PPE), a concept of operations, and operational considerations including donations.

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The ethical considerations include:

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Provinces and Territories are expected to provide appropriate PPE to their respective Indigenous communities/organizations in a manner consistent with the allocation and guidelines in place in their jurisdiction.

SCOPE

This approach will guide the resource allocation decisions associated with Canada's response to COVID 19, and may be adjusted as the situation evolves.

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

The immediate scope includes PPE such as: gloves, masks, face shields, and gowns.

Separate processes exist or are being established for diagnostics and specialized equipment such as ventilators.

OPTIMAL USE OF PPE

F/P/T governments recognize and commit to take action on the full range of protective measures to minimize risks associated with COVID-19 exposure and transmission. This includes utilizing engineering controls (workplace design), administrative controls (infection prevention and control policies, procedures and programs), and the use of PPE – including technology and processes to extend the use of PPE.

Overarching guidance has been provided to support specific application in each jurisdiction.

- Infection prevention and control for coronavirus disease (COVID-19): Interim guidance for acute healthcare settings has been developed by PHAC's National Advisory Committee on Infection Prevention and Control. This approach is aligned with the guidance provided by the WHO and is endorsed by Canada's F/P/T Special Advisory Committee on COVID-19.
 - <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/interim-guidance-acute-healthcare-settings.html#a4>
- WHO guidance: Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19)
 - https://apps.who.int/iris/bitstream/handle/10665/331215/WHO-2019-nCov-IPCPPE_use-2020.1-eng.pdf

Given the limited supply of products, alternative products may need to be considered within jurisdictions – such as different types of N95 respirators. Health Canada has published related guidance on optimizing the use of masks and respirators during the COVID-19 outbreak. This includes guidance on the use of expired N95 respirators and masks; and guidance on the use of commercial-grade respirators for medical purposes.

- Optimizing the use of masks and respirators during the COVID-19 outbreak
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Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

CONCEPT OF OPERATIONS

F/P/T governments have identified both immediate and longer-term needs. The Federal Government has established new and expedited processes for procurement, and Provinces and Territories are receiving daily updates on the status of procurement.

In addition to the jurisdictions that submitted requests to join federal procurement efforts, the federal government also proactively sought to purchase supplies. The federal government will continue to proactively order on behalf of all jurisdictions. Jurisdictions can continue to identify products and volumes of interest.

We anticipate deliveries to start the week of March 30, 2020, subject to availability of global supply, company production timelines and logistical considerations. Orders delivered to Canada are staggered over a period of time, and distribution is dependent upon product availability, per capita allocation, and surge for immediate need.

The proposed approach will support rapid distribution of products, through a formula-based per capita allocation, with surge capacity retained in the National Emergency Strategic Stockpile (NESS) that can be subsequently allocated to address critical shortages identified by P/Ts.

If the surge capacity for NESS is unable to meet urgent/immediate needs, Provinces and Territories may use the Federal/Provincial/Territorial Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public to seek support and respond to requests to the extent possible.

Specifically:

There will be complete transparency in terms of procurement, orders, delivery, and distribution. Jurisdictions will receive information about product allocation in a transparent and open way. This will include procurement and delivery of viable alternatives.

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The purpose of the NESS allocation would be to:

- facilitate surge capacity and target allocation to jurisdictions facing critical needs;
- provide additional support to the Territories on a “per capita plus” model whereby the Public Health Agency of Canada works with each Territorial Government to determine an appropriate amount based on need;

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

- provide federal surge including Indigenous Services Canada and Correctional Services Canada; and
- provide modest flexibility to address unanticipated events.

The 20% allocation to the NESS may be adjusted depending on how the situation evolves. The intent is to ensure timely and equitable distribution of resources, not to build a stockpile. Information on how to make a Request for Assistance to the NESS can be found in Annex B.

Should the 20% surge capacity not be sufficient to address requests for assistance, the Federal/Provincial/Territorial Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public and the Operational Framework for Mutual Aid Requests (OFMAR) provide F/P/T governments with a mechanism to share resources within Canada.

In the event that NESS is limited in supply, PHAC can facilitate mutual assistance between F/P/T partners, with a simplified process (i.e. not requiring formal request from a specific P/T to launch exchange, but an immediate call out from PHAC on behalf of jurisdictions).

Logistics/Prepositioning

Surge capacity and transportation channels can be limited, including in Canada's remote, isolated, and northern communities. PHAC may, working with Provinces and Territories, preposition supports for early access to products and timely distribution of necessary supplies.

PHAC will work with jurisdictions on logistical matters including shipping, and potentially storing product on behalf of a government should immediate delivery not be practical. PHAC may provide viable alternatives.

DONATIONS

The Public Health Agency of Canada is receiving donations of PPE. Where the quality of items is validated, they will be distributed based on the allocation formula.

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

Annex A: Allocation Formula

Total Amount of "X Product"
Being Delivered

20,000

20% for NESS - surge capacity*

4,000

Distribution to P/Ts

16,000

Province, Territory

**Percentage of
Population**

Amount

Newfoundland and Labrador

1.38%

221

Prince Edward Island

0.42%

67

Nova Scotia

2.58%

413

New Brunswick

2.06%

330

Quebec

22.55%

3,608

Ontario

38.79%

6,206

Manitoba

3.64%

582

Saskatchewan

3.12%

499

Alberta

11.63%

1,861

British Columbia

13.51%

2,162

Yukon

0.11%

18

Northwest Territories

0.12%

19

Nunavut

0.10%

16

*for subsequent distribution

Allocation of Scarce Resources

COVID-19 – Interim Response Strategy

Annex B – Guidance on making a Request for Assistance to the NESS

Notification

Jurisdictions should notify PHAC of critical needs as soon as possible, and ideally no less than three to four weeks prior to depletion of their resources. Jurisdictions should also provide information about current stockpiles and burn rates to help manage effective allocation.

Allocation Model

NESS will proceed with a conservative “in-crisis” allocation model for the deployment of its held assets to focus on imminent need of F/P/T partners. This model will allow for a utilitarian approach to the allocation of scarce healthcare resources. This implies that RFAs will be prioritized based on the urgency of the need and individual RFAs will be triaged and filled based on availability of supplies within the NESS.

Prioritization criteria for decision-making include the following:

- If the supplies are available;
- If the RFA is COVID-19 or active health response related;
- If the supplies are for frontline healthcare or client focused activities; and,
- If P/Ts have considered all other options, including depleting their internal stockpiles, and exhausted procurement options.

During this time, NESS may allocate supply that covers a shorter time-frame than requested, to a maximum of 2 weeks supplies and/or up to a maximum of 10% of the stockpile, to support strategic deployment of existing resources as the crisis evolves. This could include the partial fulfillment of RFAs and staggering responses to multiple simultaneous requests. Please note that for RFAs that are declined or not fulfilled in their entirety, PHAC will follow-up on a weekly basis, as product is made available, to re-visit needs.

In addition, if the NESS is unable to fulfill an RFA in its entirety, P/Ts will be asked to explore all mutual aid agreements with neighbouring jurisdictions, notify the Logistic Advisory Committee of critical supply gaps, and adopt a scarce resource allocation plan.

Preliminary Criteria for Prioritization of Requests for Assistance

- Is the RFA support for an active COVID-19 response or an active health response?
- Has the requesting authority depleted their own stockpile?
- Has the requesting authority exhausted all possible procurement mechanisms?
- Has the requesting authority explored the reallocation of supplies within their jurisdiction to meet their needs?

Allocation of Scarce Resources COVID-19 – Interim Response Strategy

P/T Specific Questions

- Has the requesting authority explored all existing MOUs with other P/TS and/or cross border mutual aid agreements?
- Is the requesting jurisdiction north or south of the 60th parallel?
- For above the 60th parallel:
 - Is the jurisdiction within 2 weeks of a point of criticality for supplies?
- For below the 60th parallel:
 - Is the jurisdiction within 1 week of a point of criticality for supplies?

Point of criticality can be defined as a time when health care services delivery will be **severely** affected due to a critical shortage of the requested supplies.

10. National Emergency Stockpile System

Issue

The *National Emergency Stockpile System* (NESS) is a comprehensive, federally funded and managed stockpile of pharmaceuticals, medical equipment and supplies maintained to provide surge capacity to provinces and territories (P/Ts) in times of emergency to assist them in protecting the health and safety of Canadians.

Context

NESS contains an estimated [REDACTED] million inventory of equipment and supplies, including: pandemic influenza supplies (e.g. antivirals and personal protective equipment for healthcare workers), medical countermeasures to respond to bio-terrorism, supplies for chemical and nuclear response [REDACTED], social services supplies (e.g. blankets and beds), and mini-clinics for mass gatherings (e.g. 2010 Winter Games and G8/G20). P/Ts also maintain separate, F/P/T cost-shared (60% federal, 40% P/T) antiviral stockpiles, named the National Antiviral Stockpile.

Recommendations relating to the modernization of NESS have been provided in the 2010 *PHAC Internal Audit of Emergency Preparedness and Response*, 2010 *Health Portfolio H1N1 Lessons Learned* review and NESS Relevancy Review (to be publicly released this summer). Key recommendations relate to clarifying the role of NESS, developing a strategic approach to stockpiling, and modernization of inventory management practices.

PHAC recognizes that the Canadian context for health emergency management has changed significantly since the NESS was established in 1952 and is modernizing the stockpile to ensure that it continues to meet the public health needs of Canadians.

Considerations

NESS' mission is to maintain sufficient quantities of emergency supplies and equipment, strategically located across Canada, in a state of readiness for timely response to natural and

human-caused events. NESS has an integrated and coordinated 24/7 emergency response capability, with a successful record of providing emergency response support to P/Ts. Emergency supplies can generally be delivered anywhere in Canada within 24 hours.

NESS supplies have also been deployed internationally. In follow-up to the audit and evaluation recommendations, PHAC will examine appropriate domestic and international options for roles and responsibilities.

Federal/Provincial/Territorial Impacts

F/P/T officials are working together to provide input on elements of the NESS modernization. These efforts will also include the development of new NESS Memoranda of Understanding with the P/Ts which aim to clarify roles and responsibilities, as well as logistical issues. The NESS Relevancy Review included consultations with emergency management experts from across Canada. One of the key findings included the recommendation to improve inventory management practices. Moving forward, PHAC will work closely with P/Ts in modernization activities of the NESS.

Stakeholder Views

PHAC will also engage other government departments, non-governmental organizations, and other key stakeholders to determine the best way to address recommendations, using available evidence and risk analysis. For example, consideration will be made on how to best support federal populations (e.g. federal inmates) through stockpiles held by P/Ts and federal departments. A complementary communications approach will be developed to increase awareness of the strategic role for the NESS.

Moving Forward

The NESS recommendations will be addressed through a sequential approach. A new Mandate, Mission, Vision will be developed. A strategic plan will then be established through consultations with P/Ts and other stakeholders. This will be followed by an operational plan,

ADVICE TO MINISTER

which will include a disposal strategy for outdated inventory and an acquisition plan for new purchases. All changes will be made following the principle of promoting and protecting the health of Canadians.

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-04-23 12:38 PM
To: [REDACTED] (PHAC/ASPC)
Subject: RE: Can I get the ness funding chart? That shows the incremental funding plus internal reallocations
Attachments: 9. NESS Budget 2010-2020.docx

Here is the chart we have at this moment, we are still reconciling the years before 2014 as NESS did not at the time have a distinct cost center. I would suggest you keep this as back pocket for now until we have a fuller reconciliation. I am not comfortable quoting details from this prior to 2015 at this point.

[REDACTED]

[REDACTED] Public Health Agency of Canada / Agence de la sante publique
du Canada

Tel: [REDACTED]
Cell: [REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: 2020-04-23 12:22 PM
To: [REDACTED]
Subject: Can I get the ness funding chart? That shows the incremental funding plus internal reallocations

Sent from my iPhone

NESS Budget Allocations (2010 – 2020)

Source of Funds (Fund 210 only)	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
A-Base Operating						1,294,160	1,294,160	1,103,329	1,103,329	1,103,329	1,245,737
B-Base: EC Approved for [REDACTED]				9,488,200							
B-Base: EC Approved for [REDACTED]					7,000,000						
B-Base: [REDACTED]					700,000	3,207,409	793,600				
B-Base: [REDACTED]											
B-base: MCM Banking Day								2,211,206	1,647,854	1,059,085	
B-Base: [REDACTED]										935,000	
B-Base: [REDACTED]											
Total O&M	-	-	-	9,488,200	7,700,000						1,245,737
Salary (\$M)	1,760,000	1,500,000	1,487,720	1,412,194	1,342,752	1,359,146	1,242,810	181,172	1,251,267	1,433,538	1,058,311
FTEs			23	23	22	20	20	19	20	20	16

Caveat: This is a quick analysis prepared by OCFO and OBIP. OCFO concurs that the baseline A-base budget for NESS has been in the \$1.1 to \$1.3M range, with large variations during the years associated with various B-base funding sources.

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (HC/SC)
Sent: 2020-04-23 7:39 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: FOR YOUR INFORMATION: PSPC webpage on Supplying the Canadian healthcare sector in response to COVID-19
Attachments: Web Table_Option 1_Updated April 21 2020_HC.docx

[REDACTED],

I wanted to share with you the latest version of the PSPC webpage on the procurement of PPE and medical supplies. PSPC has made some changes based on feedback from [REDACTED] and [REDACTED], which are highlighted in the document (attached). PSPC is currently waiting for the final green light from the centre; however, should they receive the green light, the plan would be to post the page during or right after the daily press conference at noon. We understand that Ministers Anand and Bains will be at the presser. We did a signals check today with MO Comms, who confirmed that they were aware of the plan to launch the webpage tomorrow.

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: 2020-04-21 18:56
To: [REDACTED]
Cc: [REDACTED]
Subject: FOR YOUR INFORMATION: PSPC webpage on Supplying the Canadian healthcare sector in response to COVID-19

[REDACTED]

Attached for your information is a new webpage that PSPC intends to post in the next day or two to share information on orders and receipt of PPE and medical supplies. Minister Anand requested that this information be posted and her office has approved the attached version. PSPC intends to publish it in the next day or two. I have received feedback from [REDACTED]—notably a suggestion to remove the first two notes after the chart—which I will be sharing with PSPC. If you or my colleagues have any comments, I can pass them along to PSPC.

[REDACTED]

[REDACTED]

Supplying the Canadian healthcare sector in response to COVID-19

The Government of Canada is taking a whole-of-government approach in response to the coronavirus disease (COVID-19), including major investments in equipment and supplies for the health sector, as well as research, science and innovation.

On this page

- [Coordinated response to purchasing equipment and supplies](#)
- [Overview of purchases](#)
- [Working with Canadian companies](#)
- [Related links](#)

Coordinated response to purchasing equipment and supplies

The Government of Canada is collaborating with provinces and territories on an ongoing basis to identify their needs and purchase required equipment, supplies and services to combat COVID-19.

Canada is taking an aggressive approach to buying—especially when it comes to personal protective equipment for front-line healthcare workers. This includes:

- ordering in bulk on behalf of provinces and territories
- supplementing those orders by purchasing everything immediately available that meets requirements
- ramping up domestic manufacturing capacity, through the [Plan to Mobilize Industry to fight COVID-19](#), being led by Innovation, Science and Economic Development Canada

This is over and above efforts provinces and territories are taking to secure their own supply.

The government is also coordinating shipments of supplies from other countries. Canada has established on-the-ground support in China for transportation, receiving, storage services and customs clearances. This will be an ongoing process as orders are ready to be shipped to Canada.

Overview of purchases

This table provides an overview of the Government of Canada's purchases of selected personal protective equipment for front-line healthcare workers and medical supplies. It is updated daily to reflect the status of purchases.

“Quantities received” includes products that have been delivered to Public Health Agency of Canada for quality testing and further distribution to provinces and territories.

Items ordered and received (information as of April 20, 2020)

Item	Quantities ordered	Quantities received (subject to testing and inventory)
Face shields	17,000,000	Deliveries anticipated to start week of April 20
Gowns	105,046,000	Deliveries anticipated to start week of April 20
Hand sanitizer	79,735,284 units (20,411,536 litres)	22,040 units (XX litres)
Nitrile gloves (pairs)	905,543,980	12,280,525
N95 respirators	166,424,080	5,342,940
Surgical masks	333,500,000	17,978,000
Ventilators	32,070	Deliveries anticipated to start week of April 20
Vinyl gloves (pairs)	1,400,000	1,035,000

Notes

1. These supplies were ordered on behalf of the Public Health Agency of Canada, for distribution to participating provinces and territories, as part of bulk and proactive purchases that began in January 2020. These are supplementary to the existing National Emergency Strategic Stockpile, as well as to the stocks of supplies that exist in, and are being procured directly by, the provinces and territories.
2. While some contracts are being fulfilled with products on hand, many are being fulfilled on a regular and ongoing basis as additional products are manufactured by suppliers.

Over the coming weeks, some companies that required time to scale up their operations will begin delivering supplies on a regular basis.

3. Given the high global demand for these goods, there is a possibility that not all contracts will be entirely fulfilled. This has been taken into consideration in the procurement approach, and additional steps are being taken to meet our goal of having sufficient supply to exceed demand.

Working with Canadian companies

Public Services and Procurement Canada (PSPC), in collaboration with the Public Health Agency of Canada and Innovation, Science and Economic Development Canada, is exploring all options for securing the necessary equipment and supplies to fight COVID-19, including new and existing sources of supply—both here at home and internationally.

Below are examples of how domestic suppliers are stepping up to support the effort.

Bauer (Blainville, Quebec)

Bauer has shifted its hockey skates production lines to make face shields for front-line medical staff. The Government of Canada has signed an agreement to receive hundreds of thousands of face shields from Bauer.

Fluid Energy Group (Calgary, Alberta)

The Government of Canada has signed a contract with Fluid Energy Group for millions of litres of hand sanitizer to support the COVID-19 response.

Irving Oil (Saint John, New Brunswick)

Irving Oil has re-tooled its production line to produce much-needed hand sanitizer. The Government of Canada has signed a contract with Irving to provide hundreds of thousands of litres of hand sanitizer, with delivery already underway.

Made-in-Canada ventilators

The Government of Canada has signed agreements with Thornhill Medical, CAE, Starfish and Ventilators for Canadians to provide more than 30,000 made-in-Canada ventilators.

Related links

- [Calling all suppliers: Help Canada combat coronavirus disease \(COVID-19\)](#)
- [Interim order respecting the importation and sale of medical devices for use in relation to COVID-19](#)
- [Call to action: Canadian manufacturers needed to help combat COVID-19](#)

[REDACTED])

From: [REDACTED]
Sent: 2020-04-23 6:53 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: (PHAC/ASPC)
RE: NESS

we haven't received any RFA for Ontario

----- Original message -----

From: [REDACTED]
Date: 2020-04-23 18:34 (GMT-05:00)
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: Re: NESS

Thanks [REDACTED]

Also - I heard from PMO that Ontario says they are about to run out of PPE. Did we get an RFA? We will likely be asked

[REDACTED]

On Apr 23, 2020, at 6:33 PM, [REDACTED] wrote:

here are the amounts in the NESS

Hi [REDACTED]

The NESS stockpiles hundreds of stockpile items including:

- medical equipment and supplies such as ventilators, x-ray machines
- mini-clinics for triage and minor treatment
- personal protective equipment including masks, gloves and gowns
- pharmaceuticals, such as antibiotics, antivirals and medical countermeasures against chemical, biological and radio-nuclear events [REDACTED]
- social service supplies, such as beds, towels, blankets, generators, pillows

As of April 22, 2020, NESS holds the following quantities of key PPE and equipment that are most relevant for the COVID-19 response:

Asset Category	Item	Quantity
Personal Protective Equipment*	N95 respirators	[REDACTED]
	KN95 masks	
	Surgical / procedure masks	
	Face shields	
	Gowns	
	Nitrile gloves (pairs)	
Medical Equipment	Ventilators**	[REDACTED]
	Mini Clinics	

*Shipments of products ordered and requests for assistance are processed daily so NESS stockpile levels constantly fluctuate

** NESS also stockpiles consumables and small quantities of pharmaceuticals [REDACTED]

Hi both,

I'm being asked what is in the NESS from the centre. Do we have that info readily available?

[REDACTED]

From: [REDACTED] PHAC/ASPC)
Sent: 2020-04-24 7:55 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: NESS speaking points
Attachments: NESS Budget and Expenditures - 10 Year.pdf

Attached are the detailed and reconciled expenditures and budgets for NESS for the last 10 years. My sense is that we should use the second table to explain how NESS money is allocated. The budget table is extremely busy and useful for us accountants but more difficult to explain. The second table simply presents the expenditures by category over the same period and places less focus on reconciling expenditures against budgets.

Please note there is a significant variance from year to year and most of that is based on spending on medical countermeasures (MCM). I have asked my team to create a third table below the second that would break this down and help explain major variances against our expenditures. This would basically use the list of MCM's from the first table and would break out things such as Ebola, smallpox, anthrax etc.. by year below. I am not sure if we want to include the source of funding for these, it is either via budget decisions or internal reallocations in each of those years.

[REDACTED]
Public Health Agency of Canada / Agence de la sante publique du Canada

Tel: [REDACTED]
Cell: [REDACTED]

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-04-23 2:04 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: NESS speaking points

Thanks everyone for their contributions. [REDACTED] is going to share these notes with the media relations folks.

[REDACTED] once you have numbers you are confident with, please advise.

[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED] (PHAC/ASPC)

Sent: 2020-04-23 1:15 PM

To: [REDACTED]
[REDACTED]

Cc: [REDACTED]
[REDACTED]
[REDACTED] >

Subject: RE: NESS speaking points

[REDACTED] here are the updated speaking notes, including the Ebola example. Work is still underway to reconcile the numbers to ensure what we have is correct before it is released publicly.

- The National Emergency Strategic Stockpile (NESS) provides health emergency assets for surge capacity when local and Provincial/Territorial resources have been exhausted.
- The NESS is used to store critical life saving medical countermeasures (vaccines and other therapies) in response to potential biological threats, as well as other consumables such as generators, cots, blankets and mini clinics which can be drawn upon by the federal government and/or provinces. The NESS has historically only carried small amounts of PPE, given all jurisdictions have traditionally sourced PPE directly from known suppliers.
- Since 2012-13, the annual base funding for the NESS has remained stable and been approximately \$3 million a year. This funding is included in the overall funding identified for the Health security infrastructure program area reported in Public Accounts.
- Additional funding has historically been provided to the NESS through internal reallocation decisions and incremental funding decisions where PHAC has received funding linked to specific purchases such as for a three-year investment in smallpox vaccine that began in 2013-14 and Ebola vaccine in 2014-15.
- A decision was made in 2013 to modernize and optimize warehouse presence. In 2012, NESS supplies were held in 11 warehouses in 9 locations.
- As of 2019, all NESS holdings were consolidated in 8 warehouses in 6 locations. In March 2020, an additional warehouse was leased in Ottawa, given the volume of supplies being donated to and purchased by the NESS as part of the federal government's COVID19 response.

[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED] >

Sent: 2020-04-23 11:13 AM

To: [REDACTED] >

Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Subject: Re: NESS speaking points

Few comments. Can we just add examples -

█ I need a document that shows what we've done in the past four-five years re incremental investments in the Ness. Can we also show the warehouse cost savings were reinvested in NESS.

This answer should be used to deal with the media responses and given ASAP to █

The National Emergency Strategic Stockpile (NESS) provides health emergency assets for surge capacity when local and Provincial/Territorial resources have been exhausted.

- The NESS is used to store critical life saving medical countermeasures (vaccines and other therapies) in response to potential biological threats, as well as other consumables such as generators, cots, blankets and mini clinics which can be drawn upon by the federal government and/or provinces. The NESS has historically only carried small amounts of PPE, given all jurisdictions have traditionally sourced PPE directly from known suppliers.
- Since 2012-13, the annual base funding for the NESS has remained stable and been approximately \$3 million a year. This funding is included in the overall funding identified for the Health security infrastructure program area reported in Public Accounts.
- Additional funding has historically been provided to the NESS through annual internal reallocation decisions and incremental funding decisions where PHAC has received funding linked to specific purchases (example??)
- A Decision was made in 2013 to modernize and optimize warehouse presence. In 2012, NESS supplies were held in 11 warehouses in x locations.
- As of 2019, all NESS holdings were consolidated in 8 warehouses in 6 locations. In March 2020, an additional warehouse was leased in Ottawa, given the volume of supplies being donated to and purchased by the NESS as part of the federal government's COVID19 response.

Sent from my iPhone

On Apr 23, 2020, at 10:56 AM, █

█ wrote:

- The National Emergency Strategic Stockpile (NESS) provides health emergency assets for surge capacity when local and Provincial/Territorial resources have been exhausted.
- The NESS is used to store critical life saving medical countermeasures (vaccines and other therapies) in response to potentially biological threats, as well as other consumables such as generators, cots, blankets and mini clinics which can be drawn upon by the federal government and/or provinces.
- Since 2012-13, the annual base funding for the NESS is approximately \$3 million a year (included in the overall funding identified for the Health security infrastructure program area).
- Additional funding has been provided to the NESS through internal reallocations and incremental funding decisions for specific purchases.

- A Decision was made in 2013 to modernize and optimize warehouse presence. In 2012, NESS supplies were held in 11 warehouses.
- As of 2019, the NESS consolidated its holdings into 8 warehouses in 6 locations. In March 2020, an additional warehouse was leased in Ottawa, given the volume of supplies being donated to and purchase by the NESS.
- NESS holdings have evolved over the years in response to emerging threats such that the federal stockpile is now the sole provider of niche assets in Canada's emergency management system.
- Historically the NESS has held a modest supply of personal protective equipment and as a back stop to provinces all of whom purchase these types of supplies directly from known suppliers. With COVID19, the federal government began to proactively procure supplies in response to requests from provinces and territories to bulk purchase supplies.

FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts

APRIL 28, 2020 7:00 ET

PPE Distribution Update

- Received first shipments of face shields (Bauer and Toronto Stamp), approximately 114K; pending inventory and testing.
- Of the 7.950M priMED surgical masks received April 22, [REDACTED] are being shipped to PTs over next couple days, and [REDACTED] allocated to NESS.
- Next shipment of masks ([REDACTED]), type and quantity to be confirmed, [REDACTED]
- Stryker Sterilization units in inventory (on site at supplier for direct shipping to PTs) to be delivered and installed over the coming month
 - Two units delivered to PEI; installation in the process.
 - Several units are on way to Newfoundland and Labrador.
 - Distribution plan for remaining units being finalized as confirmation received from PTs on final site locations.

Procured Equipment	# Received	# quarantined for quality verification	# for allocation to P/Ts + NESS & ISC (80/20)*
N95 Masks	523,280		
KN95 Masks	6,729,860	5,704,860	
Surgical Masks	25,889,450	1,256,250**	
Nitrile Gloves	12,779,975	1,605,000	
Coveralls	65,961	64,440	
Face Shields	114,600	114,600	

*20% allocation = 18% NESS + 2% ISC

**Slight error in reporting on surgical masks has been corrected – number includes the full April 1 shipment, with the total allocated updated.

Requests for Assistance (RFAs) to NESS (no change)

- 38 received from the P/Ts; 37 responded to.
- ON RFA received April 25; under assessment.
- Quantity deployed does not account for:
 - RFA from PHAC regions and OGD (e.g., ISC; Corrections Canada);
 - Expired stock released to the P/Ts (e.g., expired N95 masks); and,
 - Quantities of PPE deployed to restock mini clinics.

Equipment	NESS Inventory* (as of April 27, 2020)	Quantity deployed in response to RFAs since March 18, 2020
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects both incoming supplies (e.g., 18% NESS + 2% ISC allocation from bulk procurement), and outgoing deployment (e.g., RFA).



FOR/POUR INFORMATION

20-105525-298

MEMORANDUM TO THE MINISTER OF HEALTH Amazon Contract for Distribution of Medical Supplies

- As a result of the COVID-19 pandemic, there is intense global competition for Personal Protective Equipment (PPE) and other medical supplies, including latex gloves, N95 masks, and testing kits. These supplies are vital to the safety of Canadian health care workers.
- Effective and timely distribution of these supplies is critical; however, the management of the logistics in distributing this unprecedented level of incoming volume (e.g., over \$2 billion worth of PPE and other medical supplies) was outside of the existing capacities of the National Emergency Strategic Stockpile program. To that end, PHAC, PSPC and DND consulted with a number of service providers regarding potential distribution solutions and the resulting contract was awarded to Amazon. The contract was signed on April 1, 2020 by officials at PSPC and publically announced on April 3, 2020.
- The Amazon contract is valued up to \$5M, and is primarily for the use of their interface to push out the allocation of supplies to provinces and territories. Amazon is working with Canada Post and Purolator for the distribution of these supplies to “the last mile”.

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FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 5, 2020 07:00 ET
PPE Distribution Update

- **Next shipment from China (Primed) to arrive May 5 (22h45); anticipating delivery of masks, type and quantity to be confirmed.**

Procured Equipment	# Received	# quarantined for quality verification*	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks	584,080	0		
KN95 Masks	10,872,830	8,206,830		1,800,000
Surgical Masks	31,912,450	1,279,250		
Nitrile Gloves	11,688,075	500,000		
Coveralls	65,961	64,440		
Face Shields	2,026,304	234,600		
Gowns	170,020	170,020		

*Number quarantined for quality verification includes both supplies pending testing and lots not meeting technical specifications for healthcare settings.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) to NESS

- **42 received from the P/Ts; 39 responded to.**
- **Additional MB RFA received May 4 for Mini-Clinic; pending assessment.**
- NU RFA received April 30; pending assessment.
- MB RFA received May 1; pending assessment.
- Quantity deployed does not account for:
 - RFA from PHAC regions and OGD (e.g., ISC; Corrections Canada);
 - Expired stock released to the P/Ts (e.g., expired N95 masks); and,
 - Quantities of PPE deployed to restock mini clinics.

Equipment	NESS Inventory* (as of May 3, 2020)	Quantity deployed in response to RFAs since March 18, 2020
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation (e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

Ventilator Distribution (RFAs and proactive deployment to date) (no change)

FOR PHAC DISTRIBUTION ONLY

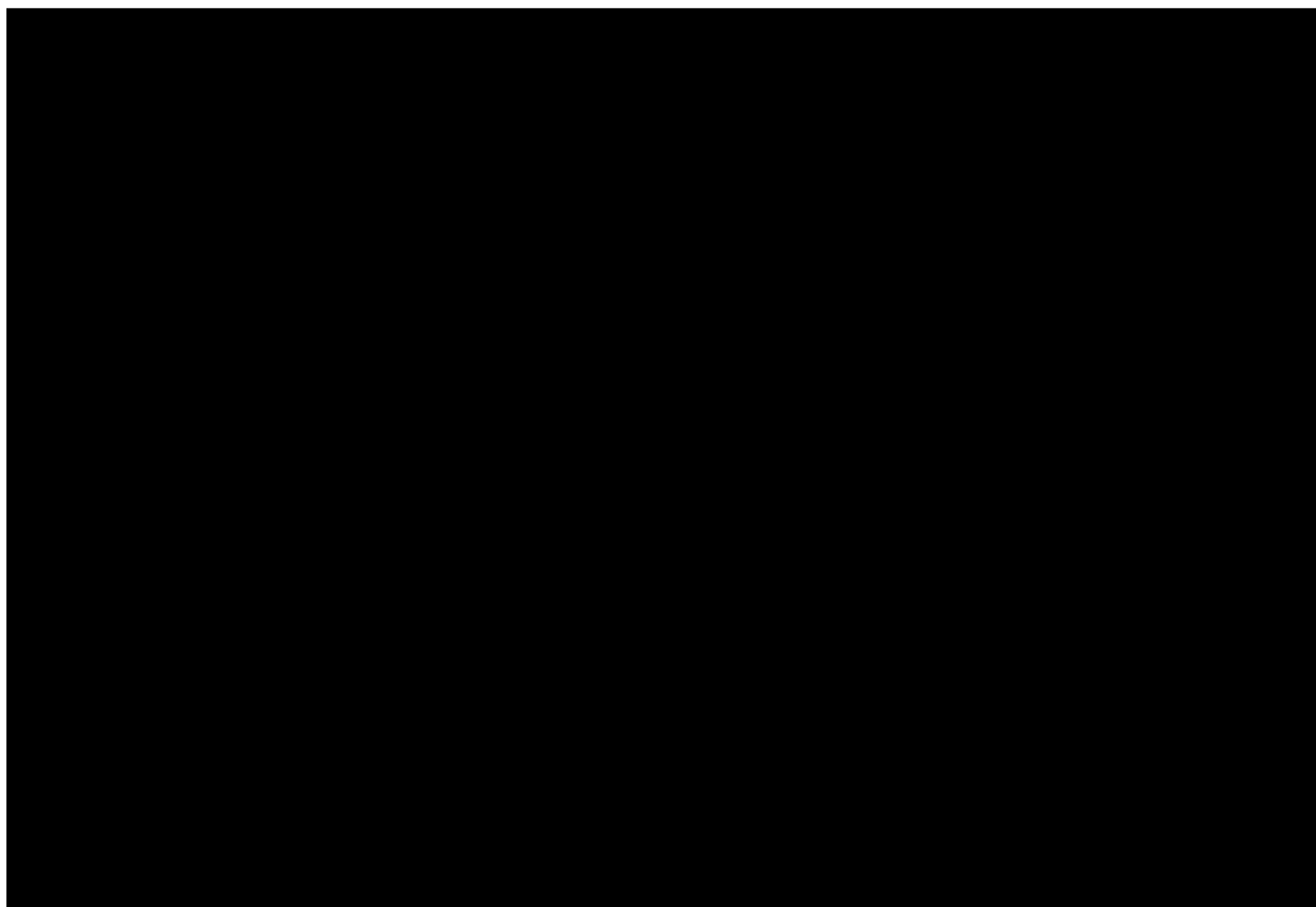
Donations

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**
N95 Masks	142,336	51,376	90,960
KN95 Masks	491,200	144,500	346,700
Surgical Masks	518,350	20,450	497,900
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776
Nitrile Gloves	472,484	82,034	390,450

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross.

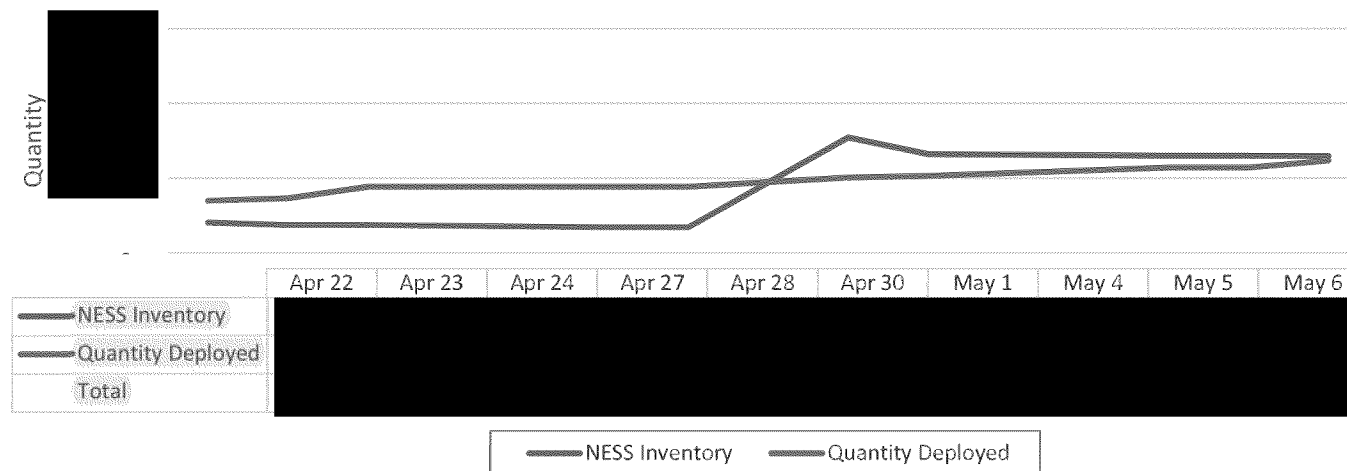
In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

RFA Surge Capacity (no change)

Overview of N95 Masks from the Ministerial QUICK FACTS briefing

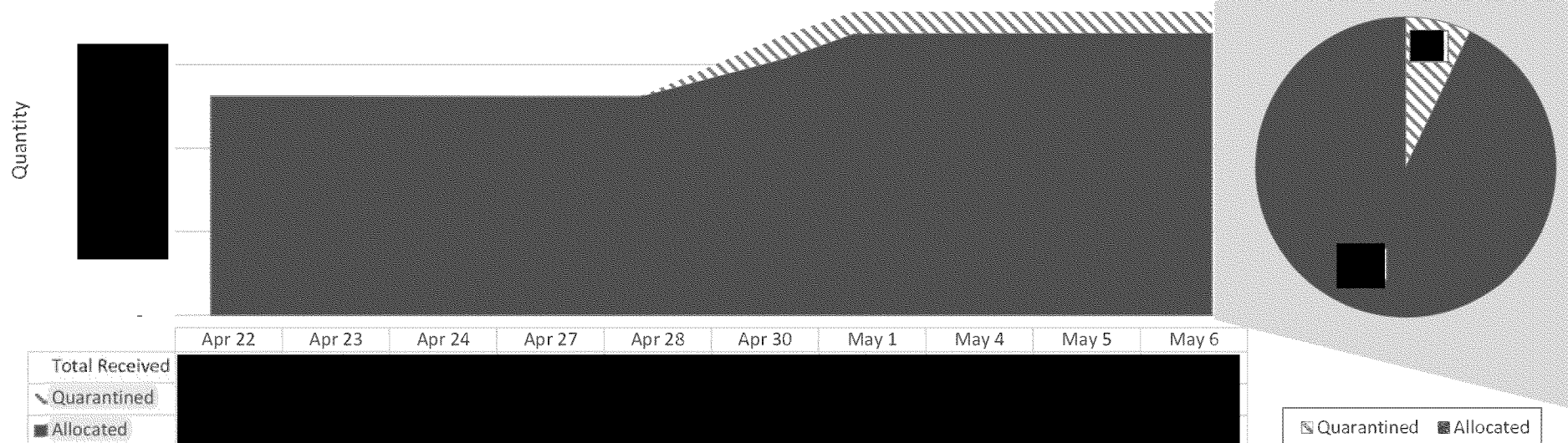
Figure 1: Stockpile Snap Shot



Notes

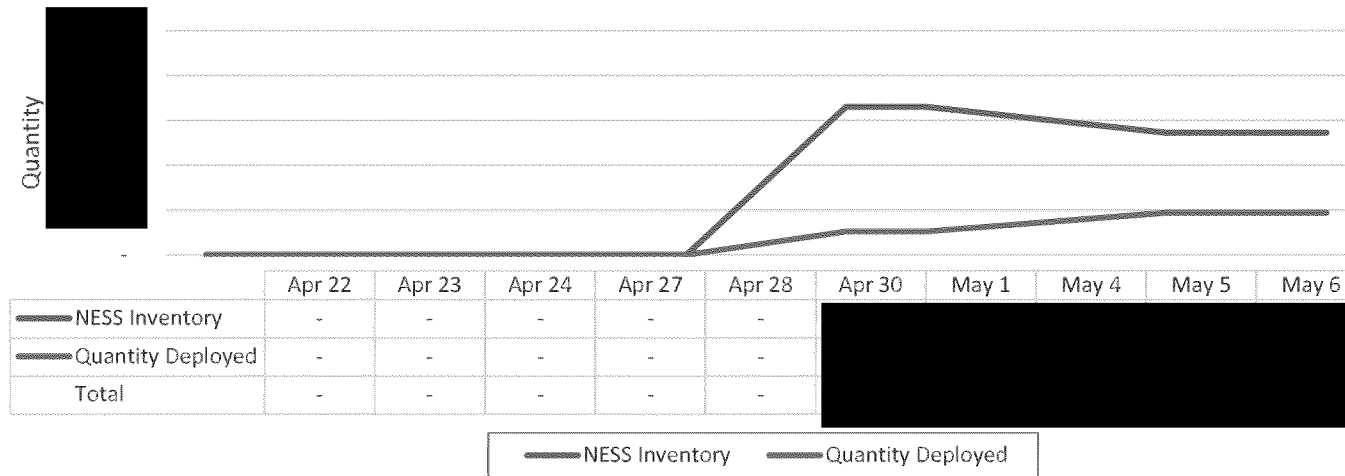
- Ministerial **QUICK FACTS** are used to generate this report
- **Figure 1** compares the quantity of goods in the NESS inventory and the amount deployed. The total here includes goods procured, goods donated, and goods already on hand with the NESS.
- **Figure 2** is on the amount of goods received and how many remain in quarantine for quality verification purposes.

Figure 2: Goods Allocated vs Goods Quarantined



Overview of KN95 Masks from the Ministerial QUICK FACTS briefing

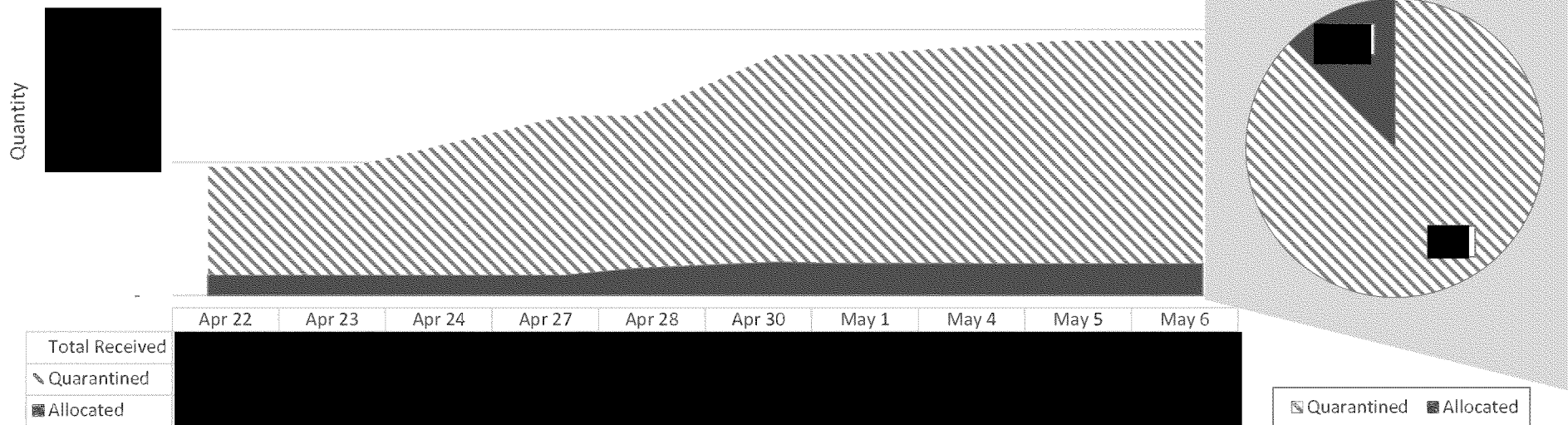
Figure 1: Stockpile Snap Shot



Notes

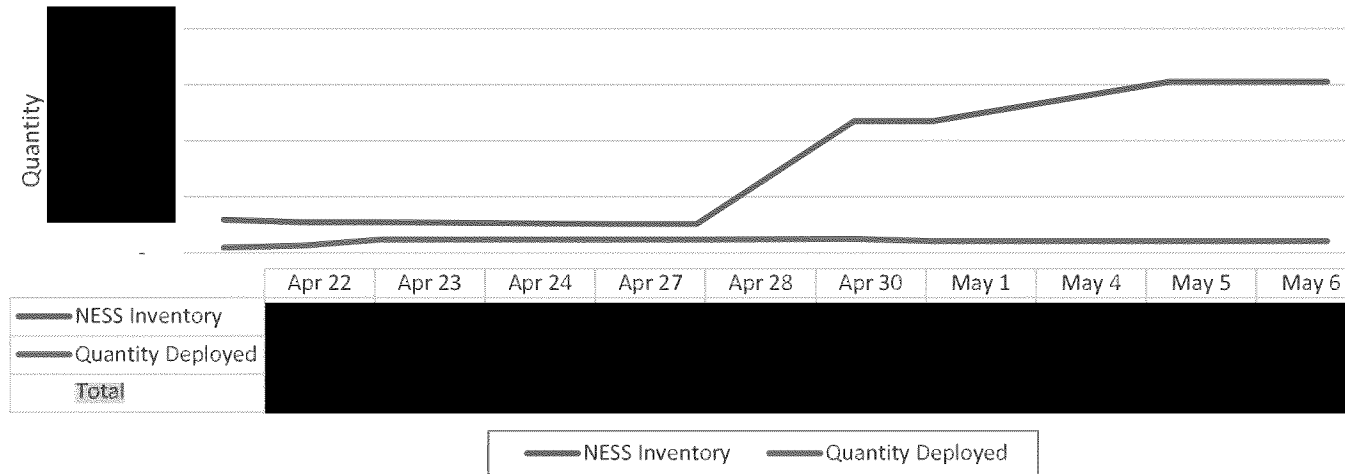
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Figure 2: Goods Allocated vs Goods Quarantined



Overview of Surgical Masks from the Ministerial QUICK FACTS briefing

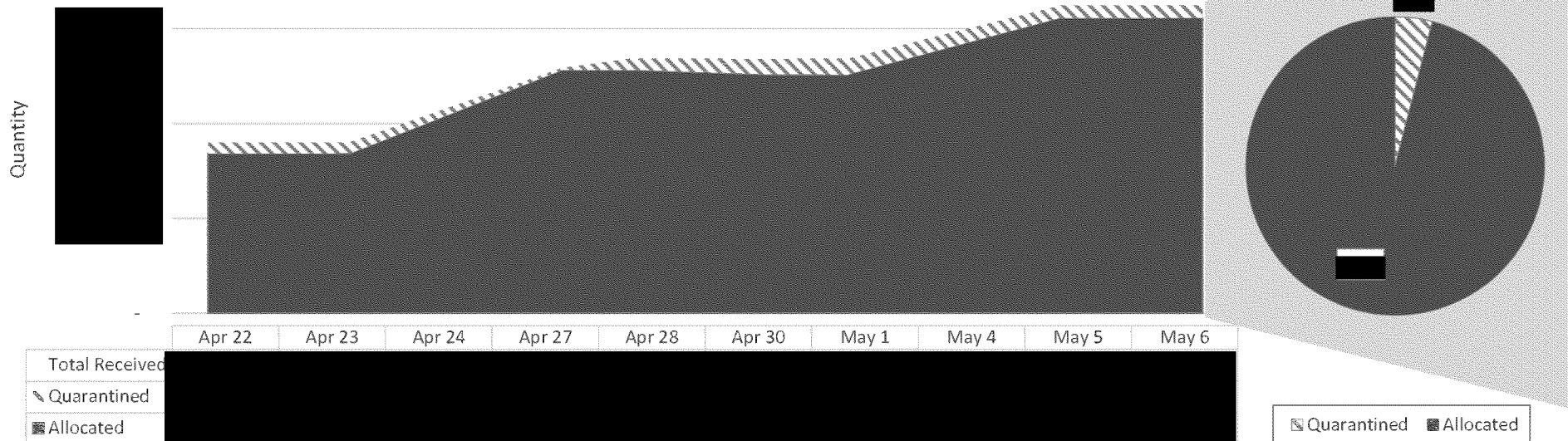
Figure 1: Stockpile Snap Shot



Notes

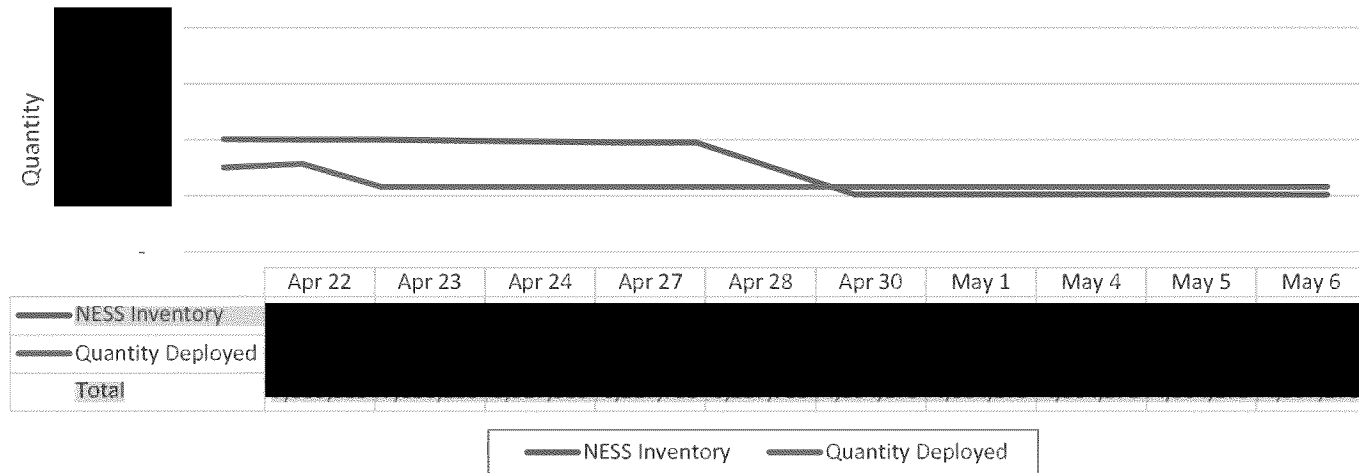
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Figure 2: Goods Allocated vs Goods Quarantined



Overview of Nitrile Gloves from the Ministerial QUICK FACTS briefing

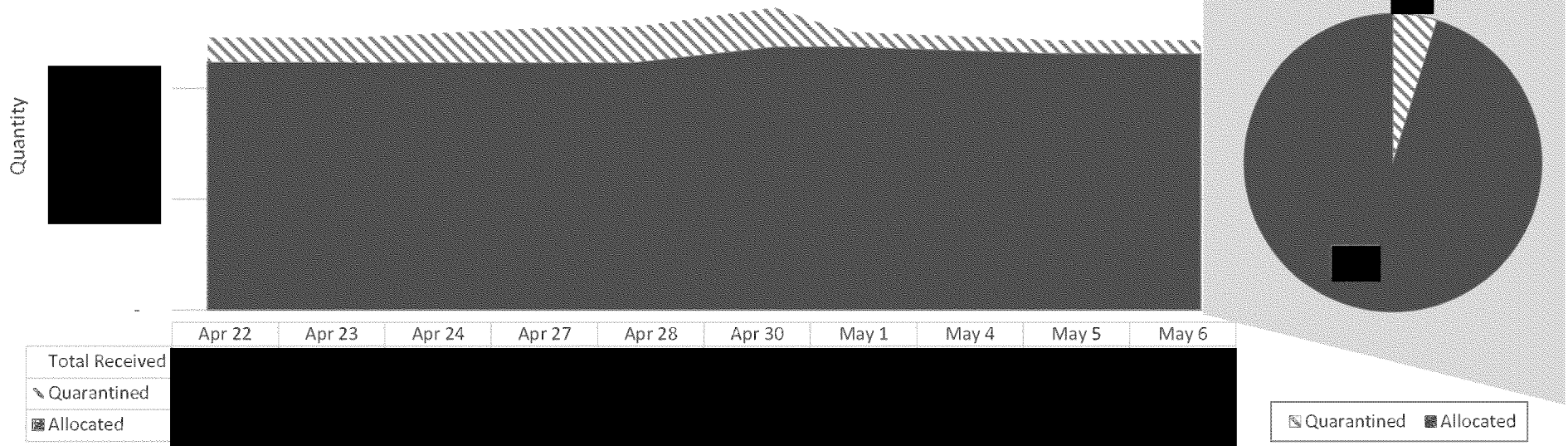
Figure 1: Stockpile Snap Shot



Notes

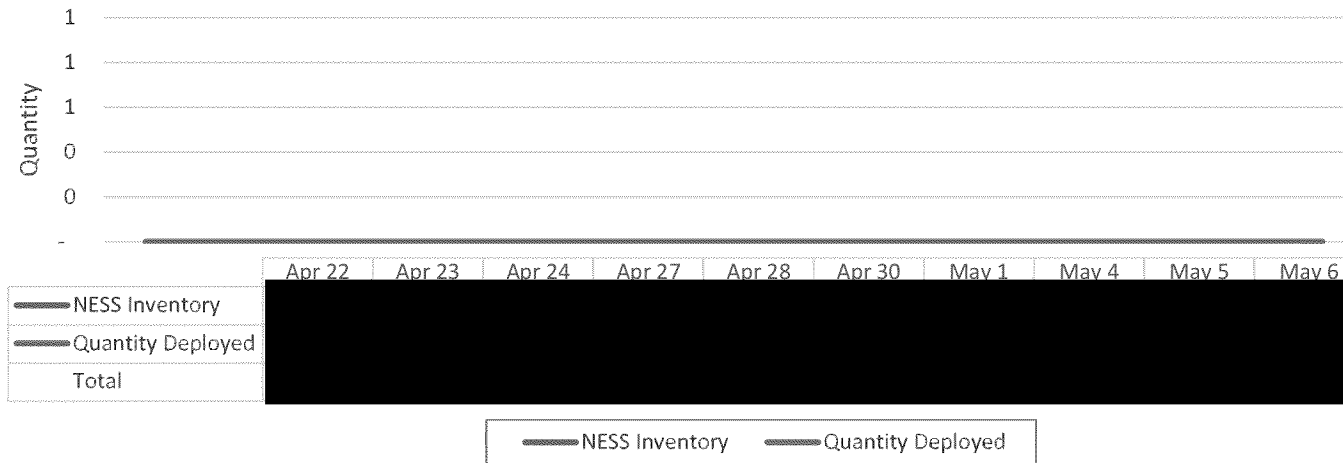
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Figure 2: Goods Allocated vs Goods Quarantined



Overview of Coveralls from the Ministerial QUICK FACTS briefing

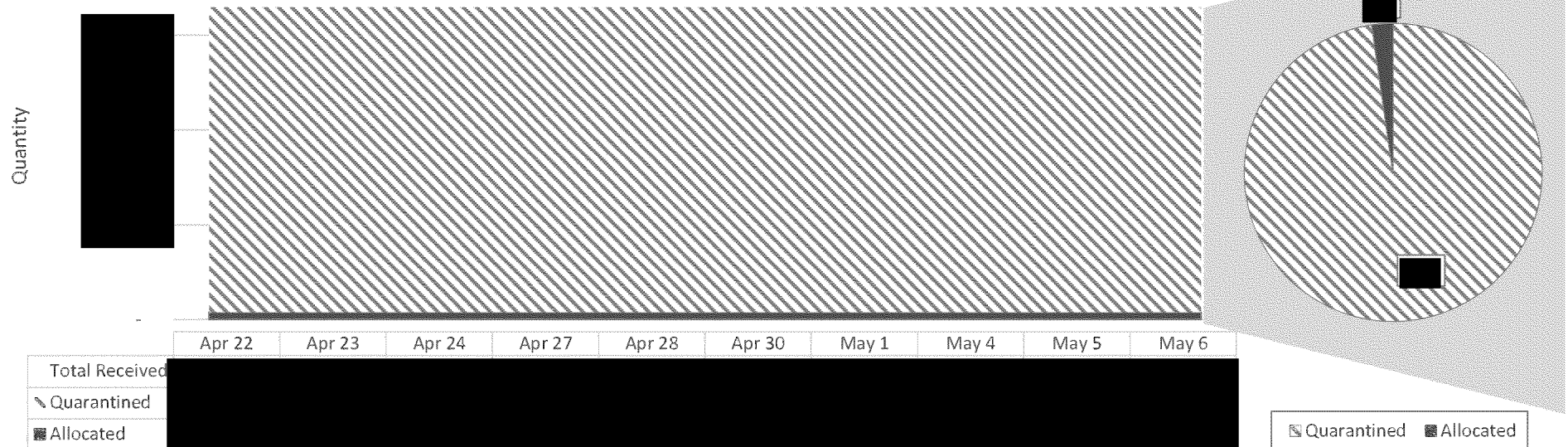
Figure 1: Stockpile Snap Shot



Notes

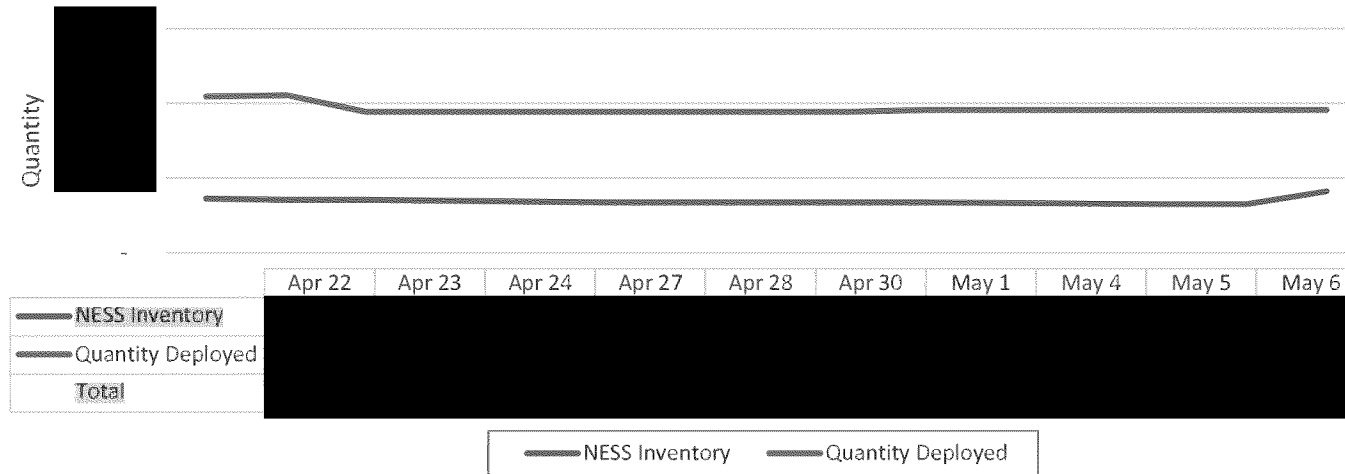
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Figure 2: Goods Allocated vs Goods Quarantined



Overview of Face Shields from the Ministerial QUICK FACTS briefing

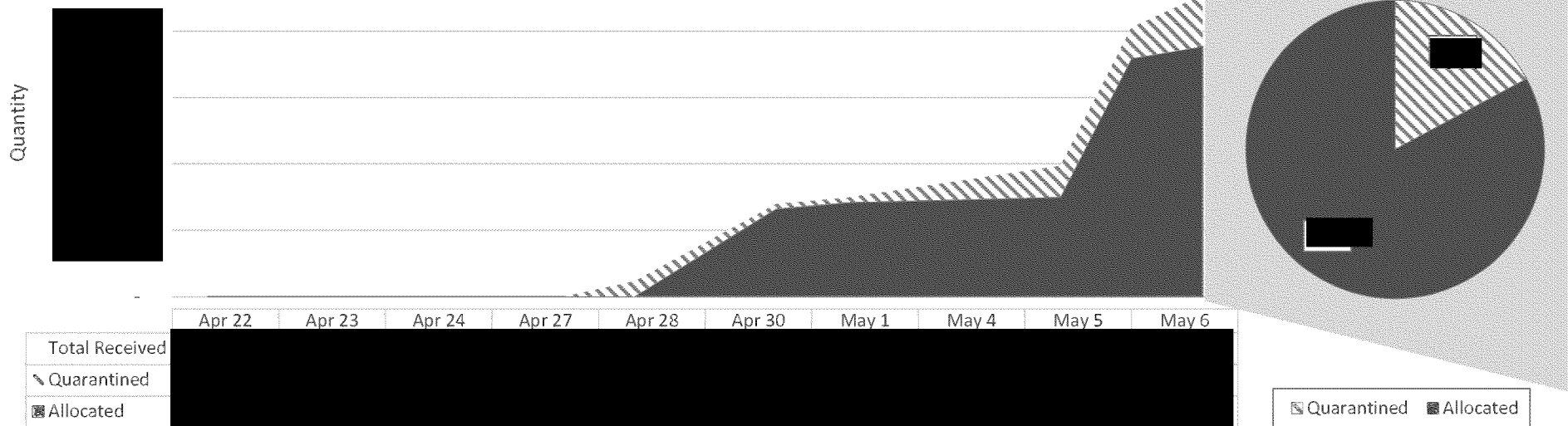
Figure 1: Stockpile Snap Shot



Notes

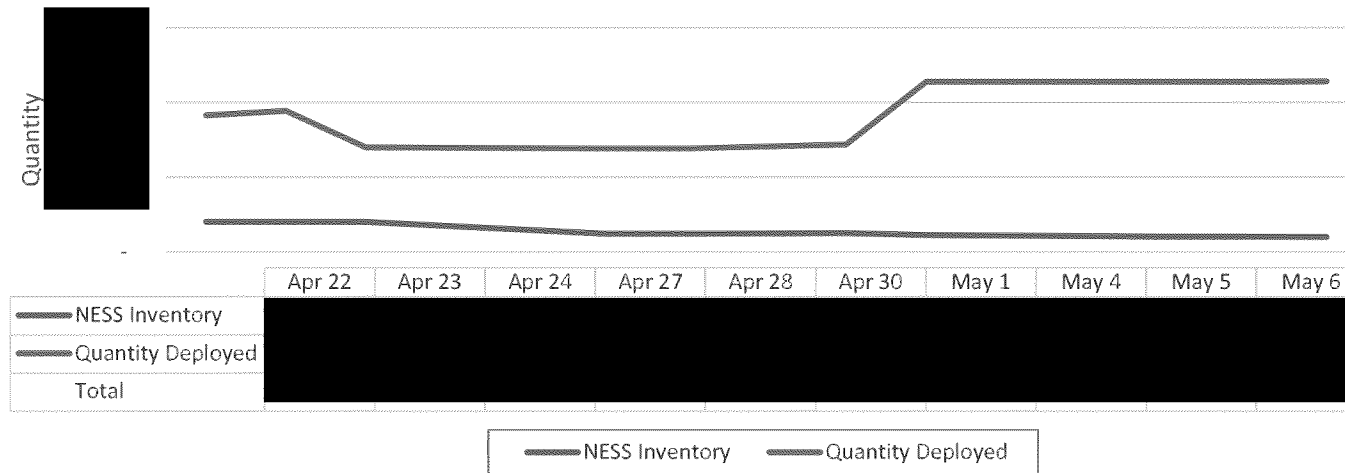
- Ministerial **QUICK FACTS** are used to generate this report
- Figure 1** compares the quantity of goods in the NESS inventory and the amount deployed. The total here includes goods procured, goods donated, and goods already on hand with the NESS.
- Figure 2** is on the amount of goods received and how many remain in quarantine for quality verification purposes.

Figure 2: Goods Allocated vs Goods Quarantined



Overview of Gowns from the Ministerial QUICK FACTS briefing

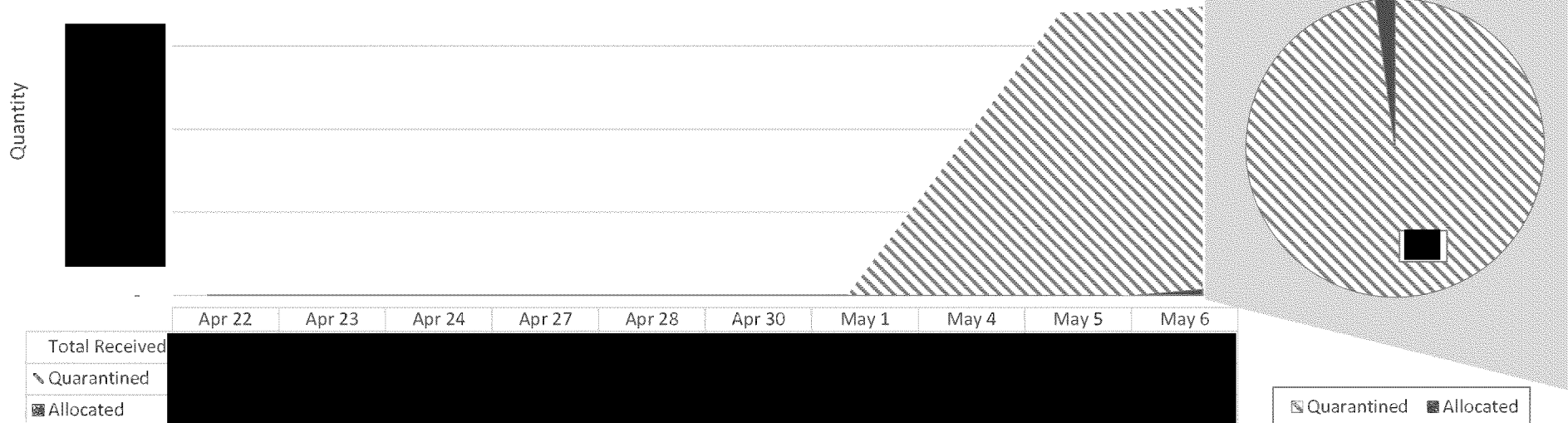
Figure 1: Stockpile Snap Shot



Notes

- Ministerial **QUICK FACTS** are used to generate this report
- **Figure 1** compares the quantity of goods in the NESS inventory and the amount deployed. The total here includes goods procured, goods donated, and goods already on hand with the NESS.
- **Figure 2** is on the amount of goods received and how many remain in quarantine for quality verification purposes.

Figure 2: Goods Allocated vs Goods Quarantined



Proposed response:

Below is the response we provided on the NESS question a few weeks ago, I think this is valid for this question as it is premised on the same issue that the NESS and response functions have been reduced under the current government:

The core operating budget associated with our health security response including the NESS has been relatively consistent over the last several years. It should be noted that on top of the NESS core operational budget, there have consistently been investments made for particular initiatives, stocks of supplies and medical countermeasures, this was the case in 2013-14 where one time investments of \$20M were made. Over the last ten years these investments have varied year over year however they have amounted to close to \$80 million, nearly \$60M of this in the last 5 years ended March 31, 2020.

7a - National Emergency Stockpile System

MANDATE

- The fundamental assumption underpinning emergency management is that provincial, territorial and local governments are prepared to a reasonable extent for the most common emergencies.
- NESS contains supplies that provinces and territories can request in emergencies, such as infectious disease outbreaks, natural disasters and other public health events, when their own resources have been exhausted. These items include: medical equipment and supplies; pharmaceuticals; and social service supplies, such as beds and blankets.
- The NESS is also the sole provider of certain assets required for rare public health emergencies, for example, costly and rarely used vaccines or antidotes.

FUNDING

- Since 2012-13, the NESS budget, including salaries and operating, has consistently been around \$3 million annually.
- On top of the NESS core operational budget, there have been investments made for particular initiatives, stocks of supplies and medical countermeasures, such as a three-year investment in smallpox vaccine that began in 2013-14 and Ebola vaccine in 2014-15. Over the last 10 years, these investments have varied year over year, and have amounted to over \$79 million.

MODERNIZATION

- Since its 2011 evaluation, the NESS has evolved to better align with the ever-changing risk environment, and is investing in strategic assets, such as medical counter-measures, to enhance the Agency’s ability to support surge requests during health emergencies.
- The acquisition of NESS assets is guided by the evolving threat and risk landscape of emergency preparedness and response. The focus of the NESS is on its role as a primary supplier of medical countermeasures that are not normally stockpiled by provinces and territories. It also holds a supply of

KEY FACTS AND FIGURES

- The NESS has a core operational budget of about \$3 million.
- Over the last 10 years, there have been additional investments made to the NESS for specific purchases, amounting to over \$79 million.
- PHAC does not publicly disclose specifics related to NESS holdings for national security reasons.
- On March 9, the Prime Minister and Deputy Prime Minister wrote to all Premiers announcing their intention to lead the bulk procurement of healthcare supplies to respond to the COVID-19 outbreak.
- As of 2019, all NESS holdings were consolidated into eight warehouses in six cities. An additional warehouse was leased in early 2020 to support COVID-19 bulk procurement efforts.

7a - National Emergency Stockpile System

antivirals to support P/Ts with surge capacity in the event of an influenza pandemic.

- A decision was made in 2013 to modernize and optimize our warehouse national footprint.

WAREHOUSE FOOTPRINT

- NESS facilities consist of a central depot in the National Capital Region and warehouses strategically located across Canada.
- In 2012, NESS supplies were held in 11 warehouses in 9 cities. In 2019, holdings were consolidated into 8 warehouses in 6 cities.
- Since the creation of the NESS, Canada's transportation infrastructure has improved, which made it easier to maintain the same 24-hour delivery target with fewer warehouses. An independent assessment indicated that the six strategic locations would maintain the NESS' role as timely surge support.
- In March 2020, an additional warehouse was leased in Ottawa, given the volume of supplies being donated to and purchased by the NESS as part of the federal government's COVID-19 response.
- For security reasons, we don't disclose specific locations.

WAREHOUSE CLOSURES / DISPOSAL OF ASSETS

- When warehouses were closed, usable supplies were moved to other locations, while obsolete and expired supplies were disposed of according to Treasury Board policy. For example, outdated stock, such as dressings, sponges, IV giving sets and pads, were assessed as no longer appropriate for distribution or donation and were disposed of. Many of these products were over 20 years old.
- Items retained included cots and blankets, which continue to be used when requested to support provincial or territorial responses to health emergencies. The NESS kept one entire field hospital as an artifact.

REGINA

- In 2019, we closed the warehouse in Regina. Approximately 2 million expired masks and 440,000 expired gloves were disposed of. The masks and gloves had been purchased in 2009 and had passed the limit of five years for their use, as recommended by the manufacturer.

7a - National Emergency Stockpile System

DONATION / DEPLOYMENT OF ASSETS

- While the World Health Organization allows for the donation of personal protective equipment, it requires that any equipment be supported by the manufacturer for a minimum of two years. What this means is that equipment must be donated two years before its expiration.
- PHAC follows strict guidelines when deploying materials. If the Agency cannot account for the quality of material, it will not deploy it. Even under the current circumstances of the COVID-19 pandemic, where Health Canada guidance allows for the deployment of expired personal protective equipment, the Agency would examine very closely any equipment that is five years old or more. This is in accordance with manufacturers' guidelines.
- Over the past decade, the NESS has deployed assets to assist with a range of events and emergencies, including the 2010 Olympics, 2013 Alberta Floods, Operation Syrian Refugees, the Fort McMurray wildfires, and the 2018 G7 Summit in Quebec.
- The NESS has also made international donations in support of the West African Ebola Outbreak, Hurricane Harvey, and to China during the current COVID-19 outbreak.

INVENTORY MANAGEMENT / DISPOSAL OF ASSETS

- NESS reviews its stock regularly. Expired, obsolete, or unusable items are disposed of as per Treasury Board policy.
- Most supplies have a specified shelf life, after which they should be discarded as part of normal life cycle management.
- Following a 2010 Audit, PHAC implemented an electronic inventory system to track the inventory of the National Emergency Strategic Stockpile (NESS). The electronic NESS inventory system (SAGE) was put in place in 2013.
- PHAC continues to explore ways to optimize product life cycle management in order to minimize the need to dispose of expired stock, while continuing to prioritize end-user safety.

PPE INVENTORY

- PHAC does not disclose specifics related to NESS holdings, such as the amounts of PPE.
- PHAC works closely with provinces and territories to share information on PPE holdings to inform operational discussions and planning. Surveys have been conducted to enable information-sharing. The results are not publicly available.

7a - National Emergency Stockpile System

- Provinces and territories have an expectation that information shared through federal/provincial/territorial tables is in confidence and will not be shared without explicit permission.

COVID-19 PPE PROCUREMENT

- The Government of Canada is working closely with provinces and territories to procure the necessary health supplies to continue responding to the COVID-19 pandemic.
- The NESS was initially built on the assumption that provincial, territorial and local governments would be prepared for the most common emergencies. Consequently, it was designed to provide health emergency assets when local and provincial and territorial resources were exhausted.
- Jurisdictions have traditionally sourced Personal Protective Equipment (PPE) directly from known suppliers, and the NESS has historically only carried relatively small amounts.
- With the unprecedented nature of the current pandemic, the NESS quickly stepped into a much more active role in procurement and will continue with this expanded role as long as required.
- PHAC has worked hard to secure additional supply, including by leveraging bulk procurement mechanisms and by working with domestic suppliers to bolster production. This includes playing a coordination role and organizing the distribution of incoming shipments to the provinces and territories for their immediate health care use.
- This work is being done in collaboration with a range of federal departments, including Public Services and Procurement Canada, Health Canada, Innovation, Science and Economic Development Canada and Indigenous Services Canada, as well as provinces and territories.
- As we move forward, we will adjust, and lessons learned will inform the future of the NESS.

COVID-19 RFAs

- As of X, the NESS has responded to X requests for assistance from provinces and territories to respond to COVID-19. Items released from the NESS have included N95 masks, surgical masks, face shields, gloves, gowns and ventilators.

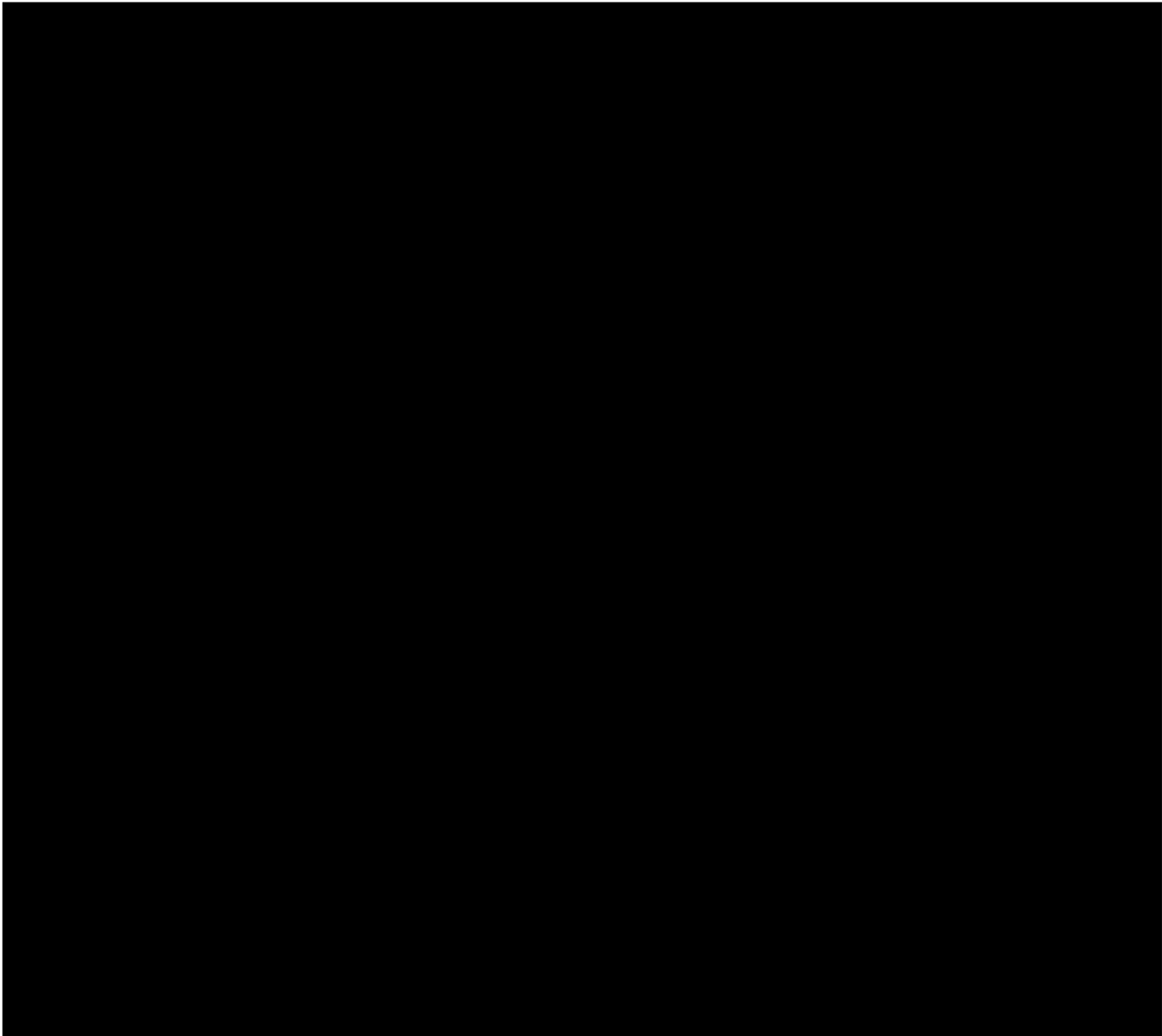
7a - National Emergency Stockpile System

DONATION TO CHINA

- In February 2020, the Government donated approximately \$0.5M of personal protective equipment to China to support their response to the COVID-19 outbreak.
- The objective of Canada’s donation was to help China contain the outbreak at its source, in an effort to prevent further international spread of the disease.

Canada’s donation included:

- 27,870 level 4 coveralls
- 50,000 face shields
- 200,000 pairs of nitrile gloves



FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 12, 2020 07:00 ET
PPE Distribution Update

- Donation of various PPE from the Government of China scheduled to arrive May 11 (22:45); as of May 12 07:15 arrival not confirmed.
 - Donation will be received by CRC; however, CRC has requested PHAC conduct quality verification and provide direction on distribution to P/Ts.
- Next shipment from China to arrive May 12; manifest to be confirmed.

Procured Equipment	# Received	# quarantined for quality verification*	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks	584,080	60,800			
KN95 Masks	10,953,850	81,020	8,062,830		1,800,000
Surgical Masks	47,669,450	16,909,000	100,750		
Nitrile Gloves	11,688,075	500,000			
Coveralls	65,961				
Face Shields	3,989,324	1,722,040			
Gowns	377,836	169,076			
Ventilators	53	53			

*Number quarantined for quality verification includes both supplies pending testing and lots not meeting technical specifications for healthcare settings.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of May 9, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

Ventilator Distribution (RFAs and proactive deployment to date) (no change)

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Donations

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	142,336	27,916	114,420	
KN95 Masks	491,550	20,350	346,700	124,500
Surgical Masks	898,350	20,450	497,900	380,000
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	472,484	82,034	390,450	

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

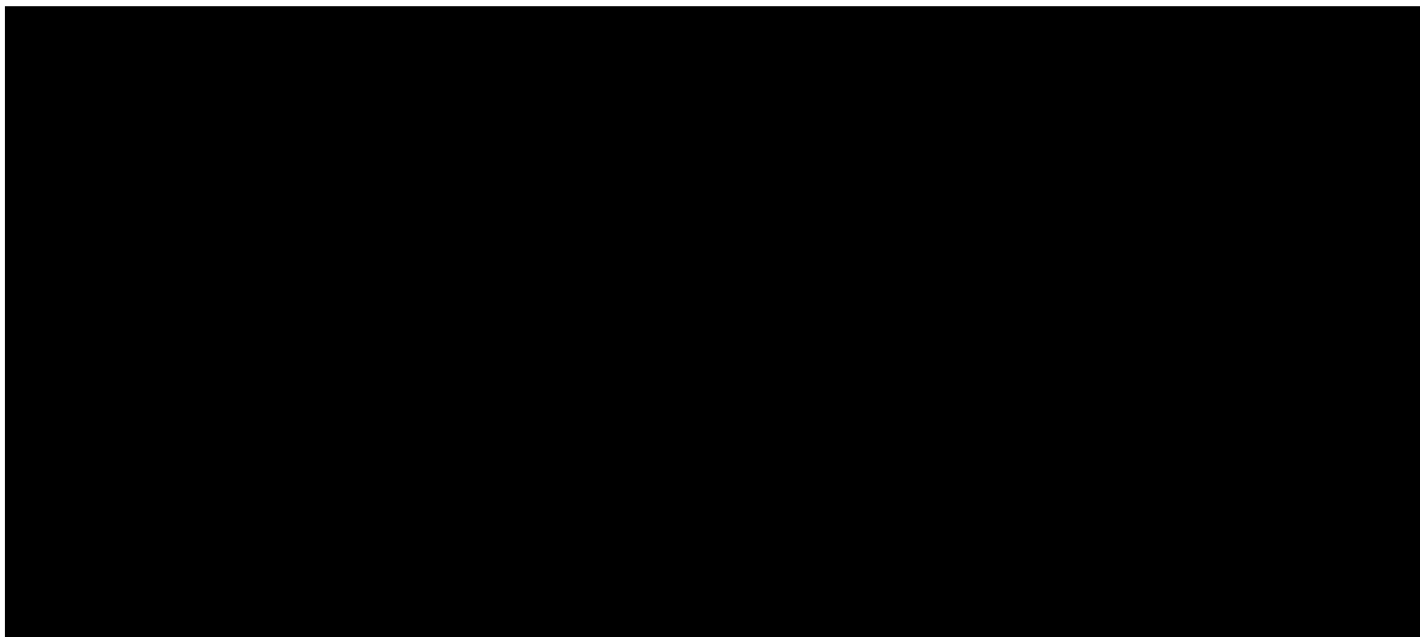
***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity

- **Request for assistance, Alberta Health (from May 14 – June 4, 2020)**
 - **Alberta is experiencing multiple outbreaks in oil camps where workers come and go from other jurisdictions, which complicate data collection from the multiple parties involved.**
 - **Alberta Health requires additional epidemiological resources for current demand; support the descriptive epidemiology and inform public health action.**

Requests for Assistance (RFAs) - NESS (no change)

- 47 received from the P/Ts; 46 responded to.
- YK received May 5 for [REDACTED] pending assessment.
 - [REDACTED] but anticipating delivery on May 15.



FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 13, 2020 07:00 ET
PPE Distribution Update

- Donation of various PPE from the Government of China arrived May 11 and received by the Canadian Red Cross; pending inventory and quality verification.
- Next shipment from China to arrive May 12 (22:45); as of May 13 07:15h not yet confirmed; anticipating delivery of surgical masks and goggles.

Procured Equipment	# Received	# quarantined for quality verification*	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks	584,080	60,800			
KN95 Masks	10,953,850	81,020	8,062,830		1,800,000
Surgical Masks	54,539,450	23,779,000	100,750		
Nitrile Gloves	11,688,075	500,000			
Coveralls	65,961				
Face Shields	4,106,464	1,839,180			
Gowns	377,836	169,076			
Ventilators	53	53			

*Number quarantined for quality verification includes both supplies pending testing and lots not meeting technical specifications for healthcare settings.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of May 12, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

Ventilator Distribution (RFAs and proactive deployment to date) (no change)

FOR PHAC DISTRIBUTION ONLY

Donations

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	142,336	27,916	114,420	
KN95 Masks	491,550	20,350	346,700	124,500
Surgical Masks	1,024,350	146,450	497,900	380,000
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	473,780	67,295	406,485	

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no change)

- Request for assistance, Alberta Health (from May 14 – June 4, 2020)
 - Alberta is experiencing multiple outbreaks in oil camps.
 - Alberta Health requires additional epidemiological resources to support descriptive epidemiology and inform public health action.

Requests for Assistance (RFAs) - NESS (no change)

- 49 received from the P/Ts; 46 responded to.
- PEI received May 11 for [REDACTED] pending shipment.
- AB received May 12 for [REDACTED]; pending assessment.
- YK RFA received May 5 for [REDACTED] pending assessment.
 - [REDACTED] but anticipating delivery on May 15.

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

KEY MESSAGES:

- The Government of Canada is continuously working to secure critical personal protective equipment (PPE) supplies and medical equipment, and to expedite delivery of supplies to our frontline healthcare workers.
- Canada is receiving PPE shipments, and is working rapidly to allocate the supplies to the provinces and territories as per an approach agreed upon by federal-provincial-territorial Ministers of Health.
- The Public Health Agency of Canada is also deploying PPE and ventilators from its National Emergency Strategic Stockpile in response to urgent requests for assistance from provinces and territories.
- In addition, the Government of Canada is also receiving offers of donations from international and domestic organizations via the donations portal on the Government of Canada COVID-19 website.

IF PRESSED ON HOW THE GOVERNMENT OF CANADA IS ADDRESSING THE GLOBAL SHORTAGE OF PPE SUPPLIES

- The Government of Canada, through the leadership of Public Services and Procurement Canada (PSPC), and Innovation Science and Economic Development Canada, has galvanized Canadian industry to increase domestic manufacturing capacity, including re-tooling facilities to produce PPE and medical equipment and supplies, including ventilators and rapid testing kits.
- PSPC has confirmed contracts for a variety of PPE and other medical supplies including over 130 million N95 respirators and equivalents (e.g., KN95 respirators), 315 million surgical masks, 1 billion pairs of nitrile gloves, and 55 million face shields.
- The Public Health Agency of Canada is receiving staggered delivery of shipments, and as of May 14, has distributed various quantities of supplies including approximately 2 million N95 respirators and equivalents (e.g., KN95 respirators), 30 million surgical masks, 11 million pairs of nitrile gloves, and 4 million face shields to provinces and territories, and more is expected to arrive and be distributed in the coming days.

KEY FACTS AND FIGURES

- To date, PHAC has allocated approximately 2 million N95 respirators and equivalents (e.g., KN95 respirators), 30 million surgical masks, 11 million pairs of nitrile gloves, and 4 million face shields to PTs, in addition to various other PPE and other medical supplies.
- PSPC has confirmed contracts for substantial amounts of PPE and other medical supplies including for over 130 million N95 respirators and equivalents, 315 million surgical masks, 1 billion pairs of nitrile gloves, and 55 million face shields.
- PPE and medical supplies received by the Public Health Agency of Canada, whether procured internationally or domestically, are assessed to confirm they meet the technical specifications for healthcare settings for COVID-19 prior to distribution to provinces and territories. The process is the same for donations.
- Supplies that do not meet specifications are subsequently assessed for potential for use in non-healthcare settings.

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

- Additionally, the Public Health Agency of Canada has also distributed to provinces and territories donations of over 400 thousand N95 and equivalent respirators, 450 thousand surgical masks, and 350 thousand pairs of gloves.

IF PRESSED ON WHEN THE GOVERNMENT OF CANADA BEGUN TO PROCURE PPE IN RESPONSE TO COVID-19

- In January and February 2020, the Public Health Agency of Canada had confirmed orders for a variety of PPE including approximately 400 thousand N95 respirators, 920 thousand surgical masks, 870 thousand pairs of nitrile gloves, and 14 thousand protective gowns.
- Over the course of March, the Public Health Agency's of Canada's focus shifted to the F/P/T collaborative bulk procurement process that resulted in additional orders including approximately 34 million N95 respirators, 4 million surgical masks, 50 thousand pairs of gloves, and 35 million protective gowns.

IF PRESSED ON THE SETTING OF GOVERNMENT OF CANADA TECHNICAL SPECIFICATIONS FOR HEALTHCARE SETTINGS FOR COVID-19 AS AVAILABLE ON THE BUY AND SELL WEBSITE

- The technical specifications for healthcare settings for COVID-19 were established by a Technical Assessment Committee comprised of representatives from the Public Health Agency, Health Canada, and the National Research Council.
- The technical specifications were established in consideration of international guidelines from organizations such as the World Health Organization, the United States Centre for Disease Control and Prevention, and the United States Food and Drug Administration, and are published on the Public Services and Procurement Canada's Buy and Sell website.
- With intense global competition, vendors with an established history of supplying standard PPE in Canada were referred to procurement immediately.
- For new vendors and suppliers, both foreign and domestic, companies were confirmed to have the necessary regulatory authorizations, such as a Medical Device Establishment License; their product specifications were reviewed by the Technical Assessment Committee; and for foreign entities, Global Affairs Canada was consulted to further verify the vendor's history.

IF PRESSED ON HEALTH CANADA'S INTERIM ORDER FOR MEDICAL DEVICES

- On March 18, the Minister of Health signed the Interim Order for Medical Devices to expedite Health Canada's regulatory approvals of product

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

reviews and licenses. As the regulatory authority, Health Canada continues to monitor the safety, quality, and efficacy of all medical devices for use in the diagnosis, treatment, mitigation and prevention of COVID-19.

IF PRESSED ON HOW THE GOVERNMENT OF CANADA IS ENSURING THE QUALITY OF PPE SUPPLIES

- Due to intense global competition for PPE and other medical supplies, countries have needed to engage with a diverse number of new suppliers and manufacturers.
- As a result, PPE and medical supplies received by the Public Health Agency of Canada, whether procured internationally or domestically, are assessed to confirm they meet the technical specifications for healthcare settings for COVID-19 prior to distribution to provinces and territories. The process is the same for donations.
- For example, a KN95 respirator undergoes visual inspection to verify for defects in design and construction, and is tested using specialized capacity at the National Research Council to confirm performance expectations. Surgical masks undergo a fluid resistance and a breathing resistance test.
- Supplies that do not meet specifications are subsequently assessed for potential for use in non-healthcare settings.
- To date, a large majority of the products received by the Government of Canada have met the technical specifications for healthcare settings for COVID-19 response; however, as a result the Public Health Agency of Canada's stringent review process, approximately 9.9 million KN95 respirators were assessed as not meeting the technical specifications.

IF PRESSED ON CONSIDERATIONS TO TEST SUPPLIES AT SOURCE LOCATION BEFORE ACCEPTING DELIVERY

- At the beginning of April, given the high demand for PPE domestically and the highly competitive international environment, it was critical to have supplies rapidly delivered to the Public Health Agency of Canada for quality verification and testing prior to allocating to provinces and territories.
- As domestic manufacturing capacity is coming online and in anticipation of the delivery of large volumes of supplies both internationally and domestically, the Government of Canada is currently assessing its logistical options to facilitate both the delivery of quality product and maintain efficiency in distribution to provinces and territories.

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

IF PRESSED ON THE SUPPLIER OF KN95 RESPIRATORS SOURCED FROM CHINA

- Due to ongoing quality issues, the Government of Canada has suspended shipments from this specific supplier and is pursuing the appropriate recourse actions.

IF PRESSED ON THE USE OF KN95 RESPIRATORS

- Health Canada, as the regulator for medical devices in Canada, traditionally accepts the U.S. National Institute for Occupational Safety and Health (NIOSH) certification as an appropriate quality standard for N95 respirators used by health care providers.
- In support of COVID-19 response, to expand the availability of these types of respirators for sale or import in Canada, Health Canada is also accepting equivalent alternate standards used in other countries such as the KN95 and FFP2 respirators (including those with head straps or ear loops).
- This is in alignment with the United States Food and Drug Administration's guidance that was recently revised on May 7, 2020.
- On May 11, Health Canada issued a recall notice to approximately 60 companies importing or distributing KN95 respirators in Canada indicating that their product may not meet safety and effectiveness standards for healthcare setting for COVID-19 response.
- The notice confirmed that this action did not implicate KN95 respirators purchased by the Government of Canada and tested by the Public Health Agency of Canada.

IF PRESSED ON THE DISTRIBUTION OF PPE TO PROVINCES AND TERRITORIES

- On April 2, to support rapid distribution of products across Canada, the federal-provincial-territorial Ministers of Health approved an *Allocation of Scarce Resources Interim Response Strategy*.
- This Strategy was established on the principles of transparency, equity, and solidarity, implementing an approach to support frontline healthcare response to COVID-19 while retaining surge capacity in the National Emergency Strategic Stockpile to address critical shortages as identified by provinces and territories.
- This approach continues to guide our allocation process, but can be adjusted as Canada's COVID-10 response evolves.

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

IF PRESSED ON HOW THE GOVERNMENT OF CANADA IS ADDRESSING THE EXPEDITED DELIVERIES OF PPE SUPPLIES TO PROVINCES AND TERRITORIES

- On April 1, the Government of Canada awarded a contract to Amazon to facilitate the logistics of distributing PPE and supplies to support the COVID-19 response.
- Amazon is providing these services to Canadians at cost, without profit. The total value of the contract is not to exceed \$5 million, excluding taxes.
- The Public Health Agency of Canada, with support from the Canadian Armed Forces, manages this contract, maintaining the supply inventories and, through the use of the Amazon interface, allocating PPE across the country.
- Amazon is working directly with the Canadian Armed Forces and Canada Post to manage warehousing, and Purolator, to deliver the products to provincial and territorial health authorities for the frontline healthcare response.
- As of May 12, each province and territory has received over a dozen shipments of PPE via Amazon system interface.
- The health and safety of employees on-site is critical in facilitating the distribution of PPE and as such, all companies have implemented the required public health measures including physical distancing and access to supplies such as hand sanitizer, wipes and masks.

IF PRESSED ABOUT THE LOGISTICS TENDER PLACED ON THE BUY AND SELL WEBSITE MAY 4

- Due to the sheer volume of product anticipated to arrive over the coming months, on May 4, the Government of Canada posted a Request for Proposal on the Public Services and Procurement Canada's Buy and Sell website to explore additional logistic solutions to boost existing capacity.
- For a period of one year, this logistics provider will be expected to handle customs documentation, secure warehousing, inventory management, reporting and transportation of the personal protective equipment to various locations in each of the provinces and territories.
- They will also require the capacity to handle shipments from all modes of transportation, including receiving and moving products from sea ports, airports, railheads, and commercial transition points.

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

- This tendering process closed on May 8, and the Government of Canada is currently in the process of reviewing proposals.

IF PRESSED ON REUSE AND STERILIZATION OF N95 RESPIRATORS

- Health Canada has already authorized certain machines to decontaminate N95 respirators under the Interim Order for Medical Devices.
- The Public Health Agency of Canada has procured 82 sterilization devices with Stryker Canada. Of these, 81 units have been allocated to provinces and territories based on their needs, and one unit allocated to the National Research Council.
- These units are in the process of being deployed and installed, and will provide a total additional national capacity to reprocess approximately 275 thousand N95 respirators a week.

IF PRESSED ON FUTURE SUPPLY NEEDS IN THE CONTEXT OF A COVID-19 VACCINE

- The Public Health Agency of Canada and Health Canada are currently working with key partners and stakeholders to identify anticipated supply chain risks or capacity gaps that could experience impacts in anticipation of mass vaccination campaign scenarios across Canada for COVID-19.
- The Public Health Agency of Canada will continue to work with provincial and territorial partners to identify potential gaps in the supply chain and will be prepared to support the timely procurement of additional assets, such as needles, syringes as well as PPE and medication.

BACKGROUND

To address the procurement and distribution needs in support of frontline health care response to COVID-19, the Government of Canada deployed a multi-pronged approach of interdepartmental coordination that includes the Public Health Agency of Canada (PHAC), Health Canada, National Research Council (NRC), Global Affairs Canada, the Department of National Defense, Public Services and Procurement Canada (PSPC), and Innovation, Science and Economic Development Canada (ISED).

Federal/Provincial/Territorial (F/P/T) Bulk Procurement

ISED and PSPC continue to galvanize Canadian industries to increase domestic manufacturing capacity, including re-tooling facilities to produce equipment and supplies including portable ventilators, surgical masks, and rapid testing kits.

Throughout this process, PHAC, Health Canada and the NRC are playing a critical role, conducting technical reviews to verify that the products meet the Government of Canada technical specifications for COVID-19 as available on the PSPC's buy and sell website.

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

Urgent need is further facilitated by Health Canada, expediting regulatory approvals of product reviews and licenses through the Interim Order for Medical Devices signed by the Minister of Health on March 18, 2020. As the regulatory authority, Health Canada also continues to monitor the safety, quality, and efficacy of all medical devices for use in the diagnosis, treatment, mitigation and prevention of COVID-19.

Health Canada also continues to actively engage the medical device industry as well as provinces and territories to monitor for any signals of supply disruptions in Canada. Manufacturers and importers are also now required to notify the Minister of Health of medical device shortages of devices considered critical. Health Canada is closely monitoring the supply of any potential treatments for COVID-19 and working with companies to help ensure continued supply in Canada.

PPE Testing and Quality Assessments

Sourcing PPE from new suppliers (both domestically and abroad) is challenging. Once products are delivered to PHAC they must undergo quality verification before distribution to provinces and territories (P/Ts). This process is supported by testing capacity within the NRC.

Test results are also used to inform future procurements. PSPC and PHAC work with suppliers to address issues at the source or avoid purchasing from unreliable suppliers in the future once issues are identified.

KN95 Respirators

On May 8, CBC reported that of the approximately 11 million KN95 respirators received by the Government of Canada and sourced by a Montreal-based supplier out of China, 8 million did not meet the Government of Canada's technical specifications for healthcare settings for COVID-19 response, 1 million met specifications, and 1.6 million were pending testing results. This number not meeting specifications has since increased to approximately 9.9 million as results are received for the remaining 1.6 million. PSPC has suspended shipments from this supplier and is pursuing the appropriate recourse on behalf of the Public Health Agency of Canada.

On May 7, the United States Food and Drug Administration (FDA) issued revised guidance, indicating that certain filtering facepiece respirators from China may not provide adequate respiratory protection. The FDA still considers KN95 respirators medical devices equivalent to N95s, but authorization for KN95 respirators will require additional validation and review by FDA.

Health Canada Medical Devices has subsequently updated its regulatory guidance, Optimizing the use of masks and respirators during the COVID-19 outbreak, and issued a recall for over 60 companies as identified on the U.S. National Institute for Occupational Safety and Health (NIOSH) website. Similar to the FDA, Health Canada will continue to authorize KN95 medical respirators in Canada through the Interim Order for Medical Devices pathway but as of May 7, Health Canada will request test results from independent testing facilities to validate the effectiveness of these respirators.

On May 11, Health Canada issued a recall notice advising that companies importing or distributing certain respirators, including KN95 respirators, in Canada that they may not meet safety and effectiveness standards for healthcare settings for COVID-19 response. Health Canada is following up with companies that may have imported and distributed respirators that did not pass testing conducted by the United States Centers for Disease Control and Prevention's National Personal Protective Technology Laboratory to request that they immediately stop sale and relabel current stock as face masks (not respirators).

F/P/T Allocation and Distribution

As agreed to by F/P/T Ministers of Health, PHAC is allocating procured PPE using an 80/20 formula—80% is distributed to P/Ts on a per capita basis and the remaining 20% replenishes the inventory of the National Emergency Strategic Stockpile (NESS),

4 - PROCUREMENT OF PERSONAL PROTECTIVE EQUIPMENT

including a 2% allocation to Indigenous Services Canada. The purpose of the NESS is to provide surge capacity to P/Ts when their own resources are not sufficient.

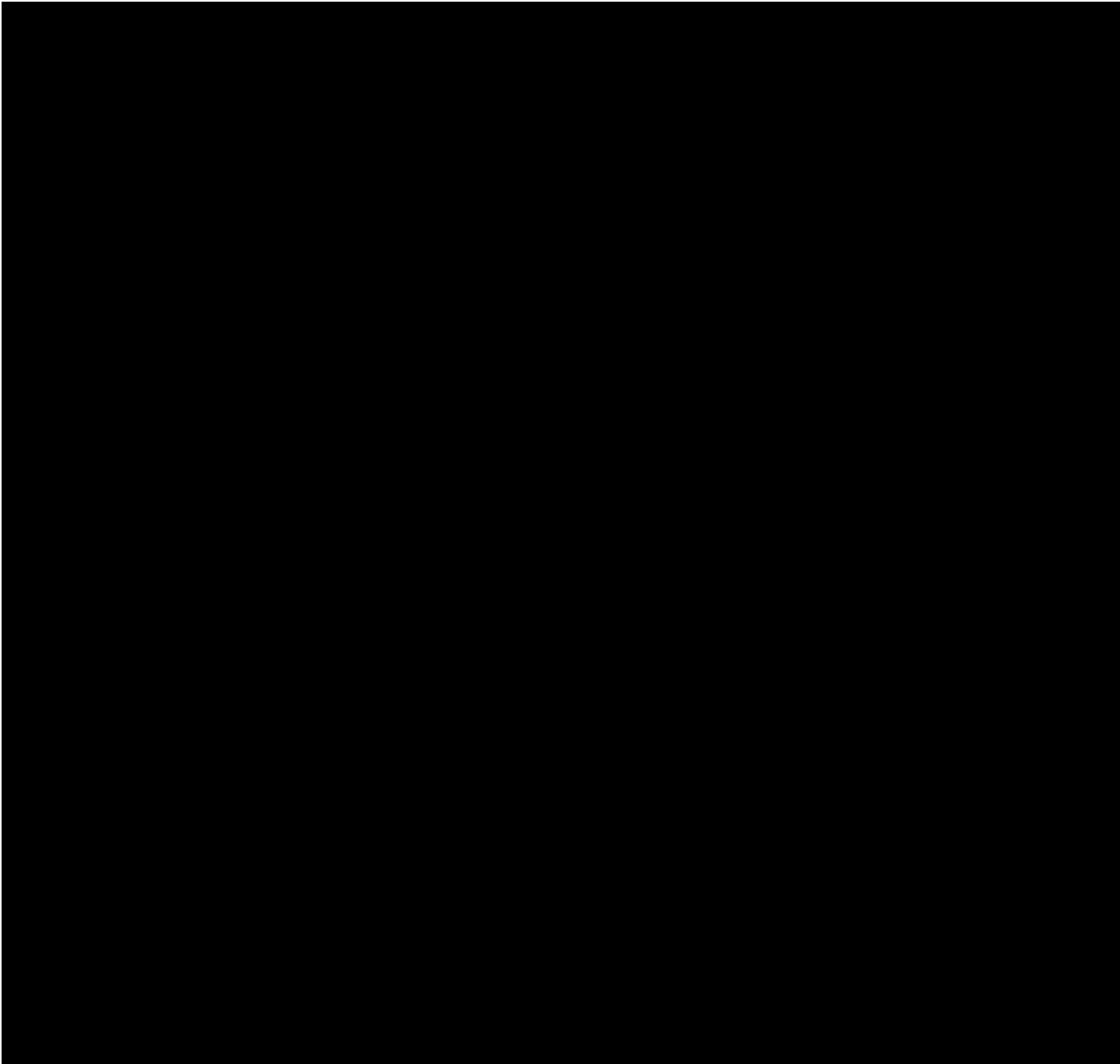
To support distribution, PSPC awarded a contract with Amazon valued at up to \$5 million. This contract is primarily for use of the Amazon interface to push out the allocation of supplies to P/Ts. Amazon is working with the Canadian Armed Forces, Canada Post and Purolator.

On May 4, to facilitate the intake and distribution of large volumes of PPE and medical supplies, PSPC posted a Request for Proposal (RFP) notice on the PSPC Buy and Sell website to solicit interest from major logistics service providers. This new expression of interest relates to an overall logistics solution, going beyond distribution and includes warehousing, customs documentation and brokerage, and inventory management. The RFP closed on May 11, and the review of the expressions of interest is now underway.

Reuse and sterilization

Due to increased demand of N95 respirators, PHAC has also been working closely with Health Canada, the NRC, and ISED on identifying companies with experience manufacturing the equipment used in reprocessing in order to authorize these technologies to safely and effectively reprocess N95 respirators.

Health Canada issued its first authorization under the Interim Order for Medical Devices to Stryker for its Sterizone VP4 on April 5, 2020, and has since authorized additional devices including Sterrad and Steris sterilizers that are widely available and distributed across Canadian hospitals.



Opening Remarks

for


Public Health Agency of Canada

**Standing Committee on Government Operations
and Estimates**

**National Emergency Strategic Stockpile and
PPE Procurement**

**Ottawa, Canada
May 15, 2020**

Introduction

- Thank you to my colleague, [REDACTED], for the historical overview of the National Emergency Strategic Stockpile (otherwise known as the NESS).
- Mr. Chair, I will now take a few moments to outline the Public Health Agency of Canada's role in the Government of Canada's multi-pronged strategy to procure and distribute critical personal protective equipment (or as we call it, PPE) and other medical supplies in support of frontline healthcare response for COVID-19.

Procurement

- As cases of COVID-19 began to spread outside of China, the global demand for PPE and other medical supplies such as masks, face shields, protective gowns, and ventilators increased to unprecedented levels.
- In response, the Public Health Agency of Canada initiated a dialogue with provinces and territories in January, to analyse existing stockpiles, and assess anticipated pressures in the context of COVID-19.
- In early March, to increase Canada's collective buying power in the international markets, the Public Health Agency of Canada, collaborated with provinces and territories, to initiate a bulk procurement for PPE, medical supplies and equipment.

- It soon became clear that we needed to buy, transport, test, and deliver more PPE than we ever had before and that a whole-of-government approach was needed to bolster the Public Health Agency of Canada's existing expertise and efforts.
- This level of massive PPE procurement and distribution required innovative procurement from Public Services and Procurement Canada, and investment in Canadian domestic capacity as led by Innovation, Science and Economic Development Canada.
- Companies such as Bauer, Canada Goose, Irving, and CAE have retooled to make everything from face shields to ventilators.
- We are also supported with expedited regulatory approvals facilitated by Health Canada; and large-scale logistical expertise from the Canadian Armed Forces.
- I should mention that there are over 300 public servants that have joined the Public Health Agency's efforts during this pandemic; this is not counting all the military men and women supporting our logistics efforts.
- I, myself, was brought over from Innovation, Science and Economic Development Canada on March 24 to provide additional leadership in the management of this substantial undertaking.

Quality Verification

- The Public Health Agency has started to receive deliveries of domestic and international supplies.
- The intense level of global competition, however, has necessitated engagement with a number of new suppliers and manufacturers. This is a reality experienced by all countries responding to COVID-19.
- As a result, as PPE arrives, the Public Health Agency of Canada conducts an assessment to confirm that it meets specifications for healthcare settings for COVID-19 response.
- Our top priority in these procurement efforts is the health and safety of our frontline healthcare workers which is crucial in mitigating the spread of COVID-19.
- To that end, the Public Health Agency of Canada, along with support from Health Canada and the National Research Council, undertakes rigorous technical assessments to procure PPE that will meet the Government of Canada technical specifications for healthcare settings.
- Upon receipt, the process for verification varies depending on the medical device. For example, KN95 respirators, as an accepted alternative to N95 respirators, are visually inspected to verify for defects in design and construction, and tested to confirm they meet specifications for filtering

face pieces. Gowns and surgical masks are visually inspected and tested for fluid penetration.

- To date, a large majority of the products received have met specifications; however, as a result of our quality verification process, approximately 9.9 million KN95 respirators were assessed as not meeting specifications for healthcare settings.
- Supplies that do not meet specifications are assessed for potential use in non-healthcare settings.

Distribution

- PPE is rapidly distributed to the provinces and territories once this quality verification step is completed.
- To support these efforts, the Public Health Agency of Canada and Public Services and Procurement Canada, with support from the Canadian Armed Forces, awarded a contract to Amazon on April 1.
- Amazon is providing us with access to its technology interface, and Canada Post and Purolator, who are both business partners of Amazon, are facilitating warehousing and delivery.

- Due to the sheer volume of product arriving and anticipated to arrive over the coming months, we are currently exploring additional logistic solutions to boost existing capacity.
- Products received through the bulk procurement process are distributed in accordance with an allocation approach approved by Federal, Provincial and Territorial Ministers of Health on April 2.
- As of May 13, the Public Health Agency of Canada has distributed approximately 2 million N95 respirators and equivalents (e.g., KN95 respirators), 30 million surgical masks, 11 million pairs of nitrile gloves, 2 million face shields, and 439 ventilators in addition to various other critical supplies.
- This procurement strategy is further supplemented with the NESS. Provinces and territories can submit requests for assistance to address critical shortages.
- We have responded to over 45 such requests and distributed a variety of PPE and medical supplies including N95 respirators, surgical masks, protective gowns, and face shields.
- Finally, domestic and international organizations as well as other countries have generously donated large quantities of PPE and as of May 13, we have distributed over 450 thousand N95 and equivalent respirators, 450 thousand surgical masks, and 400 thousand pairs of gloves.

- To further enhance domestic capacity, Health Canada has also authorized the use of certain technologies to decontaminate N95 respirators.
- The Public Health Agency of Canada is currently deploying 81 sterilization devices from Stryker Canada that will provide provinces and territories with the capacity to reprocess approximately 275,000 N95 respirators a week.

Conclusion

- Mr. Speaker, in conclusion, the results of the Government of Canada's multi-pronged strategy are showing promise.
- As the demand remains high for frontline healthcare response, the Public Health Agency of Canada will continue to prioritize these efforts, rapidly distributing quality supplies as it becomes available.
- We continue to work with provinces and territories to identify potential supply chain gaps as this event continues to evolve.

FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 14, 2020 07:00 ET
PPE Distribution Update

- Donation of various PPE from the Government of China received by the Canadian Red Cross; pending inventory and quality verification.
 - **Donation includes masks, gowns, goggles, gloves, and face shields.**
- **Shipment of surgical masks (Medicom; PRI-MED from China) arrived May 12; pending inventory, quality verification and re-labelling.**
- **Next shipment from China to arrive May 13 (22:45); as of May 13 07:15h not yet confirmed; anticipating delivery of masks, masks with shields, and digital thermometers.**

Procured Equipment	# Received	# quarantined for quality verification*	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks	584,080	60,800			
KN95 Masks	10,953,850	81,020	8,062,830		1,800,000
Surgical Masks	54,539,450	23,779,000	100,750		
Nitrile Gloves	11,688,075	500,000			
Coveralls	65,961				
Face Shields	4,235,356	1,968,072			
Gowns	499,856	291,096			
Ventilators	203	203			

*Number quarantined for quality verification includes both supplies pending testing and lots not meeting technical specifications for healthcare settings.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of May 12, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

Ventilator Distribution (RFAs and proactive deployment to date) (no change)

FOR PHAC DISTRIBUTION ONLY

Donations

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	142,336	27,916	114,420	
KN95 Masks	491,550	20,350	346,700	124,500
Surgical Masks	1,024,350	146,450	497,900	380,000
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	473,780	67,295	406,485	

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no change)

- Request for assistance, Alberta Health (from May 14 – June 4, 2020)
 - Alberta is experiencing multiple outbreaks in oil camps; requires additional epidemiological resources to support descriptive epidemiology and inform public health action.

Requests for Assistance (RFAs) - NESS

- 51 received from the P/Ts; 46 responded to.
- MB received May 12 for various PPE plus paper bags and garbage bags; pending assessment.
- NT received May 12 for various PPE; pending assessment.
- AB received May 12 for [REDACTED] shipment in progress.
- PEI received May 11 for [REDACTED] shipment in progress.
- YK RFA received May 5 for [REDACTED] pending assessment.
 - [REDACTED] but anticipating delivery on May 15.



FOR CONCURRENCE

Your file Votre référence

20-106914 - 124

Our file Notre référence

MEMORANDUM TO [REDACTED]

**RELEASE OF SMALLPOX VACCINE / LIBÉRATION DES DOSES DE VACCIN
CONTRE LA VARIOLE**

SUMMARY

- Your concurrence is requested to release a portion [REDACTED] smallpox vaccine from the National Emergency Strategic Stockpile further to a request made by [REDACTED]
- The vaccine will be used to vaccinate [REDACTED]
[REDACTED] The vaccine will provide protection in the unlikely event of occupational exposure, as a measure to prevent infection and subsequent person-to-person transmission of the vaccinia virus.

BACKGROUND:

The Canadian Immunization Guide indicates smallpox vaccine is available from the Public Health Agency of Canada (PHAC), upon request, for non-emergency use to protect laboratory workers at occupational risk of exposure to orthopoxviruses (including vaccinia virus) as a measure to prevent infection and subsequent person-to-person transmission of potentially infectious orthopoxviruses.

[REDACTED]

The request was reviewed using the protocol entitled "Process for response to internal and external requests for smallpox vaccine for non-emergency use to protect laboratory workers at risk of occupational exposure to orthopoxviruses (including vaccinia virus)" (Appendix A). The review included consideration of laboratory risk mitigation measures in place to reduce risk of exposure.

.../2

CONSIDERATIONS:

Further to discussions in the summer of 2019, an ethical review was conducted on the deployment of smallpox vaccine for non-emergency use (Appendix B) recommending an interim approach [REDACTED]

[REDACTED] The choice of which vaccine to use would be left to the responsible health care professionals, who would be provided with all available information relevant to conducting a risk/benefit analysis for their specific patient.

This interim approach will be revisited when the National Advisory Committee on Immunization completes their scientific review and development of a statement regarding the licensed smallpox vaccines.

RESOURCE IMPLICATIONS:

The replacement cost of the product is approximately \$1,663.

RECOMMENDATIONS/CONCLUSION:

It is recommended that you indicate your concurrence, by signing the "concur" block below, with the release of [REDACTED]

[REDACTED]



☐ do not concur

☒ concur



MAY 21 2020



MECS# 20-106914 – 124

.../3

Contact: [REDACTED]
Telephone: [REDACTED]

Attachments:

Appendix A – Process for response to internal and external requests for smallpox vaccine for non-emergency use to protect laboratory workers at risk of occupational exposure to orthopoxviruses (including vaccinia virus)

Appendix B - Responding to Requests for Access to Smallpox Vaccine for Non-Emergency Use (Ethical Review)

Process for response to internal and external requests for smallpox vaccine for non-emergency use to protect laboratory workers at risk of occupational exposure to orthopoxviruses (including vaccinia virus)

Background

PHAC holds [REDACTED] in its National Emergency Strategic Stockpile (NESS) stockpile; [REDACTED]
[REDACTED]

The Smallpox Chapter of PHAC's Canadian Immunization Guide (CIG) indicates smallpox vaccine is available from PHAC, upon request, for non-emergency use to protect laboratory workers at occupational risk of exposure to orthopoxviruses (including vaccinia virus) as a measure to prevent infection and subsequent person-to-person transmission of potentially infectious orthopoxviruses.

Requests for smallpox vaccine are considered Requests for Assistance (RFA) and should be submitted to PHAC's Centre for Emergency Preparedness and Response (CEPR) Health Portfolio Operations Centre (HPOC) to facilitate a standardized process for receipt, documentation, assessment and response to each request.

Intended audience: Internal PHAC protocol (however as a step 2 – this might be a requesting physician/nurse practitioner and being able to send information his/her way on the request procedure would be beneficial)

Process¹

Step 1 - Request for smallpox vaccine for non-emergency use is placed directly with HPOC from the requesting authority (e.g. laboratory administrator, Occupational Health Service, treating physician) by telephone 1-800-545-7661 or 613-952-7940 or e-mail: phac-aspc.hpoc-cops@canada.ca (note: if HPOC receives a request via phone, they are to direct the requestor to follow up via email with a written request). Requests received by another PHAC program or area should be re-directed internally to HPOC, via email.

Step 2 – HPOC acknowledges receipt and then sends the RFA to a small distribution list consisting only of CEPR's/HSIB's senior management team. Canada's Chief Public Health Officer and other Senior Officials will be made aware of the request by the VP HSIB and, the RFA may also be communicated (for information) at "PHAC Daily".

Step 3 - In most cases, information in the RFA will not contain sufficient detail for PHAC assessment. CEPR will therefore have a technical officer follow up requesting more information. Specifically, CEPR will seek responses to the following:

- Name and contact information of the treating/requesting physician or nurse practitioner.
- Rationale for the request (within the confines of medical confidentiality).
- Number of patients to be treated and the corresponding quantity of vaccine to be administered.
- Approximate time frame for administering the vaccine.
- Name and address of the facility where the patients are working.
- Address, name of contact and contact information for the delivery of the product.
- Confirmation as to whether the request is for [REDACTED]
[REDACTED]

At this time, CEPR will also share the product monographs for the [REDACTED] that the NESS stockpiles, as well as other supporting information.

Examples include²:

¹ See page 5 for a flow chart of the RFA process (for access to smallpox vaccine for prevention)

²Links provided herein were active at the time of writing this process and should be verified prior to inclusion in the information provided to the requester. Information/links should not be considered an exhaustive and comprehensive listing of all available information that may influence or impact the practitioners' choice of vaccine. Thus, caution should be exercised when choosing what information (who does this?) to provide to the requester, other than information provided directly by the manufacturer [REDACTED]
Package Insert [REDACTED]

- PHAC Canadian Immunization Guide Smallpox Vaccine Chapter – Provides detailed information on [REDACTED] vaccine. Does not provide detailed information on IMVAMUNE® as the National Advisory Committee on Immunization (NACI) had not deliberated on the use of IMVAMUNE® at the time of writing. It will be updated in due course.
- World Health Organization, Emergencies preparedness, response – Smallpox Vaccines. Provides a link to the Strategic Advisory Group of Experts (SAGE) on Immunization, conclusions and recommendations report (November, 2013) which includes a section on the preventative use of Smallpox Vaccines.
- World Health Organization, Emergencies preparedness, response, Smallpox – Frequently asked questions and answers on smallpox. Provides general information on smallpox, eradication and vaccination.

Step 4 – Validation of RFA. Once all necessary information has been gathered, the RFA is assessed by representatives in CEPR (OEP, OER, and DGO). The main criteria applied to validate requests are as follows:

- the request aligns with recommendations for use in the Canadian Immunization Guide; and,
- the provision of vaccine would not significantly impact NESS emergency response capabilities.

Step 5 - The treating physician (or nurse practitioner) informs PHAC of their vaccine of choice. The treating physician (or nurse practitioner) is responsible for choosing which vaccine [REDACTED] is most appropriate for the patient/employee based on a risk/benefit assessment from information provided by PHAC and the practitioners' knowledge of the patient/employee being offered the vaccine.³

Step 6 – PHAC seeks authority via CPHO or delegate to deploy smallpox vaccine chosen as per NESS Policy Authority (Deputy Head).

Step 7 – PHAC/CEPR notifies requester of the outcome of the RFA assessment.

If approved, PHAC requests any additional information required by NESS Operations (such as shipping address, contact information etc.) for deployment of vaccine.

If denied, no further information is required by PHAC (from the requester).

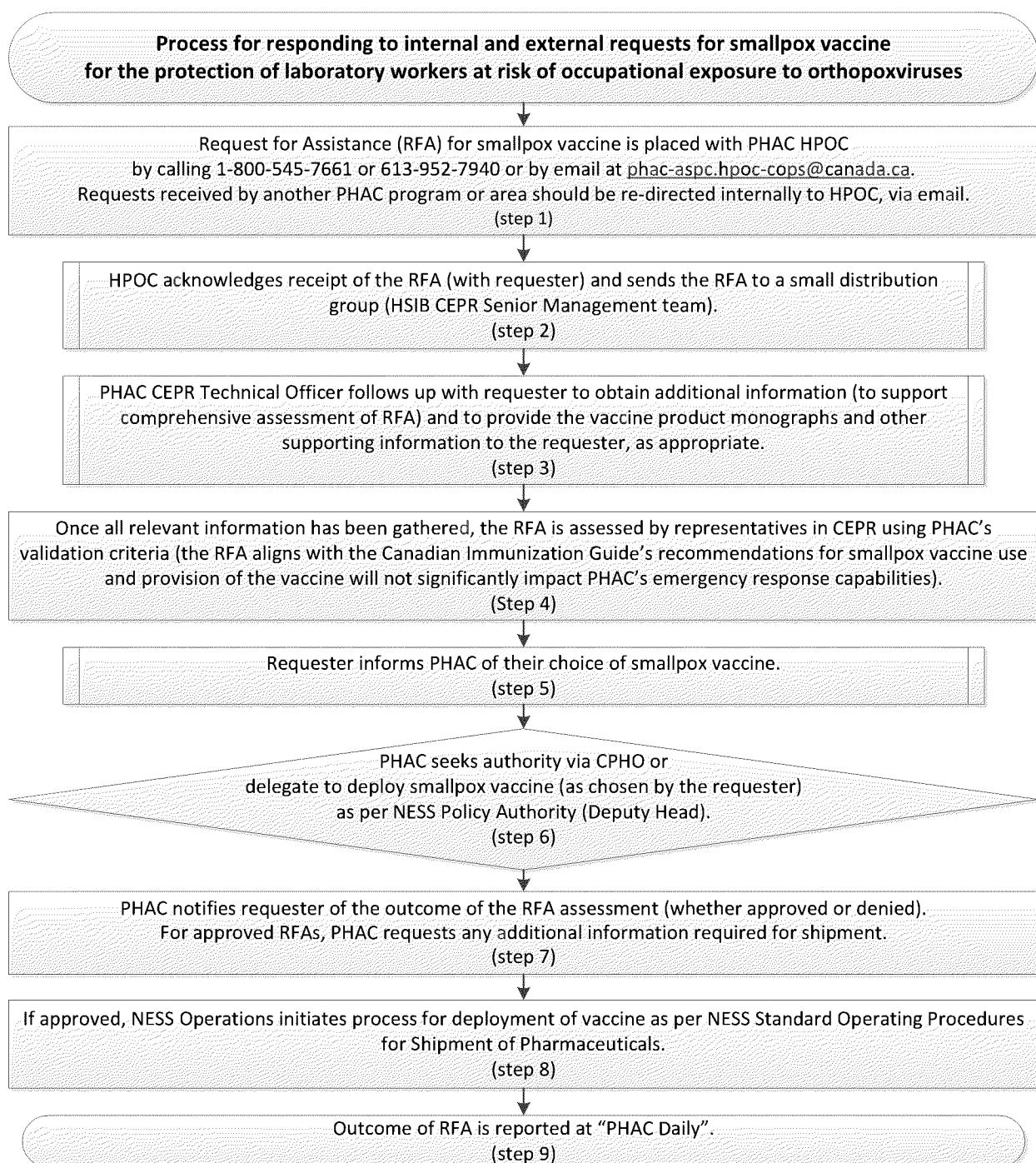
Step 8 – If approved, NESS Operations initiates process for deployment of vaccine as per Standard Operating Procedures for Shipment of Pharmaceuticals [REDACTED].

³ PHAC representative is available to respond to questions from the requester, as needed.

Step 9 – Outcome of RFA (whether deployment approved/actioned or denied) is reported at “PHAC Daily”.⁴

Appendix A - Request for Assistance Process Flow Chart (for access to smallpox vaccine for non-emergency use to protect laboratory workers at risk of occupational exposure to orthopoxviruses (including vaccinia virus).

⁴ Any subsequent information PHAC becomes aware of relating to the administration of the vaccine (i.e. reporting of Serious Adverse Events) will be shared with management in a timely manner, as appropriate.



Summary of Ethics Deliberations

Responding to Requests for Access to Smallpox Vaccine for Non-Emergency Use

Date of Deliberations: July 31 and August 1, 2019

Participants:

██ (MCM Capability Assessment Unit)

████████████████████ (Public Health Ethics Consultative Group Secretariat)

Objective:

To identify and deliberate about the ethical considerations associated with PHAC's proposed response to requests for access to smallpox vaccine for non-emergency use, noting that the proposed response is an interim measure, until the National Advisory Committee on Immunization completes its scientific review and develops a statement regarding the licensed vaccines.

Issue:

Should PHAC offer ██████ licensed smallpox vaccines currently in the NESS in response to request for access to vaccine for non-emergency use in laboratory workers at high risk of exposure to orthopox viruses?

Deliberations:

In deliberating about the identified issue, the following were taken into consideration:

Context:

- The objective of providing access to the smallpox vaccine: to prevent orthopox virus infections in laboratory workers who are at risk of occupational exposure, and further spread to close contacts and community;
- The roles, responsibilities, concerns, needs and interests of laboratory workers at risk of exposure, their close contacts and families, health care professionals who represent the employer's Occupation Health and Safety services, other health care professionals who provide care to the laboratory workers, employers (laboratory administrators or owners), members of the public, the NESS and PHAC;
- The impossibility of engaging all stakeholders in this deliberation given time constraints;
- Current knowledge about ██████ vaccines and their potential side effects, uses approved by Health Canada, and contraindications;

- NESS Policy Framework, Canadian Immunization Guide and NACI recommendations re. the first generation vaccine;
- Occupational health and safety legislation, Human Pathogens and Toxins Act;
- Availability, cost, shelf life, current NESS inventory of each vaccine;
- The fact that PHAC is the sole potential provider of the vaccines in Canada;
- The role of the NESS;
- Reasons for which vaccinia is used in laboratories.

Relevant Ethical Values, principles and considerations:

- The following were identified as the most important values:
 - Accountability: the fact that PHAC is answerable to Canadians, as a public organization, and is the only source of the vaccine for those who request it;
 - Trust: the importance of promoting public trust, and the value of openness and transparency in fostering trust;
 - Respect for persons and communities: provision of the vaccine to at-risk individuals demonstrates respect for their inherent value, provision of full information about the vaccines to requesting physicians enable them to exercise their professional judgement and supports informed decision making.
- PHAC's mandate to protect the health of Canadians, the need to consider the risk of harm to individuals, and issues of distributive justice and equity were also considered.

Options:

Four options were considered:

1. PHAC provides [REDACTED] vaccines to the requesting health care professional, along with complete information [REDACTED]
2. PHAC follows the existing NACI recommendations and CIG [REDACTED]
3. PHAC declines requests for access to vaccines, but provides VIG as needed;
4. PHAC chooses [REDACTED] on a case-by-case basis

Assessment of Options:

- Participants [REDACTED] taking into consideration: potential benefits, potential burdens and disadvantages for all and for disadvantaged groups, benefit & burden ratio, possibility of minimising burdens, degree of certainty regarding the effectiveness of the option.
- Participants concluded that [REDACTED] best respects the rights and interests of all stakeholders, best serves the population as a whole, and best reflects the mandate, mission, vision and values of PHAC.
- Option 1 entails the least burdens for all stakeholders, and the most favourable benefit-burden ratio.
- Option 1 best promotes trust in PHAC and in the public health system.

FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 24, 2020 07:00 ET
PPE Distribution Update

- Approximately 46K gowns that were previously assessed as not meeting the technical specifications for a Level 2 protective gown, met the specifications as a Level 1 protective gown. They have been approved for allocation to PTs, pending re-labeling.
- In the next 48 hours, anticipating the delivery by air and land of the following (pending inventory, quality verification, and re-labeling):
 - ~10M surgical masks (Primed; Medicom)
 - ~1.0M gowns (Primed; Proline)
 - ~3.7M pairs of gloves (Sinopharm)
 - ~650K face shields (various suppliers)

Procured Equipment	# Received	# quarantined for quality verification	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks*	964,880	60,800			
KN95 Masks	10,953,850	81,020	8,062,830		1,800,000
Surgical Masks	85,417,700	43,898,000	18,000		
Nitrile Gloves	21,692,075	10,004,000			
Coveralls	108,761				
Face Shields	8,992,542	3,514,158			
Gowns	1,887,790	359,800			
Ventilators	203	203			

*Quantities of N95 masks also include FFP2 masks; this is the European equivalent.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of May 22, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

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Donations (No Updates)

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	169,509	16,623	152,886	
KN95 Masks	541,550	70,350	346,700	124,500
Surgical Masks	1,123,850	245,450	499,900	378,500
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	673,780	254,255	419,525	
Gowns	60,899	60,899		
Face Shields	60,545	60,545		

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no change from May 15)**Requests for Assistance (RFAs) - NESS**

- **55 received from the P/Ts; 51 responded to.**
- **YK RFA received May 22 for various PPE; pending assessment**
- **PEI RFA received May 21 for various PPE; shipment in progress.**
- **NU RFA received May 20 for various PPE; pending assessment.**
- **YK RFA received May 5 for [REDACTED]; pending assessment.**
 - **[REDACTED]; RFA prioritized upon delivery of product.**

FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 25, 2020 07:00 ET
PPE Distribution Update

- In the next 48 hours, anticipating the delivery by air and land of the following (pending inventory, quality verification, and, as appropriate, re-labeling):
 - ~1.16M surgical masks (Primed; Medicom)
 - ~ 498K gowns (Primed)
 - ~3.7M pairs of gloves (Sinopharm)
 - ~297K face shields (various suppliers)

Procured Equipment	# Received	# quarantined for quality verification	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks*	964,880	60,800			
KN95 Masks	10,953,850	81,020	8,062,830		1,800,000
Surgical Masks	86,917,700	45,398,000	18,000		
Nitrile Gloves	27,331,075	15,643,000			
Coveralls	108,761				
Face Shields	9,085,742	2,129,246			
Gowns	1,927,630	195,440			
Ventilators	203	203			

*Quantities of N95 masks also include FFP2 masks; this is the European equivalent.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS (no change)

Equipment	NESS Inventory* (as of May 23, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

FOR PHAC DISTRIBUTION ONLY

Donations (no change)

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	169,509	16,623	152,886	
KN95 Masks	541,550	70,350	346,700	124,500
Surgical Masks	1,123,850	245,450	499,900	378,500
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	673,780	254,255	419,525	
Gowns	60,899	60,899		
Face Shields	60,545	60,545		

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no change)**Requests for Assistance (RFAs) - NESS (no change)**

- 55 received from the P/Ts; 51 responded to.
- YK RFA received May 22 for various PPE; pending assessment
- PEI RFA received May 21 for various PPE; shipment in progress.
- NU RFA received May 20 for various PPE; pending assessment.
- YK RFA received May 5 for [REDACTED] pending assessment.
 - [REDACTED] RFA prioritized upon delivery of product.

FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 26, 2020 07:00 ET
PPE Distribution Update

- In the next 48 hours, anticipating the delivery by air and land of the following (pending inventory, quality verification, and, as appropriate, re-labeling):
 - ~ 1.16M surgical masks [REDACTED]
 - ~ 457K gowns [REDACTED]
 - ~ 700K pairs of gloves [REDACTED]
 - ~ 610K face shields [REDACTED]

Procured Equipment	# Received	# quarantined for quality verification	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks*	964,880	60,800		[REDACTED]	
KN95 Masks	10,953,850	81,020	8,062,830		1,800,000
Surgical Masks	90,121,700	48,602,000	18,000		
Nitrile Gloves	33,496,475	21,643,000			
Coveralls	108,761				
Face Shields	9,110,742	2,154,246			
Gowns	2,504,370	772,180			
Ventilators	203	203			

*Quantities of N95 masks also include FFP2 masks; this is the European equivalent.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of May 24, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks	[REDACTED]	
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

FOR PHAC DISTRIBUTION ONLY

Donations

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	169,553	13,833	155,720	
KN95 Masks	541,550	70,350	346,700	124,500
Surgical Masks	1,123,850	245,450	499,900	378,500
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	673,780	254,255	419,525	
Gowns	60,899	60,899		
Face Shields	60,545	60,545		

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no change)**Requests for Assistance (RFAs) - NESS (no change)**

- 55 received from the P/Ts; 51 responded to.
- YK RFA received May 22 for various PPE; pending assessment
- PEI RFA received May 21 for various PPE; shipment in progress.
- NU RFA received May 20 for various PPE; pending assessment.
- YK RFA received May 5 for [REDACTED] pending assessment.
 - [REDACTED] RFA prioritized upon delivery of product.

FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 27, 2020 07:00 ET
PPE Distribution Update

- In the next 48 hours, anticipating the delivery by air and land of the following (pending inventory, quality verification, and, as appropriate, re-labeling):
 - ~ **84K N95 respirators or equivalent (Viral Clean)**
 - ~ **150K gowns (various suppliers)**
 - ~ **9.3M pairs of gloves (Sinopharm)**
 - ~ **900K face shields (various suppliers)**

Procured Equipment	# Received	# quarantined for quality verification	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks*	964,880	48,000			
KN95 Masks	10,953,850	0	8,105,850		1,800,000
Surgical Masks	101,325,700	40,574,000	18,000		
Nitrile Gloves	34,911,475	7,415,000			
Coveralls	108,761				
Face Shields	9,591,842	647,600			
Gowns	3,042,120	1,309,930			
Ventilators	203	203			

*Quantities of N95 masks also include FFP2 masks; this is the European equivalent.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of May 25, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks		
KN95 Masks		
Surgical Masks		
Face Shields		
Gowns		
Nitrile Gloves		
Ventilators		

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

FOR PHAC DISTRIBUTION ONLY

Donations (no update)

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	169,553	13,833	155,720	
KN95 Masks	541,550	70,350	346,700	124,500
Surgical Masks	1,123,850	245,450	499,900	378,500
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	673,780	254,255	419,525	
Gowns	60,899	60,899		
Face Shields	60,545	60,545		

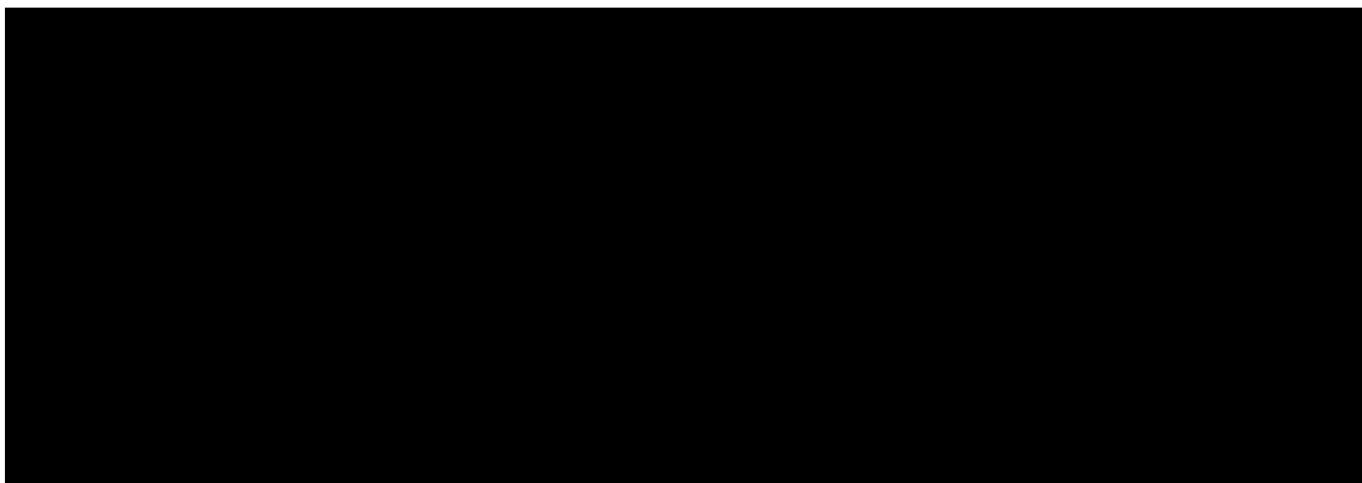
*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no change)**Requests for Assistance (RFAs) - NESS (no change)**

- 55 received from the P/Ts; 51 responded to.
- YK RFA received May 22 for various PPE; pending assessment
- PEI RFA received May 21 for various PPE; shipment in progress.
- NU RFA received May 20 for various PPE; pending assessment.
- YK RFA received May 5 for [REDACTED] pending assessment.
- [REDACTED] RFA prioritized upon delivery of product.



FOR PHAC DISTRIBUTION ONLY

Daily COVID-19 Quick Facts
MAY 28, 2020 07:00 ET
PPE Distribution Update

- In the next 48 hours, anticipating the delivery by air and land of the following (pending inventory, quality verification, and, as appropriate, re-labeling):
 - ~ 84K N95 respirators or equivalent (██████████)
 - ~ **500K gowns (various suppliers)**
 - ~ **8.6M pairs of gloves** (██████████)
 - ~ **3.5M face shields (various suppliers)**

Procured Equipment	# Received	# quarantined for quality verification	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks*	940,960			██████████	
KN95 Masks	11,153,850	200,000	8,105,850		1,800,000
Surgical Masks	105,360,700	41,212,500	18,000		
Nitrile Gloves	34,911,475				
Coveralls	108,761				
Face Shields	9,571,842	647,600			
Gowns	3,054,700	1,322,510			
Ventilators	352	352			

*Quantities of N95 masks also include FFP2 masks; this is the European equivalent.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of May 26, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks	██████████	██████████
KN95 Masks	██████████	██████████
Surgical Masks	██████████	██████████
Face Shields	██████████	██████████
Gowns	██████████	██████████
Nitrile Gloves	██████████	██████████
Ventilators	██████████	██████████

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.

FOR PHAC DISTRIBUTION ONLY

Donations

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	169,553	13,833	155,720	
KN95 Masks	541,550	20,350	396,700	124,500
Surgical Masks	1,123,850	245,450	499,900	378,500
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	673,780	254,255	419,525	
Gowns	60,899	899	60,000	
Face Shields	60,545	60,545		

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no change)**Requests for Assistance (RFAs) - NESS**

- 55 received from the P/Ts; **52 responded to.**
- YK RFA received May 22 for various PPE; pending assessment
- NU RFA received May 20 for various PPE; pending assessment.
- YK RFA received May 5 for [REDACTED] pending assessment.
- [REDACTED] RFA prioritized upon delivery of product.

NATIONAL EMERGENCY STRATEGIC STOCKPILE (NESS) MANAGEMENT
<p>SYNOPSIS</p> <p>A recent media story highlighted the disposal of approximately 2 million expired masks and 440,000 expired gloves during the closure of the NESS warehouse in Regina in 2019. The masks and gloves had been purchased in 2009 and had passed the limit of five years for their use, as recommended by the manufacturer.</p>
<p>POTENTIAL QUESTIONS</p> <ul style="list-style-type: none">• How can we be sure that the Government of Canada has the right system in place to have the necessary stockpile of health supplies to support Canada in pandemics and other emergencies?• Why did the Public Health Agency of Canada dispose of N95 masks and gloves in 2019?• Why did the Public Health Agency of Canada close federal stockpile locations?
<p>KEY MESSAGES</p> <ul style="list-style-type: none">• The Government of Canada is working closely with provinces and territories to procure the necessary health supplies to continue responding to the COVID-19 pandemic.• The National Emergency Strategic Stockpile (NESS) was initially built on the assumption that provincial, territorial and local governments would be prepared for the most common emergencies. Consequently, it was designed to provide health emergency assets when local and provincial and territorial resources were exhausted.• Jurisdictions have traditionally sourced Personal Protective Equipment (PPE) directly from known suppliers, and the NESS has historically only carried relatively small amounts.• With the unprecedented nature of the current pandemic, the NESS quickly stepped into a much more active role in procurement. As we move forward, we will adjust, and lessons learned will inform the future of the NESS.
<p>IF PRESSED ON INVENTORY MANAGEMENT</p> <ul style="list-style-type: none">• The NESS reviews its stock regularly. Expired, obsolete, or unusable items are disposed of as per Treasury Board policy.• The Public Health Agency of Canada continues to explore ways to optimize product life cycle management and minimize the disposal of expired stock.

IF PRESSED ON WAREHOUSE FOOTPRINT

- A decision was made in 2013 to modernize and optimize our warehouse national footprint.
- Currently, the Public Health Agency of Canada has warehouses in six cities.

IF PRESSED ON STOCKPILING OF PPE AND THE CANADIAN PANDEMIC INFLUENZA PLAN

- The Canadian Pandemic Influenza Plan is a federal, provincial, and territorial guidance document for the healthcare sector. Its purpose is to assist jurisdictions with their emergency planning.
- The most recent guidance from 2011 recommends that availability of PPE supply should be addressed during pandemic planning, and that stockpiling should be considered.
- Provincial and territorial governments are responsible for ensuring the provision of medications, supplies, and equipment required for provision of pandemic health care services.
- The NESS is intended to provide health emergency assets when local and provincial and territorial resources have been exhausted. It has historically carried only relatively small amounts of PPE.

IF PRESSED ON FUNDING LEVEL

- Since 2012-13, the operating budget of the NESS, including salaries and operating has consistently been around \$3 million annually.
- On top of the NESS core operational budget, there have been investments made for particular initiatives, stocks of supplies and medical countermeasures. Over the last 10 years, these investments have varied year over year, and have amounted to over \$79 million.

BACKGROUND

Canada's National Emergency Strategic Stockpile (NESS) contains supplies that provinces and territories can request in emergencies, such as infectious disease outbreaks, natural disasters and other public health events, when their own resources are not enough. These supplies include a variety of items such as: medical equipment and supplies; pharmaceuticals; and social service supplies, such as beds and blankets.

NESS Mandate

The fundamental assumption underpinning emergency management is that provincial, territorial and local governments are prepared to a reasonable extent for the most common emergencies.

As such, the federal government's role in stockpiling emergency health assets is twofold:

- It provides surge capacity to provinces and territories at their request when their own resources are not sufficient; and
- It is the sole provider of certain assets required for rare public health emergencies, for example, costly and rarely used vaccines or antidotes.

NESS Funding

Since 2012-13, the annual base funding for the NESS has remained stable and has been approximately \$3 million a year. This funding is included in the overall funding identified for the Health Security Infrastructure program area reported in Public Accounts.

Additional funding has historically been provided to the NESS through internal reallocation decisions and incremental funding decisions where the Public Health Agency of Canada has received funding linked to specific purchases such as a four-year investment in medical countermeasures against smallpox and anthrax that began in 2015-16.

NESS Deployments

Over the past decade, the NESS has deployed assets to assist with a range of events and emergencies, including the 2010 Olympics, 2013 Alberta Floods, Operation Syrian Refugees, the Fort McMurray wildfires, and the 2018 G7 Summit in Quebec. The NESS has also made international donations in support of the West African Ebola Outbreak, Hurricane Harvey, and to China during the current COVID-19 outbreak.

NESS Requests for Assistance

We have so far been able to respond within 24 hours to all requests for assistance from provinces and territories. Requests are assessed in consultation with the provinces and territories and delivery dates and quantities are based on the availability of requested supplies and urgency of the request.

NESS Footprint

NESS facilities consist of a central depot in the National Capital Region and warehouses strategically located across Canada. In recent years, the NESS moved from nine warehouse locations across Canada to six. An independent assessment indicated that the six strategic locations would maintain the NESS’ role as timely surge support.

As of 2019, all NESS holdings were consolidated in eight warehouses in six cities. In Spring 2020, two additional warehouses were leased in Ottawa, given the volume of supplies being donated to and purchased by the NESS as part of the federal government’s COVID-19 response.

When a warehouse is closed, usable supplies are moved to a new location, while obsolete and expired supplies are disposed of as per Treasury Board policy.

Regina Closure

In 2019, approximately 2 million expired masks and 440,000 expired gloves were disposed of during the closure of the NESS warehouse in Regina. The masks and gloves had been purchased in 2009 and had passed the limit of five years for their use, as recommended by the manufacturer.

Canadian Pandemic Influenza Plan PPE Guidance

The **2006 CPIP** stated that *plans are required to allow for a consistent 16-week supply (i.e. two pandemic waves) of both influenza and non-influenza related materials to address sporadic interruptions of supply chains (e.g. resulting from mail and courier disruptions, border closures, supply limitations).*

The **2011 CPIP** indicates that methods to estimate PPE requirements are beyond the scope of the CPIP, and notes that P/T governments are responsible for ensuring the provision of medications, supplies, and equipment required for provision of pandemic health care services.

PHAC Contact:
PHAC Approved by:

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-03 2:10 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED] IC)
Subject: RE: Relabeling and distribution of declassified gowns

Hi [REDACTED]

As per the WHO Disease Commodity package (link below), all Levels are acceptable.

[https://www.who.int/publications-detail/disease-commodity-package---novel-coronavirus-\(ncov\)](https://www.who.int/publications-detail/disease-commodity-package---novel-coronavirus-(ncov))

WHO also has Infection prevention and control guidance for the conduct of health care when novel coronavirus infection is suspected, that includes indications for use of a gown, and when they should be fluid resistant (i.e., when undertaking aerosol producing activities).

<https://www.who.int/publications-detail/10665-331495>

[REDACTED]

From: [REDACTED]
Sent: 2020-06-03 11:27 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: Relabeling and distribution of declassified gowns

[REDACTED]. Do we know what minimum requirement re level is for dealing with Covid19 positive case(s)? Any who guidance on that?

Sent from my iPhone

On Jun 3, 2020, at 11:19 AM, [REDACTED] > wrote:

Hi [REDACTED]

A brief description of the Level/indications for use of medical gowns is as follows:

Level 1: Minimal risk, to be used, for example, during basic care, standard isolation, cover gown for visitors, or in a standard medical unit

Level 2: Low risk, to be used, for example, during blood draw, suturing, in the Intensive Care Unit (ICU), or a pathology lab

Level 3: Moderate risk, to be used, for example, during arterial blood draw, inserting an Intravenous (IV) line, in the Emergency Room, or for trauma cases

Level 4: High risk, to be used, for example, during long, fluid intense procedures, surgery, when pathogen resistance is needed or infectious diseases are suspected (non-airborne)

(<https://www.fda.gov/medical-devices/personal-protective-equipment-infection-control/medical-gowns>)

[REDACTED]

From: [REDACTED]
Sent: 2020-06-03 6:36 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: Relabeling and distribution of declassified gowns

Thanks for this. Can you please tell me what the different levels are and the associated description. Eg level 1 can be used in which setting.

Sent from my iPhone

On Jun 1, 2020, at 8:42 PM, [REDACTED] wrote:

[REDACTED],

As requested, please find below a status update on the issue of gowns that do not meet the specifications indicated on their label. Thanks to [REDACTED] and team.

[REDACTED]

As a result of PHAC's quality assurance testing process, it has been determined that four (4) Canadian manufacturers and two (2) international suppliers (comprising 3 manufacturers) have supplied gowns which do not meet the performance classification indicated on their labelling. [REDACTED]

[REDACTED]

PHAC and PSPC have informed domestic and international suppliers of the testing results and are working with them to identify a path forward. Considerations for domestic manufacturers may include enhancing their manufacturing process to meet the specifications, or amending the contract and future labelling to reflect the performance standard.

It is anticipated that up to 60M gowns will require relabelling, including that in inventory and that in transit. As gowns are a high demand product, PHAC has collaborated with Health Canada to identify a relabelling strategy that will not significantly delay distribution. Labels have been developed by PHAC and approved by Health Canada. The labelling process is currently underway and will be supported with communication by PHAC to the Provinces and Territories through the Logistics Advisory Committee.

Implicated products that may have been distributed by manufacturers or importers to customers other than PHAC will also need to be re-labelled. This would be considered a recall if the products have already been sold. HPFB has determined that this recall would be considered a Type III (lowest risk, meaning that the use of the recalled product is not likely to cause any adverse health consequences). Health Canada has initiated contact with manufacturers to undertake this assessment. Should a recall be required, the recall and public communication would be posted by early next week.

67K of the implicated gowns have been shipped to the Canadian Armed Forces (CAF) to fulfill an urgent request for emergency supplies of gowns for their response in long-term care facilities. CAF was fully informed of the gown limitations and test results. In addition, one lot of approximately 560 [REDACTED] gowns were sent to P/Ts to meet an urgent request. Although the gowns sent were labelled by the manufacturer as a level 2 gown, PHAC provided a label on the CNPHI website indicating that this product was a level 1. In line with the current relabelling initiative, PHAC will also provide communication and updated labels for these gowns. Shipments were sent to the following provinces : Alberta (1 case), British Columbia (2 cases), Ontario (4 cases), Quebec (3 cases).

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-04 7:48 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: Re: Time sensitive - request from PCO on Vaccine Preparedness

Agree. We had a discussion on vaccine gameplan today. [REDACTED] and [REDACTED] are working on this. We'll connect with OGDs to bring the pieces together.

[REDACTED]

[REDACTED]

[REDACTED]

Infectious Disease Prevention and Control Branch/Direction-générale de la prévention et du contrôle des maladies infectieuses

Public Health Agency of Canada/L'agence de la santé publique du Canada

Sent from my iPhone

On Jun 4, 2020, at 6:26 PM, [REDACTED] wrote:

[REDACTED]. Think we need to get ready for inevitable cabinet discussion on this which based on trail below may end up happening faster then we think. [REDACTED]

Sent from my iPhone

On Jun 4, 2020, at 6:07 PM, [REDACTED] wrote:

Thanks [REDACTED]. For clarification, I did not provide a vaccine 101 presentation today. It was a verbal briefing on the GSK pandemic contract. There were no products.

I concur with the other departments that we're probably not ready to take this topic to Cabinet since our Mino's have not been engaged yet. However, if pressed, the PHAC space on this issue would be on the deployment of a COVID-19 pandemic vaccine candidate, and could cover:

- 1) Securing COVID-19 vaccine supply for Canadians
 - Working with PSPC on one or more advance purchase contracts and with the PTs for their technical requirements under the contract(s)

- Confirming federal position on cost-sharing (H1N1 vaccine was 60:40 cost shared)
 - Confirming requirements and arrangements for federal populations not covered under PT health systems (eg, Forces, Corrections)
- 2) Developing Public Health Guidance on the use of COVID-19 vaccine
- Public health guidance on the use of the vaccine following HC market authorization by the National Advisory Committee on Immunization (NACI)
 - Prioritization framework, recommended by NACI, for deploying the vaccine to high risk and priority groups first until sufficient supply is available
 - Convening the PTs towards encouraging a pan-Canadian consistent approach with NACI vaccine recommendations, including consensus on priority groups
- 3) Supporting the P/Ts in deploying COVID-19 vaccine
- Advance preparedness through procurement of vaccination supplies
 - Supporting the PTs with public health guidance (eg, how to run community vaccination clinics in a COVID social distancing context)
- 4) Establishing enhanced vaccine safety monitoring
- Leveraging existing systems in place for vaccine safety monitoring at Health Canada and PHAC to conduct enhanced COVID-19 vaccine surveillance with the PTs
 - (Need HC input on this item)
- 5) Monitoring vaccine uptake and effectiveness
- Determine who has received COVID vaccine by working with the PTs to support efforts to track vaccine coverage (eg, national coverage surveys)
 - Leverage existing vaccine effectiveness research networks to study the effectiveness of the COVID-19 vaccine

[REDACTED]
 Centre for Immunization and Respiratory Infectious Diseases (CIRID)
 Infectious Disease Prevention and Control Branch

[REDACTED]
 Centre de l'immunisation et des maladies respiratoires infectieuses (CIMRI)
 Direction générale de la prévention et du contrôle des maladies infectieuses

PUBLIC HEALTH AGENCY OF CANADA | AGENCE DE LA SANTÉ PUBLIQUE DU CANADA

[REDACTED], Ottawa, ON K1A 0K9

Phone | Téléphone: [REDACTED]

Cell : [REDACTED]

<image001.png>

<image002.png>

From: [REDACTED]

Sent: 2020-06-04 4:18 PM

To: [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
Cc: [REDACTED]; [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Subject: Time sensitive - request from PCO on Vaccine Preparedness
Importance: High

[REDACTED]

I was invited to a short call with PCO, ISED, PSPC, HC and PHAC this afternoon.
See notes below from [REDACTED] who was also on the call.

In addition to [REDACTED] notes, other comments/questions from PCO:

- The fact that PM made reference to buying syringes caught people by surprise. What else do we need to buy?
- What are the considerations if we have to buy a vaccine not made in Canada
- What role for therapies in the remit
- how would we roll out vaccine to 30M Canadians.
- What linkage to research funding

There were compliments on the call from ISED on the vaccine 101 presentation done by [REDACTED] this morning with MinOs.

Bottom line- PCO will take back the questions and concerns on timing.
If we want to push on this, his recommendation for MinOs to carry the message.

We are being tasked by PCO to provide by Friday noon an outline of what we could present.

[REDACTED] - is there a deck from this morning that could be the basis of our input back to PCO?

Do you have recommendations for an outline of what PHAC could put in the window as part of a presentation.

[REDACTED] - recommend that makes more sense for the response back to be via OSPP.

[REDACTED] do you want to push back on this one via MinO [REDACTED] if yes, who would you like to reach out?

Thanks

[REDACTED]

[REDACTED]

Public Health Agency of Canada

From: [REDACTED] >

Sent: 2020-06-04 3:53 PM

To: [REDACTED]

Cc: [REDACTED]

Subject: Call with PCO on Vaccine Preparedness

[REDACTED] and I just got off a call with PCO where [REDACTED] shared that the DPM is looking for an item to come in next week on Vaccine preparedness/ MCM overall.

DPM is looking for an update on:

- ISED: manufacturing capacity, value chain issues, where are we strong, where are we looking at the investments
- Update on waves 1 and 2 of MCM investment
- PSPC: Procurement side - purchasing power and capacity
 - Domestic and international
 - Supplies required to support a vaccine rollout
- PHAC: vaccine strategy - how do you vaccinate the entire population? What's the plan?

Basically:

- How do we develop
- How do we procure what we need to administer it
- How do we administer

As you might imagine, this request was not met with enthusiasm because of the timing. The Vaccine Task Force has not yet met, the procurement strategy does not yet exist, there is really not much to update Cabinet on. In the end, [REDACTED] agreed to take it back to DPMO that the timing was not ideal, and would negotiate for another week.

Next Steps:

- [REDACTED] asked that each dept provide an outline by tomorrow noon of what we could provide verbal updates on.
- Bottom line: None of us think this is ready for Cab discussion, and we might need to engage MO on this as well – [REDACTED] said MINOs would need to weigh in on this with DPMO.

[REDACTED]
[REDACTED]
COVID-19 Secretariat
[REDACTED]

(PHAC/ASPC)

From: [REDACTED]
Sent: 2020-06-04 4:26 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Follow up to bi-lat today
Attachments: Deep Dive - Gowns - June 4.docx

OK, great.

FYI, we are discussing gowns with PSPC tomorrow.

From: [REDACTED]
Sent: 2020-06-04 4:24 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: Follow up to bi-lat today

Thanks. Had an exchange with [REDACTED] today. They await our requisitions. Told him we'd come forward with gloves, gowns and N95s

Sent from my iPhone

On Jun 4, 2020, at 3:26 PM, [REDACTED] wrote:

[REDACTED]

As promised, please see enclosed the "swab deep dive" that PSPC prepared for our twice weekly commodity review calls this week.

[REDACTED]

[REDACTED]

Public Health Agency of Canada

[REDACTED]

[REDACTED]

[REDACTED]

<Deep Dive- Swabs -May 25.docx>

COMMODITY – GOWNS

TOTAL QUANTITY PROCURED: 126,625,160

TOTAL COST: \$ 1,593,698,293.55

TOTAL NO. SUPPLIERS: 23

Since March PSPC has awarded:

- 25 contracts to 23 companies for a total of 126,625,160 gowns with a planned delivery schedule between April and December, 2020. Delivery has begun.

Demand risk – High
and Dominican Republic

Quality Risk – Medium

Delivery risk – High

Diversification of Supply: Canada/ China

BACKGROUND

Medical gowns are hospital gowns worn by medical professionals as personal protective equipment (PPE) in order to provide a barrier between patient and professional. Whereas patient gowns are flimsy often with exposed backs and arms, PPE gowns as seen below in the cardiac surgeon photograph cover most of the exposed skin surfaces of the professional medics. Specs are attached.

Initial PHAC Demand: March 2020 6,320,500 gowns.

DEMAND RISK:

There is a very high demand for gowns globally. SMS material usually used for the production of gowns is being diverted to the production of masks. Manufacturers are proposing alternative material for the production of gowns. Having domestic suppliers presents interesting challenges. Canadian suppliers are utilizing alternative material such as house wrap (disposable) and air bag (thick reusable) material. Material has been approved by HC for the production of gowns. However, given the shortage of this material, our Canadian manufacturers are now turning to imported alternative material for manufacturing gowns in Canada.

QUALITY RISK:

Product compliance is reviewed against the technical specifications released by the World Health Organization (WHO). All proposed gowns are reviewed by the PHAC technical team. PHAC has implemented a robust Quality Assurance program. Samples are being assessed before production if required. Some of the gowns received are not meeting the requested Levels, actions are underway to correct the situation.

DELIVERY RISK:

- Canada was experiencing some delivery delays with gowns shipments, however the delivery of the domestic gowns are coming on line. With the shortage of material and the global demand for gowns, production lines were delayed. With the new restrictions for exporting from China, the customs process is taking longer than anticipated, however we now have a lot of gowns in the warehouse in China, for that reason we are looking to get ahead of the game We need to also take into consideration that gowns are very heavy and for that reason deliveries by air have been an issue. Competition being created in the Canadian market for production of gowns and cloth masks with limited resources (affecting price and capacity). Raw material availability is within the 6 month period. Respecting COVID 19 regulations (social distancing imposed in the workplace) and getting employees to return to work and ramping up has been difficult. Regulatory requirements and impact
- To date, 3, 749,931 gowns have been delivered to PHAC
 - By the end of June , PSPC is expecting an additional 15,917,952 gowns to be delivered to PHAC.

Diversification of Supply:

PSPC has awarded 25 contracts to 23 suppliers. Additional contracts are being negotiated with other suppliers. Domestic capacity has ramped up.

Price Risk: Prices in PSPC contracts vary from [REDACTED] Price variation is a consequence of the increasing demand. Prices vary mainly because of quality of product, some can be used up to 75 washes and production processes.

Gowns specifications

North American Standards

European equivalencies

CSA Z314 (Canada) and ANSI PB70 (USA)		EN 13795, for Gowns		EN 14126, for Coveralls	
Classification	Standard / Testing	Classification	Standard / Testing	Classification	Standard / Testing
Low Risk	Level 1 Minimal water resistance (some resistance to water spray)	Standard Performance	EN 20811 – Hydrostatic pressure • Less critical areas \geq 10cm • Critical areas \geq 20cm	Class 1	ISO 16603 (Blood) & 16604 (Viral): No penetration at 0 kPa
	AATCC 42 - Water penetration \leq 4.5 g AATCC 127 - Hydrostatic pressure N/A			Class 2	ISO 16603 (Blood) & 16604 (Viral): No penetration at 1.75 kPa
	Level 2 Low water resistance (resistant to water spray and some resistance to water penetration under constant contact with increasing pressure)			Class 3	ISO 16603 (Blood) & 16604 (Viral): No penetration at 3.5 kPa
High Risk	Level 3 Moderate water resistance (resistant to water spray and some resistance to water penetration under	High Performance	EN 20811 – Hydrostatic pressure • Less critical areas \geq 10cm • Critical areas \geq 20cm	Class 4	ISO 16603 (Blood) & 16604 (Viral): No penetration at 7 kPa
	AATCC 42 - Water penetration \leq 1.0 g AATCC 127 - Hydrostatic pressure \geq 50cm water column			Class 5	ISO 16603 (Blood) & 16604 (Viral): No penetration at 14 kPa

constant contact with
increasing pressure)

Level 4

Blood and viral
penetration resistance
(2 psi)

ASTM F1670 (Blood) &
F1671 (Viral):

No penetration at 2 psi
(13.8 kPa)

Class 6

ISO 16603 (Blood) &
16604 (Viral): No
penetration at 20 kPa

Awarded Contracts:

	Supplier	Quantity	Price		
1.	BioNuclear (Level 2)	gowns Prior to PHAC – Req of March 11	\$139,668	delivered Prior to PHAC Requisition	China
2.	PriMed	gowns	\$92,038,555	delivered to be delivered in June to be confirmed in June	China
3.	Campbell Drug Store (PharmacyGo) (Level 3)	gowns	\$165,200,000	to be delivered by end of June a week will be shipped by sea starting week of May 11 (it takes 28 days) until we hit	China

				20,000,000. Will start arriving in June.	
4.	Isoplex (Level 2)	gowns	\$8,672,750	to be delivered by end of June (Flights to leave China on June 10 to 14)	China
		gowns	\$113,565,000	shipped by sea (it takes over a month) should start arriving in July	
5.	Mufactor (Level 2)	gowns	\$256,160,830	delivered already in Canada with Groupe Robert for delivery. to be delivered by air to Groupe Robert by end of June	China

6.	Mariner Endosurgery (Level 3)	█ gowns	\$123,250,230	█ delivery to Groupe Robert in Mississauga on May 26. █ to arrive by air in June █ a week for the remainder – by sea – starting May 22 (takes 28 days)	China
7.	Proline Advantage (Level 3)	█ gowns	\$265,550,000	█ delivered █ to be shipped by air on June 1 to arrive June 4th Remainder to come by sea starting in July (has been shipped end of May – Takes about 1 month)	China
8.	Mustang Survival Group (Textile LOI)	█ gowns	\$20,340,000	█ to be delivered by end of June	Canada

				Period: June to December 2020 Weekly deliveries: [REDACTED] after ramp-up period	
9.	Confection Aventure (Innotex Protection) (Textile LOI)	[REDACTED] gowns	\$14,690,000	[REDACTED] to be delivered by end of June Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	Canada
10.	Quartz Nature Inc. (Textile LOI)	[REDACTED] gowns	\$7,615,296	No delivery for June Period: June to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	Canada
11.	Stanfield's Ltd (Textile LOI)	[REDACTED] gowns	\$27,911,000	[REDACTED] delivered No delivery for June Period: May to November 2020	Canada

				Weekly deliveries: 100,000 after ramp-up period	
12.	Canada Goose (Textile LOI)	gowns	\$33,203,920	delivered to be delivered by end of June Period: May to November 2020 Weekly deliveries: after ramp-up period	Canada
13.	Calko Group (Textile LOI)	gowns	\$7,287,144	to be delivered by end of June week of July 20 week of August 17 week of September 14 week of October 12	Dominic Republic
	Calko Group (non LOI related)	gowns	\$8,978,980.00	delivered to be delivered by end of June	Canada

				Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	
14.	Logistik Unicorp (Textile LOI)	[REDACTED] gowns	\$113,281,345.40	[REDACTED] delivered [REDACTED] to be delivered by end of June Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	Canada
15.	George Courey (Textile LOI)	[REDACTED] gowns	\$39,663,000	[REDACTED] delivered No delivery for June Period: May to November 2020 Weekly deliveries: avg of [REDACTED] after ramp-up period	Canada
16.	Triplewell Canada Ltd. (Textile LOI)	[REDACTED] gowns	\$6,441,000	[REDACTED] delivered [REDACTED] to be delivered by end of June	Canada

				Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	
17.	Wuxly Movement (Textile LOI)	[REDACTED] gowns	\$49,548,240	[REDACTED] delivered [REDACTED] to be delivered by end of June Period: June to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	Canada
18.	Roudel Medical & Surgical Supplies Inc. (Textile LOI)	[REDACTED]	\$10,022,535.00	[REDACTED] delivered No delivery for June Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	Canada
	Roudel Medical & Surgical Supplies Inc. (non LOI related)	[REDACTED] gowns	\$51,844,965.00	Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp-up period	Mexico/US
19.	Wazana Clothing (Textile LOI)	[REDACTED] gowns	\$97,818,043.20	[REDACTED] delivered	Canada

				No delivery for June Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp- up period	
20.	Samuelsohn Limited (Textile LOI)	[REDACTED] gowns	\$22,600,000	[REDACTED] to be delivered by end of June Period: May to November 2020 Weekly deliveries: [REDACTED] after ramp- up period	Canada
21.	Westcomb (Textile LOI)	[REDACTED] gowns	\$11,665,668	No delivery for June Period: June to November 2020 Bi-weekly deliveries: [REDACTED] after ramp- up period	Canada
22.	Fellfab (Textile LOI)	[REDACTED] gowns	\$1,088,071.35	Period: July to October 2020 Weekly deliveries of [REDACTED] after ramp-up period	Canada
23	Joseph Ribkoff (Textile LOI)	[REDACTED] gowns	\$45,122,052.60	Period: July to November 2020 Weekly deliveries of [REDACTED] after ramp- up period	Canada

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-04 5:33 PM
To: [REDACTED] (PHAC/ASPC)
Subject: Fwd: NML ask

Specifics on short term outcomes below.

[REDACTED]

[REDACTED]
[REDACTED]

Infectious Disease Prevention and Control Branch/Direction-générale de la prévention et du contrôle des maladies infectieuses
Public Health Agency of Canada/L'agence de la santé publique du Canada

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]
Date: June 3, 2020 at 3:15:46 PM EDT
To: "[REDACTED]"
Cc: [REDACTED]
[REDACTED]
[REDACTED]
Subject: RE: NML ask

Repurposing the NRC Surplus Crown Asset at [REDACTED] in Winnipeg which is ideal for the laboratory space required by NML will provide the following to PHAC-NML:

Within 2 months:

- NML will have acquired a facility fit for purpose. (Important note: [REDACTED])
- NML will have formal agreements with academia to begin breeding colonies of the appropriate animal models so that we can immediately ensure that COVID-19 animal models are available for COVID-19 pre-clinical work on vaccines and therapeutics.
- NML will be able to retain highly skilled and CL4-trained researchers who are currently on term or sunset funding (these are trained research who are at serious risk of seeking employment elsewhere, and those who are required to manage the current COVID-19 commitments vis-à-vis pre-clinical studies).

Within 4 months:

- NML will have additional animal holding facilities. This will enable the purchase and "stockpile" the appropriate animals for COVID-19, including NHP. This will enable a more efficient flow of COVID-19 projects through the CL4 laboratory in that animals can acclimatize, and be inoculated and held outside the CL4 facility until the challenge studies begin (rather than being in CL4 for the duration).

- NML will have an expanded biobanking facility to ensure that NML can hold and manage additional human samples for COVID-19 research and Immunity Task Force studies.

Within 6 months:

- NML will have construction drawings for CL3 animal facilities.
- NML will have an enhanced bioinformatics facility.

Within 8-12 months:

- NML will have additional office and laboratory (CL2) space.
- NML will hire and have begun training for additional highly skilled (and partially trained) personnel.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Public Health Agency of Canada | Government of Canada

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Agence de la santé publique du Canada | Gouvernement du Canada

[REDACTED]

-----Original Message-----

From: [REDACTED]

Sent: 2020-06-03 9:58 AM

To: [REDACTED] >

Cc: [REDACTED]

Subject: Re: NML ask

Importance: High

How long does repurposing take? What will we have in 2, 4, 6 months that we don't have now?

[REDACTED]

[REDACTED]

[REDACTED]

Infectious Disease Prevention and Control Branch/Direction-générale de la prévention et du contrôle des maladies infectieuses Public Health Agency of Canada/L'agence de la santé publique du Canada

Sent from my iPhone

On Jun 3, 2020, at 10:55 AM, [REDACTED]
[REDACTED] wrote:

The biggest short term deliverable is the acquisition/repurposing of a facility that is fit for purpose.

A facility that:

1. Will prepare the Canadian government for responding to multiple emergencies caused by high consequence pathogens
2. Allows the Canadian government to have access to vaccine therapeutics through structured collaborations with industry and academia
3. Is far less expensive than building new as it is already fit up as a laboratory
4. Presently fit up for animal breeding and housing – this is another expensive endeavor, however the structure is already in place to expand on. Within the initial 6 months, [REDACTED]
[REDACTED] accelerating procurement of animal models to support studies currently underway or planned over the next year.

If we don't act now we will lose out on that facility due to the current bid in place.

Further context:

While the building will take three years to be fully outfitted to conduct work at CL3, the facility would begin supporting pre-clinical work over the next six months. Access to animal models is paramount to ensuring that pre-clinical studies underway or planned over the next year can occur. There is a significant amount of work required to support current research and development efforts and to ensure that PHAC is properly positioned to support pre-clinical work in the near future for COVID-19. Without the facility and approval of this proposal, this would not be feasible.

Short-term, should PHAC not receive approval to proceed with the pre-clinical and clinical MCM facility, it is expected that PHAC would have to go back to partners such as VIDO-InterVac, Abcellera, and Emergent, to identify that the NML would be unable to fully support their pre-clinical research needs due to a shortage of technical expertise in the short and medium term, as well as delays in acquiring the requisite animal models.

Looking forward, the acquisition of the facility and hiring/training of associated technical staff are short-term deliverables with longer-term implications. Training technical staff that can work at the CL3 and CL4 levels to support a sustained COVID-19 response takes many months to do. Ensuring that we are building up the laboratory footprint and technical expertise to support a sustained COVID-19

response also means that NML will have future capacity to respond to multiple emergencies caused by high consequence pathogens. Moreover, the government will have access to vaccine therapeutics through structured collaborations with industry and academia

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Health Agency of Canada | Government of Canada

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Agence

de la santé publique du Canada | Gouvernement du Canada

[REDACTED]

-----Original Message-----

From: [REDACTED]

Sent: 2020-06-03 8:20 AM

To: [REDACTED]

[REDACTED] >

Subject: NML ask

Importance: High

Finance not convinced we will get anything out of this in short term since it will take 3 years to build.

Any deliverables in short- term? If not, let's move it into the work OSPP is doing for the long-term.

Thanks.

[REDACTED]

[REDACTED]
[REDACTED]
Infectious Disease Prevention and Control Branch/Direction-générale de
la prévention et du contrôle des maladies infectieuses Public Health
Agency of Canada/L'agence de la santé publique du Canada

Sent from my iPhone

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-05 2:25 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
(PHAC/ASPC)
Subject: Review of Email
Attachments: Recommendation Tracker.docx

Hi [REDACTED]

Based on the review that OAE did of key decisions documented in your email, we pulled together the attached tracker which summarizes all of their recommendations and provides some suggested next steps.

Their review assessed whether your email contained inconsistencies or gaps. Overall, I think we are able to pull together the right documentation to support all of the decisions, though a few key areas may need a note to file to help explain the context, including the following:

- Decision regarding the purchase of Thornhill ventilators;
- Decisions related to the acceleration of PPE acquisitions and requisitions to PSPC; and,
- Decisions related to staffing of Executives.

I would say that a lot of the recommendations could be dealt with by developing a solid procurement chronology, in collaboration with PSPC. HPOC has been working on a chronology. We need to review it to see how well it would support the work on procurement, or if we need a supplementary product.

Similarly, think we should look at what HPOC has included in their chronology on borders and see if we need to supplement it.

I'll ask for this to be printed for your review. Happy to chat further.

In the meantime, we will continue to work to ensure the appropriate documentation is in place.

Thanks,
[REDACTED]

[REDACTED]
[REDACTED]
Public Health Agency of Canada | Agence de la santé publique du Canada
[REDACTED]

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
Ventilators			
Canadian Firms	<p>The Agency's procurement of ventilators from Canadian firms could be clarified by adding the following:</p> <ul style="list-style-type: none"> Context for the direction to "increase order 10 fold", if available Any analysis used to set up the requisition of ventilators at 30,000, such as modelling of the future demand for ventilators; and Any additional details about the substantial revision to the estimated cost, such as when the new estimate was communicated to PHAC, the reasons for the change, and any concerns raised by PHAC with PSPC 	<p>Based on conversations with [REDACTED], documentation exists to support these decisions. For example, modelling work completed by [REDACTED] supports the "increase order 10 fold" and the requisition of ventilators.</p> <p>Will be worthwhile to work collectively with PSPC to develop a chronology on procurement decisions.</p>	Build chronology on procurement.
Thornhill	<ul style="list-style-type: none"> As a whole, these email exchanges contextualize a decision that appears to differ from advice. However, this file would benefit from additional context from other communication medium such as phone calls or meetings 	<p>There is an email chain that shows the [REDACTED] approving the purchase of Thornhill ventilators despite PHAC staff advising not to proceed with it, as it does not meet technical requirements. This gap in the story is explained in part by an email from the [REDACTED] [REDACTED] on March 19th.</p> <p>The email records also include subsequent discussions of how to mitigate the technical challenges.</p> <p>This file would benefit from a note to file to explain context.</p>	Note to file.
[REDACTED] (China)	<ul style="list-style-type: none"> Ensure that documentation of PHAC's approvals to PSPC is retained; Ensure that the reasons for cancelling this contract are specified; and 	[REDACTED]	Build chronology on procurement.

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
	<ul style="list-style-type: none"> Document whether the Agency lost any money during this exchange, or whether all depositions and test payments were recovered 	Based on emails, no money was lost. This could be included in an overall chronology on procurement.	
PPE			
Deal with 3M	<ul style="list-style-type: none"> If this transaction was completed, verify that a thorough record exists outside of email Ensure that PHAC's final approval of the deal is recorded; and Document the reasons for PHAC's endorsement of the potential deal if these reasons are not recorded elsewhere 	<p>There were emails related to a potential deal with deal with 3M. Talks about [REDACTED] for masks and [REDACTED] for vents. [REDACTED] Eventually it says that vents (from China) are no longer being pursued. It is not clear if the mask purchase went through.</p> <p>Think this can be captured as part of an overall procurement chronology.</p>	Build chronology on procurement.
Acquiring PPE	<p>Ensure sufficient documentation outside of email exists to provide a timeline for the acceleration of PPE acquisitions, including:</p> <ul style="list-style-type: none"> Decisions to increase funding for PPE to \$1M and beyond \$1M; Decisions taken in meetings following the [REDACTED] February 9 email to "purchase now", if applicable; and The date when the DM committee began working to acquire PPE 	<p>Emails from mid-February to mid-March demonstrate an increasing urgency with acquiring PPE for the NESS. However, the emails do not clearly indicate the decisions taken with regard to increasing acquisition.</p> <p>By mid-March, the President was informed by the Health Minister's Office that PMO wanted "over supply" (March 18th).</p> <p>While most of this can be captured in a chronology on procurement, may want to consider including a note to file as well.</p>	<p>Build chronology on procurement.</p> <p>Note to file.</p>
Masks	<ul style="list-style-type: none"> Document whether this particular deal (Tridan Global) was affected by the timeliness of PHAC's response, and whether the deal proceeded; 	This email trail is not particularly clear but relates to buying masks from Tridan Global/Dasheng.	Build chronology on procurement.

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
	<ul style="list-style-type: none"> Document PHAC's input into the deal, including approval, technical review, or concerns; and Document how this agreement was recorded in the financial records, as well as the process for determining if the product was acceptable 	<p>█████ noted to me that there may also be lack of clarity related to the authority requisitions related to some of these deals that we should follow up on.</p> <p>In general, think this could be captured by a procurement chronology.</p>	
Requisition to PSPC	If available, include any analysis that informed the eventual procurement order or the strategy of requisitioning more equipment that available to increase supplier interest	<p>Email exchanges from late March and early April indicate that PHAC provided direction to PSPC to buy supplies. However, the email exchanges show rapidly changing fluctuations in the amounts of equipment ordered.</p> <p>On April 7th, PHAC made a \$1 billion requisition to PSPC for 8 weeks of PPE.</p> <p>Understand that the analysis that supported to the procurement came after the fact, but did support the amount that was ordered.</p> <p>Think a note to file would help support the decisions, though this can be captured by a procurement chronology.</p> <p>Also need to confirm that the appropriate requisitions or emails were in place to support all of the procurement.</p>	<p>Build chronology on procurement.</p> <p>Note to file.</p>
Distribution to PTs	<p>The record of decisions regarding the distribution of PPE to PTs could be clarified by adding:</p> <ul style="list-style-type: none"> Any documents indicating how the system of approvals for daily shipping operated (i.e. 	<p>Think there already is a good paper trail regarding the allocation of PPE to PTs, including the allocation formula.</p>	N/A

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
	<p>whether the [REDACTED] s approval was required daily, whether an ADM approved daily, etc.);</p> <ul style="list-style-type: none"> Any formal approvals for the system of allocating PPE to PTs, such as a briefing note. 	Do not think further action is required.	
Sterilization	<ul style="list-style-type: none"> Verify whether the proposed approach begins at \$50,000 or \$50M (as this may be a typo), and more generally document any PHAC approvals or concerns shared with other departments regarding sterilization; and Reference any meeting minutes that provide the context for PHAC's agreement with this approach, if sufficient documentation does not exist in emails or other records 	<p>The issue was discussed by Deputies and at FPT tables.</p> <p>FPT is pulling records of where it was discussed and will also provide a copy of the letter that [REDACTED] sent to PT DMs on the issue to help complete records.</p> <p>Costing issue identified should be clarified with OCFO.</p>	Clarify costing with OCFO
Donation to China	Document how the [REDACTED] 's concerns regarding the donation were allayed, possibly through a note to file or reference to a prepared analysis in late January or early February	<p>A memo to Minister is on file that outlines to the Minister what the PHAC donation consisted of. The donation was part of a larger effort coordinated by GAC and CRC.</p> <p>There is also documentation from NESS officials confirming that the highest value items were coveralls that were purchased with Ebola funding in 2014, and due to expire. The memo also confirms that the PHAC donation would not compromise any future RFAs.</p> <p>Think the file is complete and no further action is needed</p>	N/A
Other Issues			
Border Restrictions	Ensure that sufficient information is available to reconstruct timeline of the Agency's position regarding border restrictions, and the reasons for	Would be worthwhile to develop a chronology supporting border decisions. It may already be	Ensure there is an appropriate border chronology

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
	any shifts in policy, including public health analysis and direction from central agencies	included in the chronology document that HPOC is developing. Need to confirm.	
Self-Isolation	Verify whether the extension of self-monitoring guidance to all travellers is documented elsewhere; if not, retain this exchange as documentation of PHAC's evolving policy regarding returning travellers, and, if possible, clarify the public health analysis supporting the policy change	<p>The decision would have been made based on the changing epidemiology of the pandemic.</p> <p>It may already be included in the chronology document that HPOC is developing. Need to confirm.</p>	Ensure there is an appropriate border chronology
Trenton	Ensure that the reasons for the [REDACTED] release of individuals from quarantine is documented, to avoid the appearance that individuals were released to free up rooms	<p>Releasing CAF members and flight crew was down through a formal process involving speaking with each person individually to assess their exposure risk and providing them with documentation certifying their release.</p> <p>Material was developed by [REDACTED] and reviewed by Legal Services. The email reflects the operational realities on the ground for a quarantine officer to do a final health assessment on each individual prior to leaving the quarantine site.</p> <p>Think sufficient documentation exists and no further action is needed.</p>	N/A
[REDACTED]	Clarify the discrepancy between NML apparently [REDACTED] deal by documenting NML's advice and position ultimately taken by PHAC	<p>[REDACTED] DPC clearly stated on the record that the proposal makes sense from a public health perspective.</p> <p>While the email exchange may not indicate that a deal was reached [REDACTED]</p>	Build chronology on procurement

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
		May need to clarify PHAC's role in the [REDACTED] purchase versus ISED support through SIF (not clear from email exchange). Think this should also be built into a procurement chronology.	
[REDACTED]	<ul style="list-style-type: none"> Document the decision to [REDACTED] along with any supplementary analysis. If the decision was taken by Health Canada, document PHAC's input; If this information already exists outside of the email record, further clarification may not be necessary 	<p>Documentation is in place. [REDACTED] signed a Memo to Minister on April 7, 2020 outlining the plan to acquire [REDACTED] in the NESS and the rationale for doing so.</p> <p>MECS reference 20-105857-359</p>	N/A
MILA App	Document any recommendations or reservations regarding the MILA app, including the potential downsides and how these were communicated to Cabinet, DMs, or other parties	This app has been driving between HC and ISED. Recommend that any questions or documentation on this be directed to those departments.	N/A
HR	For both scenarios, the rationale and context are lacking, as expected for emails. However, there could be a perception of using the temporary COVID-19 response to grow the footprint of the Agency long-term without a clearly defined mandate to do so, and without clearly defined and distinct roles and responsibilities for these executives. We recommend ensuring that the proper context for these decisions is documented.	<p>Needs a more thorough review at an appropriate time, and should be part of future state discussion.</p> <p>Would benefit from a note to file to explain rationale behind decisions.</p>	Note to file
Other Single Emails that OAE noted during review			
	<i>Email #1: We are pulling a vent overview of what we have bought</i>	Should be considered within the broader procurement chronology.	Build chronology on procurement.

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
	The [REDACTED] approves the purchase 40 Phillips vents and trollies. PSPC says, "PHAC came back and told me they were not desirable." The [REDACTED] expresses confusion.		
	<p><i>Email #2: Re: Non-Exempt Traveller – POE</i> [REDACTED]</p> <p>Referring to a traveler who entered the US and returned to Canada, the [REDACTED] tells the [REDACTED] of CBSA to "Tell him he is ordered to quarantine at home."</p> <p>The authority of the [REDACTED] to order quarantine in this situation is unclear. In addition, it is unclear if you [REDACTED] is doing so after having reviewed and fully understood the details of the case.</p>	<p>This relates to the [REDACTED] who travelled to the US for non-work purposes.</p> <p>I think the phrasing "Tell him he is ordered to quarantine at home" is taken out of context when you read the entire exchange. The PHAC [REDACTED] was not ordering a quarantine, but offering an opinion to her CBSA [REDACTED]. The CBSA [REDACTED] is clear to say "I'm inclined to do this...what do you think?" The [REDACTED] is also clear that she has not consulted with her staff, but offers a view in order to assist CBSA in making a decision on next steps about this specific case.</p> <p>Any formal decision for a quarantine order would fall to the discretion of a local Quarantine Officer, following consultation with CBSA on the issue.</p> <p>This is a transitory exchange of opinions, and not a formal documentation of any decision that may have been taken.</p>	N/A
	<p><i>Email #3: Re: Do we have any body bags in the NESS? Do we need special ones to deal with people who died from COVID?</i></p> <p>Multiple people in the email chain say they do not think PHAC should order more body bags,</p>	While it may be true that there had been no request to date for body bags, it is reasonable for the [REDACTED] to instruct staff to order more, given the context at the time, including what was happening in cities like New York, or Spain and	Build chronology on procurement

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
	<p>because there are no demand or supply issues. The [REDACTED] requests additional units anyway.</p> <p>It would be important to document the procurement decision if there is no identified need for it.</p>	<p>Italy. It is also a somber, but necessary part of pandemic planning.</p> <p>This can be addressed through the procurement chronology</p> <p>This is also a commodity that can be cycled out for use as part of normal health system operations – so they can still be used by PTs, even if they are not necessary in the context of COVID 19</p>	
	<p><i>Email #4: Re: Question- Authority for PSPC to Procure and Distribute Goods to Essential Services Workers</i></p> <p>This email has the [REDACTED] advising against PHAC being responsible for purchasing PPE for essential workers. [REDACTED]</p> <p>The [REDACTED]s decision, if any, should be documented.</p>	[REDACTED]	N/A
	<p><i>Email #5: Fwd: March 25, 2020 PPE Procurement update</i></p> <p>In a March 25 email about distributing PPE, the [REDACTED] states, “we have a lot of requests dating back a few days that we haven’t done anything with. This will become another Achilles heel. Likely we shd maybe add a few explanatory notes??” Attached is a list of orders made by</p>	<p>This is a transitory email exchange between [REDACTED] and [REDACTED]. [REDACTED] is reacting to PPE reports coming out from HC. Need to recall, as well, that these reports were refined and improved a fair bit over time. They are also produced on a daily basis – so there are clear records over time.</p>	N/A

ISSUE	RECOMMENDATIONS FROM OAE	COMMENTS	NEXT STEPS
	<p>provinces to the NESS dating back up to seven days prior – some outstanding and some completed.</p> <p>It would be important to document the context of this delay, if any.</p>	<p>PHAC has expeditiously addressed all RFA's for P/Ts, and this is documented in numerous places including the daily sitreps and Quick Facts produced by the Agency,</p> <p>See no requirement or value in keeping this Email. It does not document or change any procurement decision.</p>	
	<p><i>Email #6: Re: BYD Order</i></p> <p>The [REDACTED] strongly recommends proceeding on \$245m acquisition of masks from BYD. Potentially another \$115m (unclear if included in \$245m). The [REDACTED] agrees and says, "[REDACTED] to add to our money tracking list".</p> <p>Given the urgency of the PSPC recommendation, we advise documenting PHAC's response.</p>	<p>Suggest we follow up with NESS and OCFO officials to ensure there is final documentation on this particular purchase – both in terms of amount and final cost.</p> <p>Based on May 24th PPE updated (an excel doc shared with MinO) – includes line item that 3M surgical masks from BYD were received by PHAC on May 9th.</p> <p>Should be captured as part of procurement chronology.</p>	Build chronology on procurement

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (HC/SC)
Sent: 2020-06-05 6:12 AM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: Fwd: Term Sheet
Attachments: June 4_PPE_clean.docx; ATT00001.htm

FYI

Begin forwarded message:

From: '[REDACTED]'
Date: June 4, 2020 at 11:06:16 PM EDT
To: [REDACTED]
Cc: [REDACTED]
Subject: Term Sheet

Hi,
After discussions with Finance and DPMO, here is the latest version – [REDACTED] Any concerns? Copying [REDACTED] as well as PPE rolls into his area as well! These are not exactly as you laid them out but happy to discuss.
[REDACTED]

**FPT SAFE RESTART FRAMEWORK
PERSONAL PROTECTIVE EQUIPMENT (HEALTH AND NON-HEALTH WORKERS)
TERM SHEET TEMPLATE
DRAFT- JUNE 4, 2020**

1. ESSENTIAL INFORMATION

Restart Priority:	Ensure Provinces and Territories, and health and non-health workers, have access to an emergency PPE procurement service, and access to an emergency PPE Reserve
Funding Program(s):	New
Funding Availability:	Should the PM provide approval for OC-FPRSP-197-2020-v1 – PPE Procurement and Fund, a new funding decision would not be needed for the \$4.0 billion for health workers. A separate decision has also been made to provide \$500 million to non-health workers (OC-EFP-044-2020-v1).
Funding Instrument(s):	_____
Existing Authorities (Y/N):	N - Access to funding could be provided through the statutory appropriations authority under the <i>Public Health Event of National Concern Payments Act</i> up to the termination of this authority. Remaining funding required beyond the termination of this authority could be accessible through regular Treasury Board process.

2. CONTEXT /OBJECTIVES

In light of the extraordinary circumstances related to COVID-19, the relative scarcity of PPE worldwide and the broad requirements for these materials, the federal government, PT governments, and the private and non-profit sectors must take additional measures to support PPE needs. Principally, recognizing that there may be delivery delays and that certain orders may not be completely filled, the federal government can act uniquely to procure and establish important cargo lift capacity to help PTs and essential private and non-profit sector services.

The federal government will set aside more than \$4.5 billion to procure and provide PPEs for health (more than \$4.0 billion) and non-health workers (\$500 million).

Beyond meeting the PPE needs of the health sector, provinces and territories, as well as essential workers in the private and non-profit sectors may need emergency PPE support. This could include critical supply chains such as agriculture, transportation and energy. Non-profit organizations working in the homeless-serving sector are also in particular need of PPE, as individuals experiencing homelessness are at heightened risk of contracting and transmitting COVID-19 due to underlying health conditions, increased necessity to be transient, and a lack of opportunities to self-isolate. The lack of PPE has complicated staff and volunteer shortages in the homeless-serving sector, due to concerns about working unprotected and the possible transmission of COVID-19 to clients. While each PT, the non-profit sector and the private sector should be expected to undertake their own PPE procurement, the federal government can build a second FPT Essential Services Contingency Reserve.

The \$500M for non-health care sectors will support the purchase, storage, inventory management and distribution of PPE. Based on a preliminary assessment of the needs identified at the Ministerial Working Group, the initial inventory of the Reserve is planned to include 20 million cloth masks, 50 million surgical masks, 15 million N95 masks, 200,000 disposable coveralls, 1 million litres of hand sanitizer, 6 million face shields, 1 million gowns, 200 million pairs of nitrile gloves, 500,000 safety goggles, 300,000 shoe covers, 25,000 thermometers, as well as a range of cleaning products. The funding will be used both for the cost of procured supplies and the cost of logistics and distribution.

An additional \$4.0 billion would also be invested for health sector workers. The Reserve will serve as an emergency backstop service to help PTs support health workers to build a strategic reserve of PPE for this purpose so that disruptions of services to Canadians are minimized. The Reserve is intended to be a last resort once all other private, provincial and territorial procurement support is exhausted.

Rationale

- The federal government is uniquely placed to build relationships, achieve economies of scale and procure cargo-lift and distribution capabilities for Canada's PPE needs.

Policy Objectives

- Provide a procurement service for PT PPE needs for health and non-health workers, as well as act as an emergency PPE procurement service for essential services sectors.
- Build a strategic reserve of PPE to act as an emergency supply.

3. PROPOSAL

Funding Envelope

- \$4.5 billion to procure and provide PPEs for health (more than \$4.0 billion) and non-health workers (\$500 million).

[Cost-sharing

- [\$4.0 billion for PPEs provided to the provinces and territories would be cost recovered based on arrangements to be worked out with PTs, based on supplies provided.]
- [\$0.5 billion would be recovered when possible by Public Services and Procurement Canada for PPEs and supplies procured for the broader health

system (e.g., long-term care facilities, including private entities), essential service providers, and other organizations.]

4. COSTING BREAKDOWN

- PPE would be procured through a centralized system that all provinces and territories can draw upon as opposed to building up capacity in all provinces and territories (i.e., through direct transfers) and then relying on inter-provincial sharing of resources as their respective needs increase.

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (HC/SC)
Sent: 2020-06-06 6:39 PM
To: [REDACTED] (HC/SC)
Cc: [REDACTED]
Subject: Re: PPE for the health sector

Thanks! Do we have the NESS amounts?

[REDACTED]
[REDACTED]
Health Canada

> On Jun 6, 2020, at 5:55 PM, [REDACTED] > wrote:
>
> For sure,
>
> P/Ts give us data on a semi-consistent data. We make do with what we receive.
> The inventory is based on current on hand stock, as reported by the P/Ts. It does not include the NESS. The top amount is what's on hand at point of reporting.

>
> Thank you,

> [REDACTED]
[REDACTED]
[REDACTED]

>
>
> -----Original Message-----

> From: [REDACTED]
> Sent: 2020-06-06 5:28 PM
> To: [REDACTED]
> Cc: [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

> Subject: Re: PPE for the health sector

>
> Hi - just wanted to make sure that I understand this.

>
> The bar charts show total inventory - is it additive (ie, usage is netted out), or does the top amount show what's in inventory now (ie, for N95's around [REDACTED] masks)?

>
> For the tables, is the main takeaway that PT's are no longer giving us the week by week reporting?

>
> Thanks!

> [REDACTED]

>
> [REDACTED]
> [REDACTED]
> Health Canada
>
>> On Jun 6, 2020, at 4:07 PM, [REDACTED] wrote:
>>
>> Good afternoon,
>>
>> Please find attached the latest charts on PPE supply as requested. The first document is a national aggregate across the top 5 commodity groups, while the second gives you the breakdown by P/T.
>>
>> Happy to discuss.
>> Cheers,
>> [REDACTED]
[REDACTED]
[REDACTED]
> [REDACTED]
> [REDACTED]
>>
>>
>> -----Original Message-----
>> From: [REDACTED]
>> Sent: 2020-06-05 9:49 AM
>> To: [REDACTED]
>> Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
>> Subject: Re: PPE for the health sector
>>
>> [REDACTED]. We are putting in new requisitions in anticipation of
>> contract slippage, second wave, need to stockpile etc. [REDACTED]
>>
>> Sent from my iPhone
>>
>>>> On Jun 5, 2020, at 9:34 AM, [REDACTED] wrote:
>>>>
>>>> [REDACTED]
>>>> I wanted to check on status of your proactive orders of PPE for the health sector.
>>>>
>>>> I know that there are lots yet to be fulfilled, but we are looking ahead to second wave planning and wanting to make sure that there are sufficient stocks in prov and NESS stockpiles.
>>>>
>>>> [REDACTED] - can you pls send the latest bar chart showing evolution of the PT inventories of key PPE stocks.
>>>>
>>>> [REDACTED]
[REDACTED]
[REDACTED]
>>> Health Canada
>> <PPE PT Inventory - May 28th 2020.pdf> <PT urgent needs summary -

>> June
>> 03 update.pptx>

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-08 9:56 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Professional Services to Establish a Third Party PPE Distribution Network
Attachments: Deloitte Long Term Fulfillment Model Proposal 200605.pdf

Further to discussions with [REDACTED] CAF and PSPC, we are advancing a sole source contract with Deloitte on an emergency contracting basis – details attached.

There is an urgent need to advance the Request for Proposal for the competitive process for the large scale 3rd party logistics provider and establish the necessary oversight controls to manage the selected service provider and ensure successful transition from the current model. Deloitte would advance this work leveraging the initial work completed by CAF on the Request for Information.

This work has been stalled as CAF has indicated they don't have capacity to advance it. PHAC does not have the capacity or logistics expertise or industry knowledge to set up this of scale of operation. While proceeding as a sole source is not ideal from a contracting perspective, further delay creates a high risk that PHAC will not have the necessary logistics capabilities in place to manage to extraordinary volume of PPE that has been purchased for the immediate COVID-19 response and readiness for the 2nd wave.

Deloitte was selected due to their expertise in large scale third party logistics and warehouse management systems in a COVID-19 context and the need to rapidly advance the RFP and set up of the third party logistics provider.

The [REDACTED] has provided approval in principle to proceed using emergency contracting authorities.

Initially we though that we would accomplish this work through a task authorization via an existing PSPC contract but that contract has reached its contract limits. As such PSPC asked if we could proceed using our own authorities.

The contracting documents are ready to go for the contract to be awarded. Deloitte is ready to start immediately.

However, please advise if you have any concerns or want to ensure the Minister is briefed before we advance this contract.

Thanks,

- [REDACTED]



8 Adelaide Street W
Suite 200
Toronto, On
M5H 09A

Tel: [REDACTED]
www.deloitte.ca

June 5, 2020

To [REDACTED] Public Health Agency of Canada

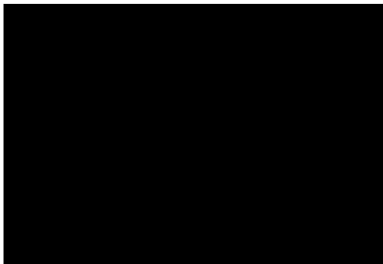
Re: Long Term PPE Fulfillment Operations Program

[REDACTED]

Thank you for considering Deloitte's proposal to support the Public Health Agency of Canada's PPE fulfillment and implementation efforts. This document outlines our proposed scope, objectives, deliverables, team and costs related to the Long Term PPE Fulfillment operations Program.

If you have any questions or concerns, you can contact me at [REDACTED]@deloitte.ca

Regards,



Deloitte Inc.

WITHHELD / RETENUE

(Are) exempted and/or excluded pursuant to section(s)
st(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

WITHHELD / RETENUE

(Are) exempted and/or excluded pursuant to section(s)
st(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

WITHHELD / RETENUE

(Are) exempted and/or excluded pursuant to section(s)
st(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

(PHAC/ASPC)

From: Nowers, Kathryn (HC/SC)
Sent: 2020-06-10 9:20 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: 2 reports received by the CSA
Attachments: Report-to-CSA_Reprocessing and reusing N95 masks.pdf; Report-to-CSA_LongTermCare-1.pdf

Hi

Just flagging in case you haven't heard, [REDACTED]

[REDACTED] She also wants to post minutes from her expert working group meetings which we have not yet seen.

We are reviewing now with colleagues.

Kathryn

Report to the Chief Science Advisor of Canada

TASK FORCE ON LONG-TERM CARE

April 19, 2020

Residents of long term care homes are disproportionately at risk of SARS-CoV2 infection and serious outcomes of COVID-19 including death. This is due to their underlying health conditions and several health system factors. The Chief Science Advisor convened a task force to provide practical advice on the topic of long-term care homes. The task force, including geriatricians, infection prevention and control specialists, and other relevant experts from across the country, proposes a series of recommendations which could be implemented in the short term. The task force also recognized that the current challenges are in part the result of systemic issues that should be attentively looked at to increase the resilience of older adults in the face of infections and epidemics. Additional recommendations on systemic issues will be provided in a second document. The conclusions and short term recommendations of the task force are provided below.

Task force membership

- Alan Forster MD, University of Ottawa (**chair**)
- Irfan Dhalla MD, University of Toronto
- William Ghali MD, University of Calgary
- Rejean Hebert MD, Université de Montréal
- Jerome Leis MD, University of Toronto
- Joanne Liu MD, Université de Montréal
- Andrea Moser MD, University of Toronto
- Paula Rochon MD, Women's College Hospital, University of Toronto
- Cara Tannenbaum MD, Université de Montréal and Health Canada Departmental Science Advisor
- Roger Wong MD, University of British Columbia
- [REDACTED], Health Canada (**observer**)
- Vivian Tam, University of Toronto (**support**)
- [REDACTED], Office of the Chief Science Advisor (**support**)

Background

- As of April 14, a total of 511 Canadians living in LTC homes have died thus far as a result of COVID-19. Compared to the 903 deaths reported by the Public Health Agency of Canada this corresponds to approximately 57% of all COVID-19 deaths in the country. The vulnerability of LTC residents has been also seen internationally.¹
- According to the most recent OECD Panorama of Health, Canada has 5.8% of older people in LTC homes.
- LTC residents are vulnerable. The residents are older, frailer, more likely to have complex chronic conditions, and suffer from cognitive decline or dementia. According to 2013 numbers from CIHI - 143,000 residents, 95% require assistance with activities of daily living, 60% have dementia, 70% with heart and circulatory system issues.
- They are at high risk of infection given the unavoidable close contact between staff and residents. In addition, with an aging population and Canada about to be a super-aged society where more than 20% of our population will be aged 65 years of age and older within the next five years, there are capacity issues in the system that is in place to care for them.
- The implementation of infection prevention measures in LTC homes are key to protecting the most vulnerable patients. The task force is very supportive of Public Health Agency of Canada's, Infection Prevention and Control for COVID-19: Interim Guidance for Long Term Care Homes (updated April 8 2020). This report provides a complement to implement the guidance in a health system approach. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevent-control-covid-19-long-term-care-homes.html>
- From a holistic and health system perspective, infection prevention measures may create systemic challenges or unintended consequences that need to be addressed to ensure their effectiveness in protecting the vulnerable LTC residents.
- A humanistic and compassionate approach is needed. This report highlights some practical recommendations that are part of an overall strategy looking at immediate, and longer term opportunities to improve the situation and outcome of LTC residents.

Older adults in LTC homes are vulnerable wherever they are in the system

- This document was developed thinking of ways to minimize the impact of COVID-19 outbreaks in LTC homes but should also be considered, as appropriate, for other settings where older people live (e.g. retirement homes). It is well established that the same vulnerabilities affecting older people in LTC exist in other settings.
- LTC residents are vulnerable. We understand that, while smaller LTC homes in urban or in rural and remote areas may present different contexts, similar principles need to be applied throughout to protect LTC residents.

¹ <https://ltccovid.org/2020/04/12/mortality-associated-with-covid-19-outbreaks-in-care-homes-early-international-evidence/>

Human Resource Safety and Availability

- Human resources in the LTC sector are a critical consideration.
- By nature of the type of their work, staff is at high risk of acquiring COVID-19 infection in the workplace.
- This risk is heightened as LTC homes may not have access to adequate Personal Protective Equipment (PPE) and/or the training to use this equipment properly.
- The number of staff and their skill mix within a LTC home may be insufficient to implement required infection prevention and control measures.
- Employees of LTC homes often work part-time, have low wages and limited sick benefits. This contributes to infection transmission risk in several ways. Staff may feel compelled to work even when they are not well; they may work as part time employees at multiple care homes; and they may choose not to work if they perceive high personal risk. These factors contribute to ongoing nosocomial infections and outbreaks in multiple care homes, and possibly in the entire health system (e.g. home support workers in the community). They also contribute to staff shortages in times of need.
- Pressure on nursing staff can be alleviated by adding complementary resources such as support for feeding residents, communication facilitators to support communication between residents and their families, or software tools to support virtual care.
- LTC homes often lack access to expertise for making decisions on managing staff and ensuring their safety.
- Covid-19 testing should be performed regularly for all the staff and residents during outbreak situations because symptom-based screening of staff and residents may fail to identify all infections. (Kimball et al. 2020) The frequency of testing staff and residents should be guided by local public health recommendations.

Clinical practice

- Symptoms should not be a sole determinant of testing residents for Covid-19 as atypical symptoms may be present especially in older residents and asymptomatic residents might contribute to COVID-19 transmission.
- Once a home has confirmed a COVID-19 case, all residents should be cared for using recommended personal protective equipment (PPE), with considerations for extended use or reuse of PPE as needed). (Kimball et al. 2020)
- If resident isolation is not possible cohorting should be considered, prudence should be applied in selecting the cohorting arrangements. (WHO IPC in LTC 2020)
- Encourage physical distance but social connection as much as feasible, such as by using virtual and technological means. For instance, World Health Organization suggests to stagger meals to ensure physical distance maintained between residents. If this is not feasible, it is then suggested to close dining rooms and serve residents individual meals in their rooms. There is

anecdotal evidence that eating alone may have adverse effects such as losing weight. Also older people, especially in isolation and those with cognitive decline, dementia, and those who are highly care-dependent, may become more anxious, angry, stressed, agitated, and withdrawn during the outbreak or while in isolation (WHO IPC in LTC 2020).

- Infection Prevention and Control is very different in the context of dementia. The geriatrics community should provide guidance and define how to deal with the ethical issues.
- Medication management must be tailored to address an outbreak. For example, reducing entry into rooms can be accomplished by de-prescribing or reducing the use of unnecessary medications.
- All wandering and impulsive behaviour has meaning. Look for and address underlying causes for the behaviour. LTC residents who wander should be prioritized for behaviour support due to the attendant risk of spread, whether they are tested positive or share space with other residents who may be positive for COVID-19. If possible, consider providing one-to-one support for residents who wander to ensure safety. Consult with the internal and external behaviour support services for additional non-pharmacological and pharmacological supports, e.g. geriatric psychiatry, geriatric medicine. (Reference: COVID-19-BSO-RGP-Wandering-Guidelines-2020-04-14)
- Maintaining essential care (e.g. chronic condition management) will limit the need to transfer residents out of the home.
- It is necessary to update discussions on goals or level of care and advanced directives.
- It is necessary to ensure effective palliative care within all LTC homes.
- Where possible, medical assessments, diagnostic procedures and treatments should occur at the LTC home, rather than transferring to an emergency department or acute care. This reduces exposure of the resident to infection risk and reduces the public health risk if the resident lives in a LTC home with an active outbreak.

Clinical support and leadership

- Regional health authorities ensure implementation of cohort planning and separation, staff deployment, setting rules for entry into the facilities, and information flow.
- Medical directors share clinical guidelines and update staff. There is evidence that institutions with a medical director show improved outcomes.
- Within each centre there should be support and trouble-shooting functions for clinical care, health care worker safety, and family engagement via virtual means.
- Mental health support should also be considered. For instance, the impact on long-term care workers being exposed to personal risk of infection, having to deal with a high number of deaths, and at the same time being unable to connect with the families of residents is taking a significant toll on their mental health.

Accountability

- LTC homes are highly variable in size and management capabilities. There is varying degree of oversight and application of regulatory standards.
- Care of older adults may occur in other types of facilities (for example, retirement homes) and in private homes with the support of primary care and home care. There are inconsistent processes for ensuring patient needs are matched with capacity. There is inconsistent oversight of these processes. As a result, many of the issues identified for LTC residents apply to older adults in other settings.
- Short term actions (and recommendations) may be more relevant for the jurisdictional level. Longer term actions could benefit from attention at the national level, in close collaboration with jurisdictions.

Conclusion and recommendations

Residents of LTC are disproportionately at risk of infection and serious outcomes including death. This is due to their underlying health conditions and several health system factors. LTC homes are not the only care location with a high proportion of older adults. While we have focused this report on LTC homes, older adults in other living situations should also be considered at risk.

There is an urgent need to address the health system factors in order to improve our ability to provide humane care and to ensure protection of residents. We have identified a series of time-sensitive actions, which should be implemented now.

Recommendations for immediate implementation

Although focused on LTC homes, these recommendations could also apply to residential homes that provide similar services to their residents, and to some extent to home care services caring for vulnerable older adults with special care needs.

1. **Adopt a humanistic and compassionate approach with LTC residents, their families, and the staff who care for them.** This requires regular communication with families, especially when residents are infected or after they succumb to their illness. It also requires supporting staff who may struggle mentally with the burden of caring for residents and when their own health is at risk.

Implementation recommendations:

- a) Health system leaders must set the tone by emphasizing compassion for LTC residents, families, and healthcare workers.
- b) Regular communication with families must take place to provide current updates on the residents' condition, preferably via virtual means, and credible educational resources on

COVID-19 and seniors health should be provided to families (e.g. UBC's Pathways Magazine²).

- c) Non-essential visits to LTC homes must be restricted. Social engagement of LTC residents must continue via virtual and technological means.
- d) Programmatic support must be provided for healthcare workers to support mental health.
- e) Resident dignity must be ensured and maintained during life (through symptom management) and after death (by ensuring clear procedures for handling of the deceased).

2. Ensure adequate availability of staff to support immediate care needs, including: the right skills mix in the right place at the right time. This includes staff to accomplish the following:

- a. Basic care -- ranging from administrative clerical support, housekeeping, kitchen staff;
- b. Health care -- ranging from personal support workers, nurses, advanced practice nurses, primary care physicians, pharmacists, and specialist physicians;
- c. Leadership, advice, and staff to ensure application and oversight of resident care and infection prevention and control practices.

Implementation recommendations:

- a) Regional health systems should consider taking over staffing for all LTC homes during the outbreak, if possible.
- b) Staff should be restricted to working in a single LTC home whenever feasible to reduce the risk of cross-infection. The issue of staff wages and benefits during COVID-19, especially those who used to work on a part-time basis, should be addressed.
- c) Regional health authorities should adopt measures to move health workers from hospitals to LTC as part of an overall strategy of crisis management during COVID-19.
- d) Hospital based Infection Prevention and Control programs and Public Health Departments should take a consolidated approach to ensure consistent support of LTC homes.
- e) The credentialing of personal support workers, and on-boarding of eligible and qualified nursing or other health professionals should be fast tracked so that they can become available to LTC homes.

3. Ensure sufficient resources required to safely care for residents within LTC homes, including:

- a. Personal protective equipment and training on how to make effective use of it;
- b. Diagnostic tests:
 - i. COVID-19 testing for LTC staff and residents at a frequency defined by the particular conditions in a LTC home. Outbreak situations must be managed with mandatory frequent testing, including asymptomatic staff and residents;

² https://view.joomag.com/pathways-issue-4-covid-19-edition/0283338001587141762?short&fbclid=IwAR0sCwuMi0706XD7pZQDv7XxrgSuM5F6LdgJkCQVqgRdoUKga0jpFIP1_LE

- ii. Laboratory and diagnostic imaging with rapid turnaround (e.g. same day testing and results) to reduce the need for transfer to emergency department or acute care.
- c. Therapies:
 - i. Medications (for instance, ensure adequate access to appropriate medications for end of life care, and consider de-prescribing unnecessary medications);
 - ii. Oxygen;
 - iii. Subcutaneous and IV rehydration;
 - iv. Parenteral route of medication administration.

Implementation recommendations:

- a) There should be a regional approach to resource distribution (including personal protective equipment) with inclusion of LTC homes as a critical consideration.
- a) Training (including refresher courses) of the safe and effective use of personal protective equipment should be made available to LTC staff, such as via open-access, online modular courses.
- b) There should be a regional approach to COVID-19 testing with clear accountability who is responsible for testing and reporting.
- c) At the regional level, partnerships with emergency departments should be established to provide consultative support to LTC physicians (e.g. goals of care discussion) via telephone or tele-health.
- d) Reporting of data on cases and deaths by sex, age, and LTC setting.

4. Enhance support and back-up to the LTC sector from health system leaders and hospital providers via:

- a. Open communication channels with Medical Directors to identify specific LTC Home needs;
- b. Direct connections and access to hospital based providers to support decision making at the LTC home (e.g. goals of care) and to assist with care delivery;
- c. Virtual care technologies to support care in place;
- d. Connect each LTC home to a specific acute care hospitals to create special access within these designated hospitals for consultations and diagnostics to ensure care can be provided in the home where possible and avoid facilitating needed care for these vulnerable patients when interventions are required in the acute care setting;
- e. Ensure access to effective palliative care.

Implementation recommendations:

- a) Existing communities of practice, medical associations, or formal agreements should be deployed to ensure the knowledge and experience of Medical Directors is optimized meaningfully utilized to maximise impact.

- b) An on-call group from hospitals should be created to provide consultation advice to providers in the LTC sector, leveraging expertise of geriatric medicine and geriatric psychiatry where possible. Ensure access to specific expertise to manage goals of care discussions, behavioural issues, and palliative care. This could be supported by new virtual care technologies to facilitate timely advice.
- c) Diagnostic centers specifically for LTC residents within a region should be created, and diagnostic testing should be performed in the LTC homes where possible (e.g. by working with private sector partners).

5. Ensure appropriate training for LTC staff and support in order to implement the enforcement of relevant COVID-19 pandemic infection prevention and control. The principles include:

- a. Cohorting of diagnosed residents and residents under investigation;
- b. Staff screening and PPE donning and doffing practices;
- c. Outbreak management;
- d. Documentation of advanced care planning conversations including access to Severe Illness Conversation Guide;
- e. Guidance for supporting residents who wander and require physical isolation (Reference: COVID-19-BSO-RGP-Wandering-Guidelines-2020-04-14).

Implementation recommendations:

- a) Regional swat teams should be developed to address specific issues based on risk identification. Risk measures should focus measures with specific LTC homes including: number of vacancies, number of COVID-19 infections, and engagement of medical director. High risk LTC homes should be targeted by regional leadership and swat teams should be sent to the LTC home with input from geriatric medicine and geriatric psychiatry where possible to work with local leadership to address gaps.
- b) Provincial and/or regional associations should disseminate advice on practice issues pertinent to COVID-19 - in particular on supporting residents who wander and advanced care planning.
- c) Online modular courses that are open access should be developed in a central repository and made available to LTC staff.

Longer term actions

The factors contributing to inconsistent quality of care and staff safety are not specifically related to the COVID-19 pandemic. Nor are these challenges limited only to LTC settings. There are underlying health system factors, which, though highly visible now, have been prevalent for long before the current outbreak situation. As it is unlikely the pandemic will be resolved in the short term and to avoid a recurrence of these undesirable outcomes, the task force will also prepare recommendations on these larger systemic factors in a forthcoming document.

Useful links

- Public Health Agency of Canada, Infection Prevention and Control for COVID-19: Interim Guidance for Long Term Care Homes (updated April 8 2020). <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/prevent-control-covid-19-long-term-care-homes.html>
- World Health Organization. Infection prevention and control guidance for long-term care facilities in the context of COVID-19: interim guidance. Full document available from: https://apps.who.int/iris/bitstream/handle/10665/331508/WHO-2019-nCoV-IPC_long_term_care-2020.1-eng.pdf
- Kimball A, Hatfield KM, Arons M, et al. Asymptomatic and Presymptomatic SARS-CoV-2 Infections in Residents of a Long-Term Care Skilled Nursing Facility — King County, Washington, March 2020. MMWR Morb Mortal Wkly Rep 2020;69:377–381. DOI: <http://dx.doi.org/10.15585/mmwr.mm6913e1>
- Regional geriatric program of Toronto (RGPT), Guidance for supporting clients who wander and require physical isolation, <https://www.rgptoronto.ca/wp-content/uploads/2020/04/FINAL-COVID-19-BSO-RGP-Wandering-Guidelines-2020-04-14-1.pdf>

Report to the Chief Science Advisor of Canada

TASK FORCE ON N95 FACE MASKS REPROCESSING

April 10, 2020

The outbreak of COVID-19 has resulted in a marked increase in the number of face masks needed by health care workers in order to safely carry out their work. With health care institutions facing the possibility of mask shortages, the Chief Science Advisor convened a task force to review the feasibility of using reprocessed masks in a safe and effective manner should this occur. The task force conducted an expedited review of options for mask reprocessing using ultraviolet light, heat/microwave, and chemicals such as hydrogen peroxide. The conclusions and recommendations of the task force are provided in the briefing below.

Task Force Membership

Dan Krewski PhD, University of Ottawa **(Chair)**

Deborah Cooke MD, McMaster

Joanne Langley MD, Dalhousie University

Caroline Quach MD, Université de Montréal

██████████ Health Canada

██████████, Public Health Agency of Canada

██████████ Office of the Chief Science Advisor **(Support)**

██████████ Office of the Chief Science Advisor **(Support)**

Background

- Reprocessing and reusing disposable face masks, respirators and personal protective equipment (PPE) has been suggested as a contingency capacity strategy, when other options like rational use of PPE have been exhausted,¹ to conserve available supplies for healthcare environments during a pandemic.
- Public health professionals, microbiologists, engineers, regulators and policy makers are currently examining whether it is warranted and safe to do so in the context of the COVID-19 pandemic in Canada.

¹ World Health Organization Interim Guidance: Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages. Available at: https://apps.who.int/iris/bitstream/handle/10665/331695/WHO-2019-nCoV-IPC_PPE_use-2020.3-eng.pdf

- A number of provinces are currently evaluating the potential use of reprocessed masks to address shortages during the COVID-19 epidemic.
- The Chief Science Advisor (CSA) of Canada requested that this Task Force examine available evidence on reprocessing and re-use of N95 face masks (also referred to as N95 respirators or respirators) and provide her with a recommendation regarding the use of reprocessed masks in light of potential shortages of these devices.

Reprocessing Options

- Three main methods have been proposed for reprocessing face masks, specifically treatment with: (1) ultraviolet (UV) light, (2) heat/microwaves, and (3) chemicals such as hydrogen peroxide or ethylene oxide.
- Reprocessing systems can be implemented in three ways, specifically: (1) in hospital laboratories or on hospital premises; (2) by accessing facilities in external labs; or (3) by contracting out to a third party entity.
- Reprocessing systems are available commercially from different sources, such as the Batelle vaporized hydrogen peroxide system². It should be noted that different systems using the same reprocessing method may demonstrate different properties, and need to be evaluated separately.
- The US Center for Disease Control (CDC) focused its recommendations on Ultra Violet germicidal irradiation (UVGI), vaporous hydrogen peroxide, and moist heat (60°C and 80% RH) as having the greatest potential for decontamination of N95 masks. Ethylene oxide is not recommended by CDC for vaporous sterilization as it may confer toxic effects to the wearer.
- Public Health Ontario (PHO) synopsis of existing evidence on reuse of PPE³ points towards UVGI methods as having potential to decontaminate N95 respirators, and cautions against the use of vaporized peroxide (due to safety issues relating to off-gassing of residual disinfectant) and against the use of microwave generated steam (due to relatively limited studies evaluating impact on mask integrity).

² Battelle CCDS™ Personal Protective Equipment (PPE) decontamination for reuse. Available at: <https://www.battelle.org/inb/battelle-critical-care-decontamination-system-for-covid19>

³ Public Health Ontario Synopsis: COVID-19 – What We Know So Far About... Reuse of Personal Protective Equipment Accessed on April 8, 2020

Safety and Efficacy

- US CDC states *“An effective FFR [filtering facepiece respirator] decontamination method should reduce the pathogen burden, maintain the function of the FFR, and present no residual chemical hazard”*.
- Evaluation of efficacy should take into account the capacity of a reprocessed mask to block passage of the SARS-CoV-2 virus and other pathogens that might be encountered in the course of clinical care.
- Evaluation of safety should take into account the physical viability of the reprocessed mask after one or more reprocessing cycles. In the case of chemical reprocessing, safety evaluation should also consider the possibility of residual contamination from the sterilizing agent or other components present (e.g. silver nitrate).
- Recent systematic reviews of the safety and efficacy of using UV and heat for mask reprocessing, summarized in Table 1, suggest reprocessing can be done in a safe and efficacious manner, within the limits of available data.
- Key limitations of studies of safety and efficacy conducted to date include: few evaluations of mask fit and structural integrity following reprocessing; few studies using the SARS-CoV-2 virus; and lack of evaluation of chemical residues of sterilizing agents such as hydrogen peroxide and ethylene oxide in vapour phase chemical decontamination.

Regulatory Oversight

- Face masks and respirators are Class I medical devices that require regulatory approval by Health Canada⁴ to obtain a medical device establishment license prior to manufacturing, sale and distribution.
- Although an establishment licence can take some weeks, an interim order in as little as 48 hours is possible in exceptional circumstances. Sterilization devices manufactured by Stryker and Sterrad have been authorized by Health Canada for the reprocessing of N95 respirators under the interim order provision.
- Health care institutions may repurpose existing equipment for mask reprocessing without seeking Health Canada approval, if not provided on a fee-for-service basis.
- Health care institutions may also fabricate reprocessing devices on their own, without Health Canada approval, as long as the devices are not offered for sale.
- Although Health Canada does not have regulatory authority over local mask reprocessing within health care institutions, Health Canada does recommend third-party certification of reprocessing procedures and practices.

⁴ In Canada, therapeutic products are subject to the Medical Devices Regulations Schedule annex to the Food & Drug Act.

Implementation and Practice Guidelines

- In implementing any mask reprocessing system, consideration needs to be given to practical considerations, including tracking of mask reuse cycles and quality control of reprocessed masks.
- Guidance on use of reprocessed mask whose original expiry date has passed is also needed.
- In considering reprocessing options, in-house vs. outsourced, should take into consideration hospital capacity; in-house option is logistically preferable and facilitates personalized mask reuse.
- As part of its pilot study on mask reprocessing, Vancouver General Hospital has developed draft standard operating procedures for mask reprocessing.
- Sterilization devices produced by Sterrad and Steris intended for use with 3M N95 1860 (S) and 8210 masks⁵ have US FDA approved validation protocols.
- Both CDC and PHO note logistical challenges that would need to be addressed for reprocessing to be practicable for mass delivery, including: availability of equipment, the capacity to meet the reprocessing need, and a validated process accounting for decontamination and integrity checks and number of times respirators are reprocessed.
- CDC also highlights the need to train health care workers to properly inspect, handle, don and doff, and seal check reprocessed N95 masks.

Liability Considerations

- As with other medical devices intended for single use, institutions who decide to reprocess masks using reprocessing systems not approved by Health Canada for that purpose may take on additional liability.

Conclusions and Recommendations

Based on the information available at this time, the Task Force has reached the following conclusions and recommendations.

1. Health care institutions are expected to face shortfalls in the supply of masks needed by health care workers treating COVID-19 patients.
2. A number of mask reprocessing methods using UV, heat/microwave, and chemical decontamination methods are currently available.

⁵ Equivalent models to those tested by Sterrad include 3M 1860, 1870, 8000, 8210, 8293; Kimberly Clark PFR-95; Moldex 2200, 2201, 2360; and North 8150

3. Although currently available data suggest that these methods may be safe and efficacious, only limited data are available for SARS-CoV-2 and few studies examine mask fit. To our knowledge, no studies have assessed reprocessed masks in an environment that simulates a real-world healthcare setting. Research addressing these gaps should be prioritized and conducted in the context of the COVID-19 pandemic.
4. Based on current expert opinion, consideration may be given to a hierarchical strategy to maintain mask supply during an infectious disease epidemic, prioritizing efficient use of new masks first; use of expired masks second (ideally with validation of filtering efficiency); and use of reprocessed masks third.
5. In deploying any mask decontamination program, standard operating procedures (SOPs) to guide program implementation (including appropriate labelling of decontaminated masks, and tracking of the number of decontamination cycles) should be developed. Training of staff on the proper procedures to be followed will be a critical component of any SOP.
6. Because the health care institutions will be in different stages of need for and evaluation of mask reprocessing, sharing of information on best practices and outcomes (eg. research results, SOPs, operational considerations, acceptance rates) across health care institutions will be of great benefit.
7. Implementation of any mask reprocessing program should include a communication plan to provide health care workers with the facts concerning the safety and efficacy of reprocessed masks, as well as a training module.
8. Looking beyond the current outbreak of COVID-19, Canada should develop a long-term preparedness strategy for possible future infectious disease outbreaks, including self-sufficiency of supply of personal protective equipment from domestic sources.

Useful Links

Battelle Laboratories. Battelle CCDS™ Personal Protective Equipment (PPE) decontamination for reuse : <https://www.battelle.org/inb/battelle-critical-care-decontamination-system-for-covid19>. Accessed April 9, 2020.

US Centers for Disease Control. [Decontamination and Reuse of Filtering Facepiece Respirators](#). Accessed April 9, 2020.

US Centers for Disease Control. N95 Day 2017: When to think Beyond the N95 FFR [Filtering Facepiece Respirator]. <https://blogs.cdc.gov/niosh-science-blog/2017/09/05/n95day20017/> Accessed April 9, 2020.

Public Health Ontario [Synopsis: COVID-19 – What We Know So Far About... Reuse of Personal Protective Equipment](#) Accessed on April 8, 2020

World Health Organization [Interim Guidance: Rational use of personal protective equipment for coronavirus disease \(COVID-19\) and considerations during severe shortages](#) Accessed on April 9, 2020

Food and Drug Administration [Guidance Document: Enforcement Policy for Face Masks and Respirators During the Coronavirus Disease \(COVID-19\) Public Health Emergency \(Revised\)](#) Accessed on April 9, 2020

Table 1. Summary of Selected References on the Safety and Efficacy of Mask Reprocessing

Publication	Publication Type	Type of PPE Tested	Methods Evaluated	Decon Findings	Integrity Findings	Comments
Gertsman et al (2020) ⁶	Systematic review (Preprint)	N95 (various 3M models – 1870, 1860, 8210), some unspecified	Microwave and heat (both moist and dry)	All methods were effective at reducing pathogen load	Autoclave may increase aerosol penetrance; airflow resistance not affected; mask melting at high heat (>90C)	Two studies investigated fit; no studies were conducted on SARS-CoV-2 virus
Kumar et al (2020) ⁷	Primary study (PrePrint)	N95 – 3M (1860, 1870, VFlex 1804); AO Safety 1054S	Autoclave, EtO, iHP, VHP	All decon methods were effective at reducing pathogen load in all models	All models passed 10 cycles of VHP; all models except 3M 1860 passed 10 cycles of autoclave; all models passed 3 cycles of EtO; iHP failed in all models	Tested VSV and SARS-CoV-2
O’Hearn et al (2020) ⁸	Systematic review (Preprint)	N95 or their components (various models)	UVC	Single cycle was effective at reducing pathogen load	Minimal changes in aerosol penetration or airflow resistance after 1 cycle	One study investigated fit testing; no studies were conducted on SARS-CoV-2 virus
Lindsley et al (2015) ⁹	Primary study <i>J Occup Environ Hyg</i>	N95s: 3M 1860 3M 9210 Gerson 1730 Kimberly-Clark 46727	UVGI	Not assessed	UVGI exposure led to little effect on particle penetration and flow resistance, pronounced effect on the strengths of the respirator materials (esp at the higher UVGI doses) and less of an effect on the respirator straps.	The changes in the strengths of the respirator materials varied considerably among the different models of respirators.
Lore et al. (2011) ¹⁰	Primary study <i>Ann. Occup. Hyg</i>	N95 3M models 1860s and 1870	UVC Microwave Moist heat	All methods were effective at reducing pathogen load	Decontamination methods did not significantly degrade the filter performance at 300-nm particle size.	Only H5N1 pathogen was used, no examination of fit testing

⁶ Gertsman et al. (2020) Microwave- and Heat-Based Decontamination of N95 Filtering Facemask Respirators (FFR): A Systematic Review. OSF Preprints. Available at: <https://osf.io/4whsx>

⁷ Kumar et al. (2020) N95 Mask Decontamination using Standard Hospital Sterilization Technologies. medRxiv Preprint. Available at: <https://www.medrxiv.org/content/10.1101/2020.04.05.20049346v1>.

⁸ O’Hearn et al. (2020) Decontaminating N95 masks with Ultraviolet Germicidal Irradiation (UVGI) does not impair mask efficacy and safety: A Systematic Review. OSF Preprints. Available at: <https://osf.io/29z6u/>

⁹ Lindsley et al. Effects of ultraviolet germicidal irradiation (UVGI) on N95 respirator filtration performance and structural integrity. *J Occup Environ Hyg*. 2015; 12(8):509-17. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4699414/>

¹⁰ Lore et al. (2011). Effectiveness of three decontamination treatments against influenza virus applied to filtering facepiece respirators. *Ann Occup Hyg*. 2012; 56(1):92-101. Available at: <https://academic.oup.com/annweh/article/56/1/92/166111>

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-11 10:19 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Quick Q
Attachments: ON allocated.pdf

Hi all,

Please see the enclosed analysis for Ontario allocations.

Briefly, Ontario has received 7% of their total request through collaborative procurement. This does align with the status of the overall federal procurement where we are at approximately 9% of procured received.

If we include allocations through requests for assistance, NESS proactive allocation (i.e., expired N95) and donations, the percentage allocated is 24% of the initial request.

Percentage by specific commodity varies.

Huge thanks to [REDACTED] and team – this was a true collaborative effort.

From: [REDACTED]
Sent: 2020-06-11 9:59 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: Re: Quick Q

Analysis being done.

Sent from my iPhone

On Jun 11, 2020, at 9:58 PM, [REDACTED] wrote:

Did we ever get to the answer?

[REDACTED]
[REDACTED]
Health Canada

On Jun 11, 2020, at 8:15 PM, [REDACTED]
wrote:

while the teams looks for the exact answer, a quick glance at the PSPC website tells me 7% is conceivable, depending on methodology, etc. The website shows how much PPE GoC has received against what it has ordered for the health care sector, the percentages vary by PPE. For instance, as of June 2nd, we've received 2% of the N95s we have ordered (if you exclude those that failed QA), 3% of the gowns, 4% of gloves but almost 33% of surgical masks and hand sanitizer. These orders were always meant to be received over several months.

----- Original message -----

From: [REDACTED]

Date: 2020-06-11 18:44 (GMT-05:00)

To: "[REDACTED]

[REDACTED] > [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Cc: [REDACTED]

Subject: Quick Q

Premier Ford just said he has only received 7% of the PPE for Ontario, is that accurate?

Sent from my iPhone

ONTARIO - PPE
As of June 11, 2020

		BULK PROCUREMENT					OTHER ALLOCATION					
PPE Item	Request*	Shipped	In Progress	Total Shipped & In Progress	% of Request Shipped	% of Request Shipped and In Progress	Request for Assistance	Proactive	Donations	Total Other	Total Bulk Procurement & Other	% of Total Request Shipped
N95					12%	12%						28%
Surgical Mask					8%	8%						17%
Gowns					1%	1%						11%
Gloves					5%	5%						31%
Face shields					312%	352%						368%
Total					7%	10%						24%

Notes:

* Request is based on initial P/T orders for bulk procurement

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (IC)
Sent: 2020-06-11 10:59 AM
To: [REDACTED] PHAC/ASPC)
Cc: [REDACTED]
Subject: RE: request from [REDACTED] N95

I checked with the team and they all thought that supply was too tight. The study is being done in a hospital, some may wonder why [REDACTED] received these N95s when they don't have them. In the end, I decided not to pursue. I had initially been open to the idea so if [REDACTED] really wants this we can send [REDACTED] from the NESS. In terms of answering your question about when provinces will run out, they claim there is a constant shortage.

----- Original message -----

From: [REDACTED]
Date: 2020-06-11 10:52 (GMT-05:00)
To: [REDACTED]
Cc: [REDACTED]
Subject: Fwd: request from [REDACTED] N95

Seem to recall we had a request and I had asked a question or two. Not sure I received an answer. Do you recall? [REDACTED]

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]
Date: June 11, 2020 at 10:23:18 AM EDT
To: [REDACTED]
Cc: "[REDACTED]"
Subject: Fwd: request from [REDACTED] N95

This is an important study but the researchers have difficulty getting N95.

Providing supplies for studies is not usually the mandate of NESS but during this extraordinary pandemic we are procuring supplies eg for serological surveys etc.

So not sure where we may stand from a policy front. How do you want to proceed?

- support the study as it will provide evidence to support our guidance development
- refuse
- check in with [REDACTED] or NESS /whoever is leading on PPE supplies on policy cover

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]

Date: June 10, 2020 at 19:45:18 EDT

To: [REDACTED]

[REDACTED]

Cc: [REDACTED]

Subject: request from [REDACTED] N95

So I was emailing with [REDACTED] today. [REDACTED] 1. The hospitals will not let him use their N95, and he cannot buy them on the private market as they are all being reserved for HCW. 2. [REDACTED]

I think it would be a great idea to supply them from the NESS. Here is why:

1. That's a small number compared to what we have
2. This may be Canada's biggest contribution scientifically to the pandemic. [REDACTED] in this mask debate [REDACTED] in this space with respect to influenza
3. We can frame this as a positive step in advocating to solve this issue for HCW, and even ask the unions we talk to weekly if they would at least circulate the opportunity amongst their members. It does show a commitment to seek the right answer, in the right way.

What do you think?

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: 2020-06-11 11:00 AM
To: [REDACTED]
Subject: FW: request from [REDACTED] N95
Attachments: Fwd: Medical Mask vs N95 RCT

See attached. It's the previous correspondence you and [REDACTED] had with [REDACTED] [REDACTED] said he would reach out back on Apr 24.

From: [REDACTED] >
Sent: 2020-06-11 10:52 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Fwd: request from [REDACTED] N95

Seem to recall we had a request and I had asked a question or two. Not sure I received an answer. Do you recall? [REDACTED]

Sent from my iPhone

Begin forwarded message:

From: "[REDACTED]"
Date: June 11, 2020 at 10:23:18 AM EDT
To: [REDACTED]
[REDACTED]
[REDACTED]
Subject: Fwd: request from [REDACTED] N95

This is an important study but the researchers have difficulty getting N95.

Providing supplies for studies is not usually the mandate of NESS but during this extraordinary pandemic we are procuring supplies eg for serological surveys etc.

So not sure where we may stand from a policy front. How do you want to proceed?

- support the study as it will provide evidence to support our guidance development
- refuse
- check in with [REDACTED] or NESS /whoever is leading on PPE supplies on policy cover

[REDACTED]

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]

Date: June 10, 2020 at 19:45:18 EDT

To: [REDACTED]
[REDACTED]

Cc: [REDACTED]

Subject: request from [REDACTED] N95

So I was emailing with [REDACTED] today. [REDACTED] The
hospitals will not let him use their N95, and he cannot buy them on the private market as
they are all being reserved for HCW. 2. [REDACTED]
[REDACTED]

I think it would be a great idea to supply them from the NESS. Here is why:

1. That's a small number compared to what we have
2. This may be Canada's biggest contribution scientifically to the pandemic. [REDACTED]
[REDACTED] in this mask debate, [REDACTED]
[REDACTED] in this space with respect to influenza
3. We can frame this as a positive step in advocating to solve this issue for HCW, and
even ask the unions we talk to weekly if they would at least circulate the
opportunity amongst their members. It does show a commitment to seek the
right answer, in the right way.

What do you think?

[REDACTED]

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-04-24 11:34 AM
To: [REDACTED]
Subject: Fwd: Medical Mask vs N95 RCT

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]
Date: April 24, 2020 at 10:56:53 EDT
To: [REDACTED]
Subject: RE: Medical Mask vs N95 RCT

i will reach out to him

----- Original message -----

From: [REDACTED]
Date: 2020-04-23 22:04 (GMT-05:00)
To: [REDACTED]
Subject: FW: Medical Mask vs N95 RCT

This is an important study. Can we assist in any way in terms of pointing [REDACTED] in the right direction?

[REDACTED] also noted that many of the suppliers he approached had respirators that did not meet standard. Have we heard anything on issues with suppliers of respirators to ON?

-----Original Message-----

From: [REDACTED]
Sent: 2020-04-23 4:58 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Medical Mask vs N95 RCT

Hello [REDACTED]

I just would like to give [REDACTED] an update.

[REDACTED]

The purpose of the study is to demonstrate that medical masks are non-inferior to N95 respirators for COVID. This will provide strong evidence to support the use of medical masks for non-AGMPs.

We were wondering if PHAC would know of any reputable suppliers we could approach, or even if we could purchase N95s for the study directly from PHAC or another federal or other source.

Thanks for considering,

-----Original Message-----

From: [REDACTED]
Sent: March-04-20 4:11 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Medical Mask vs N95 RCT

Hello [REDACTED]
I just wanted to provide [REDACTED] with an update to our study and again thank her for the support. [REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: February-17-20 4:14 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Medical Mask vs N95 RCT

Hello [REDACTED]

Please find attached a letter of support for [REDACTED]

Kind regards,
[REDACTED] for

Public Health Agency of Canada

Follow me on Twitter

Agence de la santé publique du Canada
Suivez-moi sur Twitter

-----Original Message-----

From: [REDACTED]
Sent: 2020-02-14 1:23 PM

To: [REDACTED] >

Cc: [REDACTED]

Subject: Medical Mask vs N95 RCT

Dear [REDACTED]


I hope all is well [REDACTED]

[REDACTED]

Sent from my iPhone

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-11 7:17 AM
To: HPOC-COPS, PHAC-ASPC (PHAC/ASPC); [REDACTED] (PHAC/ASPC); [REDACTED] (PHAC/ASPC); HPOC EM / GU COPS (PHAC/ASPC)
Cc: [REDACTED] (PHAC/ASPC)
Subject: URGENT DISTRIBUTION TO HPEG JUNE 11 QUICK FACTS for Minister's Call
Attachments: Map - Map of Federal Quarantine lodging - 2020-06-10.pdf; Quick Facts June 11 v2.docx
Importance: High

 [REDACTED]
[REDACTED]
Health Portfolio Operations Centre | Centre d'opérations du portefeuille de la santé
Public Health Agency of Canada | Agence de la santé publique du Canada
[REDACTED]



Public Health
Agency of Canada

Agence de la santé
publique du Canada

COVID-19

Federal Quarantine Lodging & Vessels of Interest Logements fédéraux de quarantaine et navires d'intérêts

Total number of travellers in quarantine lodging : **220 (+5)**
Le nombre total de voyageurs mis en hébergement en quarantaine est de : **220 (+5)**

There are **1383** rooms available for quarantine in Canada / Il y a **1383** chambres disponibles pour la quarantaine au Canada
(total federal room capacity is **1603**/la capacité totale de la salle fédérale est de **1603**)

Current as of /Mis à jour:
10 June/juin 2020
20:40EDT/HAE

Protected A



Vessel of Interest / Navire d'intérêt



Federal quarantine lodging space in Provincial/Territorial site / Lieux d'hébergement fédéral pour la mise en quarantaine sur un site provincial/territorial



Federally supported self-quarantine lodging / Hébergement d'auto-isolément soutenu par le gouvernement fédéral



Designated federal quarantine site / Site de quarantaine fédéral désigné



Territorial Waters (12 nautical miles) / Eaux territoriales (12 milles marin)

cases on site / # rooms remaining – Name
cas en site / # chambres restants – Nom

A: Asymptomatic # / Asymptomatique #

S: Symptomatic # / Symptomatique #

Canada

Data sources / Sources de données:
GOC – COG, DMTI Spatial, PHAC-ASPC, DFO-MPO, Gatehouse AIS



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Daily COVID-19 Quick Facts**JUNE 11, 2020 07:00 ET****PPE Distribution**

- In the next 48 hours, anticipating the delivery by air and land of the following (pending inventory, quality verification, and, as appropriate, re-labeling):
 - ~ **5.5M KN95 (BYD Canada Company)** (due to P/T hesitancy, PHAC is redirecting KN95s to the PSPC stockpile)
 - ~ **1.2M face shields** (various suppliers)
 - ~ **3.5M gloves** (various suppliers)

Procured Equipment	# Received	# quarantined for quality verification	# that did not meet tech specifications for health care settings	# for allocation to P/Ts + NESS & ISC (80/20)**	# allocated for non-healthcare settings***
N95 Masks*	1,392,220	324,140		1,068,080	
KN95 Masks	11,153,850	48,000	8,257,850	1,048,000	1,800,000
Surgical Masks	107,879,700	4,012,000	18,000	103,849,700	
Nitrile Gloves	30,304,475	3,553,000		26,751,475	
Coveralls	240,761	132,000		108,761	
Face Shields	13,771,030	1,580,008		12,191,022	
Gowns	3,840,329	1,096,450		2,743,879	
Ventilators	202	202			

*Quantities of N95 masks also include FFP2 masks; this is the European equivalent.

**20% allocation = 18% NESS + 2% ISC.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

NESS

Equipment	NESS Inventory* (as of June 9, 2020)	Quantity deployed in response to RFAs since March 18, 2020**
N95 Masks		153,700
KN95 Masks		47,000
Surgical Masks		587,500
Face Shields		406,900
Gowns		485,306
Nitrile Gloves		2,376,130
Ventilators		439

*NESS inventory reflects existing inventory plus 20% allocation from the bulk allocation.

(e.g., 18% NESS + 2% ISC); inventory has supplies incoming and outgoing so numbers fluctuate.

**Quantity deployed does not account for RFA from PHAC regions and OGD (e.g., ISC; CSC); expired stock released to P/Ts and quantities of PPE deployed to supply mini clinics.



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Donations (no update)

Equipment	# Received by PHAC*	# Quarantined for Quality verification	# for allocation to P/Ts + ISC**	# for allocation to non-healthcare settings***
N95 Masks	169,553	13,833	155,720	
KN95 Masks	591,550	50,350	396,700	144,500
Surgical Masks	2,384,660	1,230,410	697,800	456,450
FFP2/FFP3 non-medical masks (N95 equivalent)	40,776	0	40,776	
Nitrile Gloves	673,780	254,255	419,525	
Gowns	65,899	5,899	60,000	
Face Shields	80,545	20,254	60,291	
Ventilators	2	2	0	

*Received numbers include PPE received by PHAC/directly delivered to the Canadian Red Cross. In working with CRC, PHAC supports quality verification of donations and directs allocation to P/Ts.

**The formula for allocation of donations no longer includes hold back for NESS.

***Supplies allocated to non-healthcare settings were items not meeting technical specifications for healthcare settings.

Requests for Assistance (RFAs) – Surge Capacity (no update)

- May 31 Domestic RFA: New Brunswick Department of Health; NB informed of request approval June 1.

Requests for Assistance (RFAs) – NESS (no update)

- 56 received from the P/Ts; 52 responded to.
- NT RFA received May 28 for various PPE; pending assessment.
- YK RFA received May 22 for various PPE; pending assessment.
- NU RFA received May 20 for various PPE; pending assessment.
 - These three RFAs are seeking [REDACTED] stockpiles; the commitment is to fill these orders while maintaining appropriate inventories in the NESS; as such, due to the quantities requested, these assessments are taking longer.
 - The NESS is identifying products that can be shipped in full immediately and is creating a strategic schedule for staggered shipments of the more scarce resources.
- YK RFA received May 5 for [REDACTED] pending assessment.
 - Shipment of [REDACTED] arrived June 5; Biomedical Technician is doing function checks and verifying consumables; will be able to verify deployment status in the coming days.

Federal Correctional Facilities**Outbreaks: (data as of June 10)**

- Federal Training Centre Laval, QC; total cases 161 (1 active, 3 hospitalized, 159 recovered, 1 death).
 - Represents only active case in institutions; will be declared over June 16, if no new cases identified.
- Swab results pending across all institutions (**BC 1, AB 4, QC 3; N = 8**).
- PHAC Infection Prevention and Control, and Environmental Health site visits:
 - As of June 8, 42 of 43 institutional on-site IPC or environmental health assessments completed.
- Letter of Agreement is being drafted with Red Cross to implement epidemic/pandemic prevention training based on Federal Training Centre and Long-term Care Facility model; proposed to begin in QC institutions, with subsequent extension to other institutions based on risk profile.



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Border Measures (no change)**Travel Cases Reported June 10**

- New Brunswick reported 1 new case.
 - [REDACTED] this case is a temporary foreign worker.

Compliance and Enforcement OIC10

Traveller Data	June 10	Last 14 Days
Number of traveller contact forms received	23,750 (+14,988)	293,030
Number of travellers subject to C&E activities	4,251	45,583

Traveller Interactions	June 10	Last 14 Days
Number of travellers subject to C&E activities	4,251	45,583
Total number of calls placed (includes travellers called more than once)	4,791	55,282
Unique travellers reached	1,006	14,265
Compliance % based on phone calls	94% (+1%)	94%
Contacting the traveller: 100% of travellers with email addresses are sent an email on Day 4, Day 7 and Day 10 of their 14 day isolation		
Number of emails sent	3,659	42,500

Law Enforcement Activities	June 9	YTD
Referrals to RCMP	1,684 (+496)	8,709 [*]
Reported Follow-ups with traveller (call or visit)	48 (+16)	1,770
Verbal warnings issued	0	13
Written warnings issued	0	3
Reported Charges under the Quarantine Act	0 ^{**}	6
Compliance % based on law enforcement activities	96%	98.8%

Note:

*** The YTD Referrals to RCMP was adjusted to account for a discrepancy that took place June 7; list was sent to RCMP, but then resent on June 8 due to technical difficulties as a result of iSTOP outage; as such, some of the referrals to RCMP were double counted; these have been removed from YTD counts.**

**** Two fines were issued under the Alberta Provincial Legislation since the *Contravention Act* agreement was not signed with Alberta for offences under the *Quarantine Act*.**

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Quarantine

- There are **1383 (-5)** rooms available for quarantine in Canada (total federal room capacity is 1603).
- Total travellers in quarantine: **220 (+5)** in federally designated quarantine sites.

- [REDACTED]
- **Repatriated GAC staff arrived in Toronto** [REDACTED] **on June 7.**

- [REDACTED]
[REDACTED] has tested positive for COVID; local public health is aware.

Conveyances (no update)**Guidance/publications (no update)****Recently published (past 48 hours)**

- Nil

Guidance/publications anticipated for posting week of June 8

- Cleaning and disinfecting public spaces – update to add instructions for bleach (Factsheet) (editing in progress)
- COVID-19: How businesses & employees can stay safe (web content) (New document) and (Factsheet) – this new title replaces Preventing the Spread of COVID-19 – Essential Service Workers, Employers and Workplaces (in progress)
- COVID-19 and the increasing need for sex-disaggregated mortality data in Canada and worldwide (New manuscript, for CCDC) (in approvals)



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Appendix (Additional Quarantine Information)**Total Number of Travellers Lodged in Federally Designated and PHAC Supported Quarantine Sites as of 20:00h 10 June 2020**

Location of Site	Current # of Travellers Total (difference from day before)	# of Travellers Asymptomatic (Symptomatic)	Total # of Travellers Released Year to Date	Total # of Travellers Lodged Year to Date
	78 (+1)	73 (4)	173	251
	13 (+0)	13 (0)	26	39
	67 (+3)	64 (3)	370	437
	52 (+1)	52 (0)	175	227
Other Designated Quarantine Sites	4 (+0)	2 (2)	6	10
Federal Space in Provincial/Territorial Lodging	6 (+0)	6 (0)	1	7
Federally Supported Lodging	0 (0)	0 (0)	15	15
TOTAL	220 (+5)	211 (9)	766	986

[REDACTED] (PHAC/ASPC)

From: [REDACTED] PHAC/ASPC
Sent: 2020-06-13 7:42 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: Re: vaccine related equipment

Hi [REDACTED]
More info on the delivery timeline. See below rationale from the vaccine supply team, who has been liaising with the PTs and the supplier.

The timelines for availability of second dose supplies are being driven to a large extent by availability from suppliers (given very high global demand and the need to ensure that supply for routine vaccination programs are preserved) and by PT requirements. Most PTs (representing approx. 70% of the population) have legislation in place requiring the use of safety-engineered needles and these needles are the clear preference for those PTs with such legislation. The safety-engineered devices are in the most demand globally. Second dose supplies could be accelerated if we were to purchase only the standard needles, but, again, this is not what the majority of PTs are prepared to use given the regulations in place.

Staggered delivery of supplies also aligns with the expectation that vaccine will only be available in limited quantities to start and may only be authorized and recommended for use in certain populations, so not 100% of the population will be vaccinated to start. The shelf life is 5 years on the supplies so this would allow for a sufficient supply, minimize the waste and not interrupt the supply chain for those PTs proceeding independently and also accounts for availability of supply for normal vaccine campaigns such as influenza.

Sent from my iPhone

On Jun 13, 2020, at 12:41 PM, [REDACTED] >
wrote:

[REDACTED] On second dose supplies. Do the timelines make sense if there is an early candidate. Is there an option to receive earlier? Rather have and store than not have and need. [REDACTED]

Sent from my iPhone

On Jun 13, 2020, at 11:58 AM, [REDACTED] > wrote:

Hi [REDACTED]

HSIB is leading on this procurement for NESS. Below is a summary of what has been purchased so far and what's coming up. Between what we have to date and what is planned, it's fairly comprehensive.

To note, some PTs are saying that they want to do their own procurement. These are all supplies that have value and use in the health system (eg, for any public health vaccination program, including flu), so our sense is to stay the course to ensure that this safety net is there for PTs anyway, in case they do need the surge or cannot procure their own.

We've sent this info to ISED as well to ensure coordination, as they are in discussions with manufacturing suppliers on equipment needed for fill/finish (eg, glass vials and stoppers). It is important that they know what the PHAC and PT needs and plans are for vaccination programs and are coordinated. For example, the public health plan for pandemic assumes multi-dose vials and the vaccination supplies ordered reflect this. So, we would not want ISED to buy filling supplies for single dose pre-filled syringes.

I'm cc'ing [REDACTED] and [REDACTED] in case they have anything to add.

- 1st Contract awarded (May 16, 2020) to Becton Dickenson (BD) Canada (\$9 M) for syringes and needles in sufficient quantities to provide 1st dose of COVID-19 vaccine to all Canadians (37.6 M doses). Details of this contract listed in the table below.
- Regarding 2nd contract, discussions are underway with BD to contract for the necessary syringes and needles [REDACTED]
[REDACTED] had indicated support of GoC effort to procure supplies for a 2nd COVID-19 vaccine dose. [REDACTED]
[REDACTED] We are in communication with [REDACTED]
[REDACTED] to confirm their intent.
- Anticipated delivery timelines of 18 – 22 months for 2nd dose supplies.
- Total amount requisitioned is now 75.2M (enough for 2 doses per Canadian).
- Procurement activities also underway for other vaccination supplies for 2 doses (alcohol swabs, sharps containers, gauze, bandages, insulated vaccine

carry bags/coolers, biohazard waste boxes, etc). Details on contract(s) to come.

- Procurement activities are underway for epinephrine in coordination with Health Canada as part of their initiative to create reserves of drugs that are in short supply.

Contract awarded to date includes:

Description	Total Qty.	Expected Delivery	Comments
Blunt fill needles	37.60 M	Aug – Dec 2020	Used to draw the dose from vaccine vial (single or multi-dose vial)
3 ml syringes	37.60 M	Nov 2020 – April 2021	Drawing / administering dose
Needles 25 gauge 1" (safety engineered)	15.05 M	Feb – May 2021	
Needles 25 gauge 1.5" (safety engineered)	7.79 M	Jan - June 2021	Issue with access this size – to be replaced with alternate size
Needles 25 gauge 5/8" (safety engineered)	3.12 M	Mar - April 2021	
Needles 25 gauge 1" (non-safety engineered)	6.75 M	Sept – Nov 2020	Non-safety engineered needles represent approx. 30% of requirement reflecting % of population in PTs without legislation
Needles 25 gauge 1.5" (non-safety engineered)	3.49 M	Oct – Nov 2020	
Needles 25 gauge 5/8" (non-safety engineered)	1.40 M	June 2020	

Sent from my iPhone

On Jun 12, 2020, at 2:43 PM, [REDACTED]

[REDACTED] wrote:

I know we've already requisitioned syringes. What else might we want to proactively acquire at this point? This is a question that we will be asked for sure next week.

Any views?

■

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-13 3:23 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: Re: vaccine related equipment

I think it's a matter of available from the supplier. Flagging your request to the NESS procurement team to follow up with the supplier.

[REDACTED]

Sent from my iPhone

On Jun 13, 2020, at 12:41 PM, [REDACTED] wrote:

[REDACTED] On second dose supplies. Do the timelines make sense if there is an early candidate. Is there an option to receive earlier? Rather have and store than not have and need. [REDACTED]

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needs and plans are for vaccination programs and are coordinated. For example, the public health plan for pandemic assumes multi-dose vials and the vaccination supplies ordered reflect this. So, we would not want ISED to buy filling supplies for single dose pre-filled syringes.

I'm cc'ing [REDACTED] and [REDACTED] in case they have anything to add.

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Sent from my iPhone

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Any views?

■



Government
of Canada

Gouvernement
du Canada

FOR CONCURRENCE

20-107557 - 553

MEMORANDUM TO THE MINISTER OF HEALTH

**IMPLICATIONS OF THE GOVERNMENT OF CHINA'S EXPORT CONTROLS /
ÉTIQUETAGE DES ÉQUIPEMENTS DE PROTECTION INDIVIDUELLE EN
PROVENANCE DE CHINE**

SUMMARY

- In response to international criticism concerning the quality of PPE, the Government of China has imposed more stringent certification and export controls for masks and other personal protective equipment (PPE). As a result, the Public Health Agency of Canada (PHAC), as an importer, is now required to sign a joint declaration with the exporter attesting that the products meet the standards and certification requirements of the destination country.
- For products that are not certified as medical devices in China, the joint declaration will also stipulate that the item is "not for medical use" even if it meets Canada's technical specifications for healthcare settings. These products are subsequently labelled in Simplified Chinese as "not for medical use" both on the outer shipping boxes and inside each of the individual product package.
- These export controls implicate a number of shipments coming to the Government of Canada, including, as of May 26, received deliveries of over 19 million surgical masks and over 135 thousand gowns. This issue is expected to be long-term and will extend to other PPE going forward.
- PHAC has determined that the process of removing this labeling from shipments would cause significant delays in distribution, and has worked with Health Canada (HC) to create a PHAC label of quality confirmation that meets HC's regulatory requirements.
- PHAC has discussed this issue with provinces and territories (PTs) through the Logistics Advisory Committee, but with your concurrence, PHAC will implement a robust communications plan to proactively sensitize its labeling approach with PTs, healthcare professionals and the general public.

BACKGROUND:

In light of recent international criticism concerning medical supplies and PPE exported from China, the Government of China has implemented a number of export controls aimed at addressing quality control over exported products. For example, in April 2020, PHAC communicated that of the 11M KN95 respirators received from China, 9.9M did not meet the Government of Canada's technical specifications for healthcare settings. Countries such as the United States and Australia have also publically communicated quality concerns.

This has culminated in a joint declaration requirement that must be signed by both the exporter and the importer (e.g., PHAC) before the product can leave China, as well as new labeling requirements for select products.

The joint declaration stipulates that the product meets the standards and certification requirements of the destination country; however, for products that are not certified as medical devices in China, the joint declaration must also specify that the item is "not for medical use" even if it meets Canada's technical specifications for healthcare settings.

The resulting outcome of this attestation is that products not medically certified in China must be labeled in Simplified Chinese as "not for medical use" This labelling has been found both on the outer shipping boxes and inside each of the individual product packages as paper inserts and in some cases an ink stamp.

In order to remove the inserts from each individual product package, the packaging needs to be opened and searched through, potentially requiring the receiver to re-package the product.

One company [REDACTED], made the decision, at its own costs, to re-label its surgical masks once received in Canada; however, this has resulted in a three-week delay between arrival in Canada, quality verification as conducted by PHAC, and distribution to PTs. It is not anticipated that other suppliers will take the same approach.

CONSIDERATIONS:

To meet current high demand within the healthcare sector for PPE, PHAC intends to sign joint declarations for product that meets the Government of Canada technical specifications for healthcare settings for COVID-19.

PHAC is able to sign these joint declarations under its Medical Device Establishment Licence as PHAC is verifying the quality of the PPE and medical supplies prior to shipment using a risk-based triage approach. For unfamiliar suppliers that cannot provide adequate quality assurance documentation, samples are sent to PHAC for the appropriate testing prior to shipment. PHAC is also exploring options for testing in China, in advance of shipments.

Once received in Canada, PHAC does not plan to remove labels inserted into each individual product stating "not for medical use" in Simplified Chinese. To do so would significantly delay distribution and in some cases, destroy the integrity of packaging. Instead, PHAC would label the outer shipping boxes with a confirmation of quality and any instructions for use prior to distribution to PTs. This labeling approach is as advised by HC and an example is as follows:

P0418A

Disposable Isolation Gown

Non-sterile, meets CSA Z314-18 level 2

PHAC has determined this product is acceptable for medical use.

Product information sheets are available from:



P0418A

Blouse d'isolement jetable

Non-stérile, conforme au niveau 2 CSA Z314-18

L'ASPC a déterminé que ce produit est acceptable pour usage médical.

Les fiches techniques sont disponibles à l'adresse:



This is in addition to the product information sheets available to PTs on the Canadian Network for Public Health Intelligence platform.

These efforts do not account for the importation of PPE as procured individually by PTs outside of the Government of Canada's bulk procurement process. Other importers such as the PTs and private companies may also be signing joint declarations and receiving similar product labeled as "not for medical use".

COMMUNICATIONS IMPLICATIONS:

With a view of maintaining transparency and in anticipation of a "not for medical use" label being translated by a healthcare professional, PHAC would undertake a three-pronged communications plan to:

- Sensitize PTs to PHAC's labeling approach via the Logistics Advisory Committee, the Special Advisory Committee, and the Committee of Deputy Health Ministers, if required;
- Develop targeted communications to healthcare professionals via groups such as the Health Professionals Forum and social media platforms (e.g., LinkedIn); and,
- Proactively communicate to the general public, as required, potentially using platforms such as the Chief Public Health Officer's daily pressers.

Proposed messaging will be reaffirming that all PPE distributed by PHAC meets the Government of Canada technical specifications for healthcare settings, and that the labeling in Simplified Chinese does not reflect the quality of the PPE. It will also be noted that PHAC can only account for the PPE it distributes and that this labeling approach does not encompass all PPE imported into Canada from China.

PHAC is working with Health Portfolio Communications to develop media lines in consultation with Public Services and Procurement and Global Affairs Canada for the purposes of managing the Government of China's sensitivities concerning reports of substandard PPE (see Annex A).

RECOMMENDATIONS/CONCLUSION:

It is recommended that PHAC implement the engagement plan starting with PTs, and report back to the Minister's Office should there be any additional issues.

Please indicate your concurrence with the recommended course of action by signing the "I concur" block.


JUN 11 2020
Public Health Agency of Canada


JUN 16 2020
Health Canada

☐ I do not concur
☒ I concur

P. Ili

Minister

June 16, 2020
Date

MECS# 20-107557 - 553

Branch [REDACTED] PPE Strategy Team
Telephone: [REDACTED]

Attachments

Appendix A – COVID-19 Media Lines – Shipments from China: Labelling of PPE



COVID-19 Media Lines

Shipments from China: Labelling of PPE

Issue Statement:

China has introduced more stringent certification and export controls in the context of masks and other personal protective equipment (PPE). This has culminated in a joint declaration requirement that must be signed by both the exporter and the importer (e.g., PHAC) before the product can leave China, as well as new labeling requirements for select products.

The joint declaration stipulates that the product meets the standards and certification requirements of the destination country; however, for products that are not certified as medical devices in China, the joint declaration must also specify that the item is "not for medical use" even if it meets Canada's technical specifications for healthcare settings.

To that end, with this attestation, the product is subsequently labelled in Simplified Chinese as "not for medical use" both on the outer shipping boxes and inside each of the individual product boxes.

The Public Health Agency of Canada (PHAC) conducts a quality verification on all PPE received by the Government of Canada, both from international and domestic suppliers, to ensure it meets the technical specifications for healthcare settings for COVID-19 prior to distribution to provinces and territories.

Given the large volume of shipments of PPE to Canada, it is not logistically possible for PHAC to open each individual box to remove all labels. Instead, PHAC will place a label on the outside of all shipping boxes confirming that the product meets the Government of Canada technical specifications for healthcare settings. These key messages have been drafted in anticipation of media questions.

Key Messages:

- The Public Health Agency of Canada's (PHAC) top priority in the procurement of personal protective equipment (PPE) and other medical supplies is the health and safety of our frontline healthcare workers.
- All PPE and medical supplies received by the Government of Canada, whether procured internationally or domestically, undergoes quality verification by PHAC to confirm that it meets the Government of Canada technical specifications for healthcare settings for COVID-19 response. The same process also applies to donations.
- To date, a large majority of the products received by the Government of Canada have met the technical specifications for healthcare settings for COVID-19 response; however, as a result the Public Health Agency of Canada's stringent review process,



approximately 9.9 million KN95 respirators were assessed as not meeting the technical specifications and were not allocated to provinces and territories.

- As the demand for PPE and other medical supplies remains high for frontline healthcare response, all shipments imported by PHAC will continue to be assessed against the Government of Canada's technical specifications for healthcare settings.
- Products sourced from China that meet the Government of Canada's specifications will be labelled by PHAC, on the outer shipping boxes, confirming quality and stating that it is suitable for use in healthcare settings.
- To maintain the integrity of the PPE packaging, PHAC will not be removing labels inserted inside each of the individual product boxes that communicate in Simplified Chinese that the product is 'not for medical use'. The process of removing these inserts would cause significant delays in the distribution.
- This is a labelling issue and is not reflective of PPE quality. As it will have ongoing implications for shipments received by the Government of Canada, PHAC will continue to work closely with the provinces and territories to clearly communicate that the products have been appropriately assessed and are safe for use by our frontline healthcare workers.
- If PHAC cannot account for the quality, the product will not be allocated to the provinces and territories, and will be subsequently assessed for potential use in non-healthcare settings.

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (IC)
Sent: 2020-06-17 12:26 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: RE: Need to get the proposal re how much we should stockpile

I am being briefed in 5 minutes on what we need to order for the NESS. We can meet with you later this week

-----Original Message-----

From: [REDACTED]
Sent: June 17, 2020 8:17 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Need to get the proposal re how much we should stockpile

Beyond what PTs are doing regarding their own readiness planning. Would also like to sit down re proposed way forward on Ness [REDACTED]

Sent from my iPhone

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-06-18 1:20 PM
To: [REDACTED]
[REDACTED]
Cc: [REDACTED]
Subject: RE: Therapeutics update from HPEG

Extremely helpful as always, [REDACTED]!

[REDACTED] – we have already briefed the HC/PHAC DMs Group on Drug Shortages and Procurement about the new Clinical Pharmacology Group of experts advising PHAC. Their advice will be informing our procurement strategies.

From: [REDACTED]
Sent: 2020-06-18 12:07 PM
To: [REDACTED]
[REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: Therapeutics update from HPEG

Update on Therapeutics

1. Hydroxychloroquine – after UK study – now removed from SOLIDARITY arm of WHO study, US FDA emergency authorization revoked, lots of media about US stockpile NO longer a viable therapeutic unless unexpected new data
2. Lopinavir/Ritonavir – expected results from UK study, not useful, removed from WHO Solidarity arm. Unlikely to be helpful
3. Dexamethasone – not really a treatment for COVID. Common anti-inflammatory. Very small dose used in UK trial showed benefit. Will likely immediately be used by all clinicians. We need to see the data first. Expect recommendation by all clinical groups, including PHAC guidelines (in revision) for those in ICU. Not useful likely in those not in ICU. It is a very small IV dose. There is no shortage of this in Canada. The shortage is in oral pills for other uses and would not be used in COVID as it is not a treatment, it is an anti-inflammatory and is treats the inflammatory storm the virus causes in really sick people.
4. We have stood up a Clinical Pharmacology COVID-19 Task Group with 6 Canadian experts, (in CIRID, similar to NACI, but much smaller) and we have already met once. They have recommended stopping any procurement of chloroquine derivatives and will look at dexamethasone as soon as the paper is out. That way you are not just getting my views, and there is a more robust process.

I trust this is a helpful synopsis,
[REDACTED]

From: [REDACTED]
Sent: 2020-06-23 12:22 PM
To: [REDACTED]
Subject: Fwd: Remdesivir

See last 2 bullets for reactive speaking points

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]
Date: June 23, 2020 at 12:13:49 EDT
To: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] >
Cc: [REDACTED]
[REDACTED] >
Subject: RE: Remdesivir

Our plan is to purchase Remdesivir [REDACTED] and have connected with PSPC and the supplier (Gilead) on this. However, at present [REDACTED]
[REDACTED] Gilead has announced that they will donate all of this supply globally to countries based on their COVID burden of illness.

Gilead has confirmed that Canada qualifies and will be allocated some supply for donation. However, they have not yet determined how much will be available. Based on our epi patterns, we expect that it will be low compared to some other countries with higher cases, including hospitalizations, right now.

Gilead is ramping up production [REDACTED]
[REDACTED] These will be available for sale and PSPC is in discussion with Gilead about how much Canada can buy and price. [REDACTED]
[REDACTED] They have confirmed that even when they start sales, there will be a country allocation based on burden of illness.

Health Canada is working on an interim order that would allow PHAC to acquire (donation and/or purchase) product for NESS before it is authorized, given that Gilead has now filed a submission. If we wanted to deploy the product into the health system before HC has authorized, then we would need to pursue a UPHN request.

So, if asked, I would say that:

- the GoC is in discussions with the manufacturer (Gilead) about procurement [REDACTED]
- at this time, supply is limited globally, so it has yet to be determined how much will be

available for Canada to acquire

[REDACTED]
[REDACTED]

Centre for Immunization and Respiratory Infectious Diseases (CIRID)
Infectious Disease Prevention and Control Branch

[REDACTED]

Centre de l'immunisation et des maladies respiratoires infectieuses (CIMRI)
Direction générale de la prévention et du contrôle des maladies infectieuses

PUBLIC HEALTH AGENCY OF CANADA | AGENCE DE LA SANTÉ PUBLIQUE DU
CANADA

[REDACTED]

Phone | Téléphone: [REDACTED]

Cell : [REDACTED]

[REDACTED]

-----Original Message-----

From: [REDACTED]

Sent: 2020-06-23 12:04 PM

To: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Subject: Remdesivir

Are we purchasing /acquiring Remdesivir [REDACTED]

Question may come up given Submission by Gilead/manufacturer to HC?

Sent from my iPhone



Routing Slip / Bordereau d'envoi

Program Contact / Responsable du programme _____ Date :
Print or type name / imprimez ou dactylographiez le nom

Director / Directeur (trice) _____ Date :
Print or type name / imprimez ou dactylographiez le nom

_____ Date :
print or type name / imprimez ou dactylographiez le nom

Cleared with/Avec l'accord de (if applicable / s'il y a lieu)

- | | | |
|---|-------|--------------|
| <input type="checkbox"/> OIA / BAI | _____ | Date : _____ |
| <input type="checkbox"/> _____ | _____ | Date : _____ |
| <input type="checkbox"/> HR / RH | _____ | Date : _____ |
| <input type="checkbox"/> Communications | _____ | Date : _____ |
| <input type="checkbox"/> Legal Services / Services légaux | _____ | Date : _____ |
| <input type="checkbox"/> Other / Autre | _____ | |

Branch Head Approval / Approbation de chef de la direction générale

BILINGUAL TITLE / TITRE BILINGUE

Can this title be released to the public? / Est-ce que ce titre peut être communiqué au public?

- ☐ Yes / Oui ☐ No / Non

If no, please identify sensitivities / Si la réponse est non, veuillez préciser les enjeux :

- ☐ Advice / ☐ Cabinet confidence / ☐ Solicitor client / ☐ Other / Autre
Conseil Document confidentiel du Cabinet Secret professionnel

Branch _____

_____ Date JUN 23 2020
Print name / imprimez le nom *Signature*

Approved/Noted - Approuvé/Noté

<input type="checkbox"/> _____	Date : _____
<input type="checkbox"/> _____	Date : _____

Quality Control / Contrôle de la qualité



FOR INFORMATION

20-108523 - 672


MEMORANDUM TO

Advancement of the Logistics Management Request for Proposal

SUMMARY

- As a result of the procurement of significant quantities of personal protective equipment (PPE) and other medical supplies, PHAC is in need of a large scale, third party logistics provider.
- The incoming quantities to be received by PHAC include, but are not limited to, over 120M N95 respirators, 340M surgical masks, 125M protective gowns, 20M litres of hand sanitizer, 55M face shields, and 40K ventilators.
- Effective and timely distribution of PPE is critical. To initially support distribution, Public Services and Procurement Canada (PSPC) awarded a contract with Amazon on April 1, 2020, valued at up to \$5 million; however, the management of the logistics in receiving and distributing this unprecedented level of incoming volume is outside of the capacities of that contract and the existing capacities of the NESS.
- On May 4, 2020, PHAC posted a Letter of Interest / Request for Information notice on the PSPC Buy and Sell website to solicit interest from major logistics service providers. The Request for Proposal (RFP) closed on May 7.
- The Canadian Armed Forces (CAF) is providing logistics management support to PHAC on an emergency basis. However, the CAF has indicated that they do not have the capacity to advance this process. PHAC does not have the logistics expertise or industry knowledge to establish a logistics operation of this scale.
- As there is an urgent need for a provider, PHAC is using its emergency contracting authorities to engage Deloitte's services to advance the RFP process and support the transition to the appropriate service candidate. Deloitte was identified for this role due to their expertise in large scale third party logistics and warehouse management systems in a COVID-19 context and the need to rapidly advance the RFP.
- To that end, PHAC authorized a sole source contract with Deloitte. This was determined to be warranted as further delay creates a high risk for PHAC's ability to distribute supplies to the provinces and territories.

- 2 -



JUN 23 2020

MECS# 20-108523 - 672

Contact: 
Telephone: 

From: [REDACTED] (HC/SC)

Sent: 2020-06-24 2:57 PM

To: [REDACTED]

Cc: [REDACTED]
[REDACTED]
[REDACTED]

Subject: Re: Very interesting discussion with Medicom - and possible follow up

We are having a discussion on strategic procurement decision-making tomorrow. We should include Medicom and needs on gloves.

[REDACTED]
[REDACTED]
Health Canada

On Jun 24, 2020, at 12:29 PM, [REDACTED] wrote:

From PSPC here are the dimensions we are working through:

- Context: The initial PHAC order in March 2020 was for 18M gloves, to date we have bought for PHAC/PTs/OGDs/Essential Services reserve a total of 2.2B gloves (mostly nitrile) from 15 suppliers at a total cost \$189M.
- Roughly 70 million gloves have been delivered to date but the supply chain is struggling -- global demand far exceeds supply. Notably, our main supplier Sinopharm a Chinese state-owned enterprise [REDACTED]
[REDACTED] We are currently proposing to proceed with a \$90M contract amendment [REDACTED] per unit which is still a very competitive unit price and will get us the gloves faster than any other new or existing contract. Nitrile gloves typically retailed for [REDACTED] before covid19 [REDACTED]
- Over and above the proposed contract amendment, PHAC placed an additional order last week for [REDACTED] gloves. From our perspective, the factors below and the potential for domestic play(s)* need to be more clearly understood before we make a decision to proceed with placing the [REDACTED] glove order:
 - Likelihood of the suppliers delivering on the initial 2.1B by end of October 2020
 - Getting better certainty on the overall demand health care system/broader economy for gloves.
 - Accurately accessing and “counting” existing P/T inventory and their own procurements underway. Storage and shelf life need to factor into our buys and the timing of delivery. Emerging evidence is pointing to a space shortage as both pubic sectors in all jurisdictions and private sectors are stockpiling.
 - Regulatory issues – gloves have a higher MDEL standard than n95s, and there are some impacts to consider on this front with suppliers

* [REDACTED]

[REDACTED]

From: [REDACTED]

Sent: June 24, 2020 7:41 AM

To: [REDACTED]

Cc: [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Subject: Re: Very interesting discussion with Medicom - and possible follow up

I think we should pursue further discussions and do some additional analysis in meantime t

Sent from my iPhone

On Jun 24, 2020, at 7:32 AM, [REDACTED] wrote:

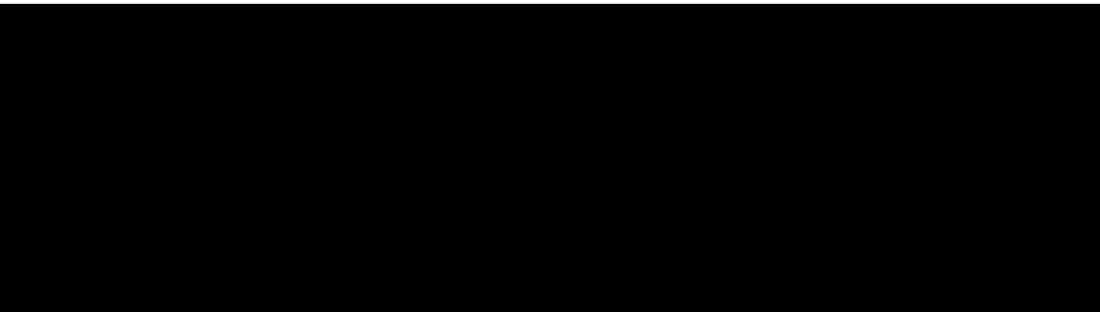
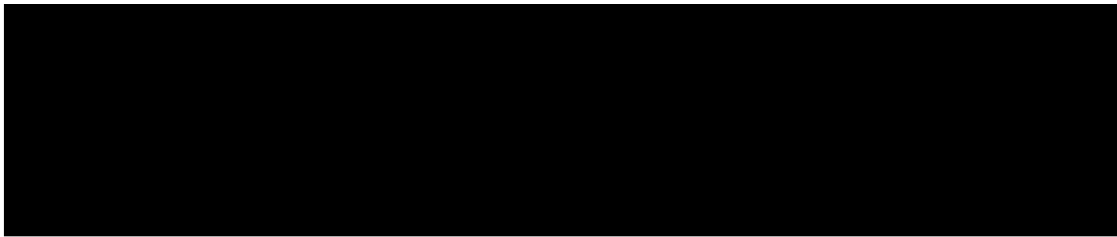
I had a very interesting discussion last night with the [REDACTED] Medicom [REDACTED], which I thought was worth reporting on, and which I think merits some follow up on our part.

[REDACTED] used the first part of the call to simply pass on good news from the company – the UK is supporting them on a major N95 investment to build capacity in that country [REDACTED]
[REDACTED]

The second part of the call was to gauge our potential interest in working with Medicom to expand domestic production of nitrile gloves.

[REDACTED] While I didn't get into a great deal of detail, I hinted that our assessment suggested international supply chains were reasonably robust, that one option for Canada might be to stockpile, and that we had some concerns over the complexity of a glove operation and the capex costs.

[REDACTED]



It seems to me that we should at least pursue some further discussions to see if his assertions prove true and to assess his business case. I could ask [redacted] working with your staff, to follow up.

Let me know thoughts.

[redacted]

[redacted]

[redacted]

Innovation, Science and Economic Development Canada

[redacted]

Ottawa, Ontario

K1A 0H5

Phone: [redacted]

[redacted]

[redacted]

Innovation, Sciences et Développement économique Canada

[redacted]

Ottawa (Ontario)

K1A 0H5

Tél: [redacted]



FOR CONCURRENCE

20-109107 - 985

MEMORANDUM TO

De-Escalation of Personal Protective Equipment Donations / Réduction des dons d'équipements de protection individuelle

SUMMARY

- Since the end of March, the number of offers to donate personal protective equipment (PPE) to the Public Health Agency of Canada (PHAC) has diminished substantially.
- PHAC's PPE Donations Team, with support from the Canadian Armed Forces (CAF), was originally created to coordinate the influx of offers from both domestic and international organizations, providing warehousing space and conducting quality verification prior to the distribution of a donation to provinces and territories (PTs).
- To date, these efforts have resulted in the distribution of approximately 590 thousand N95 respirators and equivalents (e.g., KN95; FFP2); 1.6 million surgical masks; over 400 thousand pairs of nitrile gloves; 60 thousand protective gowns; and over 80 thousand face shields.
- With fewer offers to donate, the PPE Donations Team is proposing a de-escalation of the program that would involve the redirection of staff to the larger PPE Strategy Team, the standing down of the PPE Donations public portal, and the transitioning of warehousing needs to the Canadian Red Cross (CRC).
- With your concurrence, the PPE Donations Team will initiate a de-escalation process including a notification for information to the Minister's Office, Privy Council Office, the Prime Minister's Office, as well as other government departments.

BACKGROUND:

Established in late March 2020, the PPE Donations Team, with support from the CAF, helped coordinate an influx of offers of donation from domestic and international organizations, lending support to address shortages of PPE in Canada as a result of

unprecedented global demand in response to COVID-19. This included the creation of a public portal to facilitate donor communication with PPE Donations Team, and logistical and regulatory support to donors such as verifying that the donated items met the Government of Canada technical specification for healthcare settings for COVID-19 response.

Upon receipt and final verification for quality, the donations were distributed to PTs on a per capita basis. To date, these efforts have resulted in the distribution of approximately 590 thousand N95 respirators and equivalents (e.g., KN95; FFP2); 1.6 million surgical masks; over 400 thousand pairs of nitrile gloves; 60 thousand protective gowns; and over 80 thousand face shields.

To facilitate donations from other countries (e.g., China), the PPE Donations Team also worked with the CRC. This partnership included responding to CRC requests to verify the quality of received donations and provision of guidance in terms of the allocation of donations to PTs (e.g., 100% to PTs distributed on a per capita basis).

Since the end of March, the number of offers of donation have consistently decreased prompting internal discussions related to resource requirements and the broader priorities of the PPE Strategy Team.

CONSIDERATIONS:

PHAC is now receiving shipments of procured PPE and other medical supplies on practically a daily basis by air, land, and sea. This undertaking requires all available resources including warehousing space and personnel to manage the quality verification process and logistics. Maintaining the current PPE Donations Team to facilitate the distribution of relatively small amounts of PPE is not the best use of resources.

Additionally, donations are not always tailored to demand causing an oversupply of items such as face shields. Also, in cases where donors have requested charitable receipts, the PPE Donations Team cannot provide this as the program is an entity of the federal government.

The CRC has communicated a willingness to take over receipt and warehousing of all future donations provided that they are for frontline healthcare response and intended for PTs. The CRC will not accept donations intended for community distribution (e.g., face coverings versus surgical masks). In this scenario, the CRC would still expect PHAC to conduct quality verification, as required, and provide direction on the distribution to PTs.

PORTFOLIO CONSIDERATIONS:

As part of a de-escalation process, the PPE Donations Team is proposing to stand down its public portal on the Government of Canada COVID-19 website; however, its internal email inbox (phac.hpoc.ppedonations-eppdons.cops.aspc@canada.ca) would be maintained to redirect new donations and additional donations from existing donors to the CRC.

Due to the high profile of some donations, it will be necessary to notify the Minister's Office, Privy Council Office, the Prime Minister's Office, as well as other key government departments (e.g., Global Affairs Canada) of how they can continue to contact the PPE Donations Team on an ad-hoc basis.

The PPE Donations Team will also complete the intake and distribution of any outstanding donation offers, and will maintain the recognition process for received donations, in collaboration with Global Affairs Canada and Innovation, Science and Economic Development Canada.

From a regulatory perspective, all donations redirected to the CRC will continue to be covered under PHAC's Medical Devices Establishment Licence. This is as advised by Health Canada.

RESOURCE IMPLICATIONS:

As a de-escalation, the majority of the PPE Donation Team personnel will be re-directed to other parts of PHAC's COVID-19 response, specifically taking on roles in support of the broader PPE Strategy Team.

Funding implications in terms of the CRC's ongoing role are to be captured in two time periods. From April 1 – May 25, 2020, the resources required for the CRC to warehouse and distribute donations on behalf of PHAC are estimated to be \$20,000 to \$25,000 (pending invoices to finalize the actual costs incurred by the CRC).

Starting May 26, 2020 until September 30, 2020, the CRC's ongoing costs are covered under an agreement with Public Safety that stipulates that the CRC is building and maintaining a capacity to collect (including through public and private in-kind donations), move and distribute key medical supplies and goods (e.g., PPE) across Canada. Reception and associated warehousing requirements accounts for the use of appropriate facilities such the need for an ambient temperature to store testing swabs.

Donors are expected to manage the costs of their shipments to the CRC; however, funding support from the Government of Canada might be occasionally requested. Decisions in this context will be made on a case-by-case in consultation with Public Safety and, as appropriate, Global Affairs Canada.

COMMUNICATIONS IMPLICATIONS:

Based on consultation with Health Portfolio Communications, the PPE Donations Team is developing some "responsive only" media lines in relation to the standing down of the public donations portal.

Internally, the PPE Donations Team is developing notification communications to inform the Minister's Office, Privy Council Office, the Prime Minister's Office, as well as other key government departments (e.g., Global Affairs Canada) of how they can continue to contact the PPE Donations Team on an ad-hoc basis.

RECOMMENDATION:

It is recommended that you indicate your concurrence with this de-escalation approach by signing the "concur" block below.

☐ do not concur

☒ concur

*Just we
should send
an info memo
to
minister
this.*

JUN 29 2020

JUN 30 2020

MECS# 20-109107 - 985

Contact:
Telephone:

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-02 10:08 PM
To: [REDACTED] PHAC/ASPC
Cc: [REDACTED]
Subject: Re: Note to Minister re: Stockpiling and NESS

Thank you [REDACTED] Will adjust accordingly.

Cheers

[REDACTED]

Sent from my iPhone

On Jul 2, 2020, at 9:55 PM, [REDACTED] wrote:

Not sure what [REDACTED] comments are. Mine are as follows: need rationale that u serions why we think two months makes sense. We also need to be clear about need to engage PTs so that we've agreed upon strategy re stockpiling ans that we have way to ensure life cycle management of whatever goes into our NESS. We need to have analysis that underpins linkage between 20 per cent hold back on allocation and stockpile - think 20 percent is embedded within stockpile. It isn't stockpile plus 20 percent I don't think? Remain open to being convinced. Need analysis that shows link between orders vs domestic supply vs what we hold at any given time re stockpile.

Think note needs bit more depth re rationale, other considerations beyond just money.

Sent from my iPhone

On Jul 2, 2020, at 9:43 PM, [REDACTED] wrote:

Good evening [REDACTED] Further to your request, attached is a draft note to the Minister regarding stockpiling and the NESS. I note that on review and reflection, [REDACTED] recommends some further changes. These will be reflected in a further draft by 1100 tomorrow AM.

Best regards,

[REDACTED]
[REDACTED]

Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

[REDACTED]
[REDACTED]

Government of Canada | Gouvernement du Canada

<20-109279-396 Memo to Minister_PPE-July 2 2020_v2.docx>

Appendix A – Summary of PPE Orders under Bulk Procurement

	Millions			
Item	Ordered by P/Ts	Ordered by GoC	Received by PHAC	Shipped to P/Ts
N95 respirators	30.7	98.1	2.0	1.0
Surgical masks	197.2	333.8	74.4	17.7
Gowns	52.8	116.1	12.1	3.8
Gloves (pairs)	707.5	1,076.0	65.4	28.9
Face shields	9.2	56.9	31.0	9.5

Source: PHAC Control Tower, June 30, 2020

Appendix B – Summary of Proposed PPE Orders for NESS

Item	Millions		Considerations
	Estimated Quantities	Estimated Cost	
N95 respirators	N/A	N/A	PPE Model indicates no further purchases are required at this time; initial deliveries of domestic supply are expected in August 2020
Surgical masks	14	■	Initial deliveries of domestic supply are expected in July 2020
Gowns	50	■	Mixed quality of domestic and international supply
Gloves	750*	■	No domestic supply
Face shields	14	■	Strong domestic supply
		■	

*Due to the urgency of a potential glove shortage and indications of further global supply chain challenges, PHAC proactively ordered an additional 750 M pairs of nitrile gloves.



FOR CONCURRENCE

20-109279 - 396

MEMORANDUM TO THE MINISTER OF HEALTH

Procurement of additional personal protective equipment to bolster the National Emergency Strategic Stockpile for a potential resurgence of COVID-19 / Acquisition d'équipements de protection individuelle supplémentaires pour renforcer la Réserve nationale stratégique d'urgence en vue d'une éventuelle résurgence de COVID-19

SUMMARY

- In response to COVID-19, the Government of Canada (GC), in coordination with the provinces and territories (PTs), launched a significant bulk procurement of both domestic and foreign personal protective equipment (PPE).
- Based on an agreement with the PTs, 80% of the PPE ordered is shipped to PTs and the remaining 20% is shipped to the National Emergency Strategic Stockpile (NESS) where it is used to respond to the needs of Indigenous Services Canada, the Canadian Armed Forces (CAF) and requests for assistance (RFAs) from PTs.
- In preparation for a potential resurgence of COVID-19 later this year, PHAC recommends bolstering the NESS supplies of gloves, gowns, surgical masks and face shields, with a view to building a stockpile capable of responding to 8 weeks of national pandemic usage.
- This recommendation is based on lessons learned in recent months and the insight provided by the Pan-Canadian PPE Demand and Supply Model (PPE Model) developed by Health Canada.

BACKGROUND:

FPT roles and responsibilities are described in the *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector* (CPIP) and the *FPT Public Health Response Plan for Biological Events*. PTs are responsible for ensuring the provision of medications, supplies and equipment required for provision of health care services. The federal government is responsible for ensuring the provision of medications, supplies and equipment for specified federal populations/employees who normally access federally operated health care services; mobilizing medical supplies in

the NESS as surge capacity to support PT responses; and, facilitating the acquisition of extra medical supplies through PSPC as appropriate.

An older version of the CPIP promoted a 16-week supply of materials to address shortages of materials and supplies and sporadic interruptions of supply chains, however, target pandemic stockpile levels of PPE were not defined. The current version of the CPIP is silent on the issue.

CURRENT STATUS:

PSPC has ordered significant quantities of PPE from a mix of domestic and international suppliers and PHAC continues to receive staggered delivery of shipments (Appendix A).

Domestic supply of face shields, surgical masks and gowns is now available and domestic supply N95 respirators is anticipated in August 2020.

Further to agreement between FPT governments, 80% of incoming PPE is allocated to PTs and 20% is allocated to the NESS to maintain the stockpile and respond to requests for assistance.

Although the NESS is being replenished through the 20% bulk procurement allocation, stocks are not substantially increasing due to a significant number of RFAs (53 to date), as well as support provided to CAF.

As a key element of resurgence planning for COVID-19, PHAC is recommending the stockpiling of an 8-week supply of PPE, which would represent half of the recommended 16-week supply promoted in the CPIP. This requires the immediate procurement of 50 million gowns, 127 million surgical masks and 14 million face shields.

PHAC has already initiated the procurement of 750 million pairs of gloves as the supply chain is beginning to experience challenges, no domestic production exists and current predictions indicate depletion of stocks may occur as early as September, 2020.

This recommendation is supported by the Pan-Canadian PPE Demand and Supply Model (the "PPE Model") developed by Health Canada which uses epidemiological models and supply information to project demand and supply requirements for the economy. The PPE Model indicates that gloves, gowns, surgical masks and face shields will be depleted between September and November, 2020. PHAC will continue to monitor PPE supply and demand trends leveraging the PPE Model and adjust procurement recommendations as necessary.

CONSIDERATIONS:

The rationale for stockpiling a 16-week supply was clearly demonstrated by the global supply chain issues which hampered Canada's ability to secure supply and the time taken to ramp up domestic supply and begin receiving product February through April 2020. This risk is somewhat mitigated by new domestic supply chains, however, until such time that a stable and sufficient domestic supply is available for all products, the stockpile will be a key national mitigation measure to allow for market adjustment and domestic ramp up if a surge is experienced.

It is also possible that not all current orders will materialize, so efforts to stockpile required items will further mitigate the risk.

The United States government is also seeking to build a national stockpile in response to lessons learned from the COVID-19 pandemic to date.

Should you agree to the creation of an 8-week stockpile, it is important to communicate and validate our approach with PTs. This will be key to ensure that the country as a whole has sufficient PPE, and that inventory is managed through appropriate cycling of product out of the NESS before expiry. Pending engagement and determination of PT readiness, the proposed federal stockpile may require adjustment.

RESOURCE IMPLICATIONS:

The GC will assume full responsibility for the cost of additional PPE for the NESS.

To date, the GC has approved spending of up to \$7.4 billion for PPE, testing supplies, medical equipment and the associated transportation and logistics costs. This includes a contingency fund of up to \$2.0 billion for future purchases. PHAC has spent and committed approximately \$5 billion.

Additional orders of PPE for the NESS are estimated to cost approximately \$0.9 billion (Appendix B).

Moving forward, consultation with PTs is required to inform a decision in regards a continued federal role in bulk procurement, distinct from bolstering the NESS, given many PTs are now sourcing PPE directly.

COMMUNICATIONS IMPLICATIONS:

NESS capacity to respond to COVID-19 surge requirements has been of significant interest to the media and Parliamentarians. As such, existing media lines will be updated and a communications strategy will be developed.

RECOMMENDATION:

It is recommended that you indicate your concurrence with this federal stockpiling approach of 8 weeks pandemic supply, including the immediate procurement of gloves (750 million pairs already proactively ordered), 50 million gowns, 127 million surgical masks and 14 million face shields for the NESS at a cost of approximately \$0.9 billion, by signing the "concur" block below.

 JUL 06 2020

 JUL 06 2020

I, _____, **concur** with the recommendation. _____
Minister of Health Date

I, _____, **do not** concur with the recommendation _____
Minister of Health Date

MECS# 20-109279 - 396

Contact: 
Telephone: 

Attachments:

Appendix A – Summary of PPE orders under bulk procurement
Appendix B – Summary of proposed PPE orders for the NESS

Appendix A – Summary of PPE Orders under Bulk Procurement

	Millions			
Item	Ordered by P/Ts	Ordered by GoC	Received by PHAC	Shipped to P/Ts
N95 respirators	32.2	98.1	2.0	1.0
Surgical masks	208.3	333.8	74.4	17.7
Gowns	59.1	116.1	12.1	3.8
Gloves (pairs)	710.7	1,076.0	65.4	28.9
Face shields	10.0	56.9	31.0	9.5

Source: PHAC Control Tower, June 30, 2020

Appendix B – Summary of Proposed PPE Orders for NESS

Item	Millions		Considerations
	Estimated Quantities	Estimated Cost	
N95 respirators	N/A	N/A	PPE Model indicates no further purchases are required at this time; initial deliveries of domestic supply are expected in August 2020
Surgical masks	127	████	Initial deliveries of domestic supply are expected in July 2020
Gowns	50	████	Mixed quality of domestic and international supply
Gloves	750*	████	No domestic supply
Face shields	14	████	Strong domestic supply
		████	

*An 8-week supply of gloves is approximately 373 M pairs of gloves. However, due to the urgency of a potential glove shortage, lack of domestic capacity, and indications of further global supply chain challenges, PHAC proactively ordered an additional 750 M pairs of nitrile gloves.



Routing Slip / Bordereau d'envoi

Program Contact / Responsable du programme
Print or type name / Imprimez ou dactylographiez le nom

Date :

Director / Directeur (trice)
Print or type name / Imprimez ou dactylographiez le nom

Date :

Print or type name / Imprimez ou dactylographiez le nom

Date: July 3/20

Cleared with/Avec l'accord de (if applicable / s'il y a lieu)

- ☐ OIA / BAI
☐ Finance / Finance
☐ HR / RH
☐ Communications
☐ Legal Services / Services légaux
☐ Other / Autre

Date :

Date :

Date :

Date :

Date :

Date: JUL 3/20

Branch Head Approval / Approbation de chef de la direction générale

BILINGUAL TITLE /
TITRE BILINGUE

Can this title be released to the public? / Est-ce que ce titre peut être communiqué au public?

☒ Yes / Oui ☐ No / Non

If no, please identify sensitivities / Si la réponse est non, veuillez préciser les enjeux :

☐ Advice / ☐ Cabinet confidence / ☐ Solicitor client / ☐ Other / Autre
Conseil Document confidentiel du Cabinet Secret professionnel

Branch Head / Chef de la direction générale

Date: JUL 03 2020

Approved/Noted - Approuvé/Noté

- ☐
☐

Date: JUL 06 2020

Date: JUL 06 2020

Quality Control / Contrôle de la qualité

Correspondence - Briefings /

Correspondance - Services ministériels

Approved / Approuvé

Special instructions / Instructions particulières

(PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-08 9:10 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: Draft Response to PSPC Question re: PPE Shipments
Attachments: Process Questions re PPE.docx

I am sharing for your consideration:

- a draft e-mail response to [REDACTED] regarding PSPC questions and concerns regarding PPE shipments;
- a more detailed document that expands on the issues which you may wish to share (attached); and
- responses to your additional questions to [REDACTED]

Many thanks to the team for helping to pull this together.

I will highlight that we are into a very tight situation to reconcile what we estimate to be a two-week supply of remaining warehouse space (compounded by PT space challenges) with the need to surge the delivery of the most viable option in [REDACTED] (a single 350K facility). I am pushing PSPC to expedite and it is feasible to pull it off - while considering some further contingency options (we know that 350K would only hold us for a while). I am meeting again on Friday with my [REDACTED] and our respective teams to assess progress. [REDACTED] is aware of the possibility that he may need to constrain shipments as a further mitigation step. The note speaks to the lead-up to this in more detail. Your assistance with focus on this with your colleague is justified. I also note that Minister Anand will be doing a deep-dive on PPE with her team on Friday, which would provide a timely window for any required escalation.

Draft E-mail:

Hi [REDACTED]

Further to our recent discussion, I raised your questions and suggestion of PSPC assistance to PHAC with my team and a high-level summary of our feedback is below. I would be happy to set up a call to discuss the details.

In regards the length of time taken to enter items into inventory:

An overview of the process for F/P/T bulk procurement from shipment to final distribution to PTs to support frontline healthcare response is enclosed (PHAC Logistics Process Overview). On average, this cycle time for this process end to end takes 15 days. The portion of the process that relates to your questions are the “shipment and receipt” steps that take, on average, 5 days. This average may be shorter for domestic shipments.

The remaining 10 days are comprised of quality verification, regulatory needs, allocation, and distribution.

Several factors can extend cycle times, and there are opportunities for PSPC to further support PHAC in mitigating these factors, as follows:

1 - The substantial upwards trajectory of multi-modal incoming shipment volume during the month of June quite literally overwhelmed available warehousing space and resources throughout the process continuum. This is compounded by warehouse space challenges. As a result, PHAC is performing logistics issues management on a daily basis which delays movement of product. Think of it as a daily logistics jigsaw puzzle. Current estimates have PHAC warehouses at full capacity within the next two weeks.

Mitigation support from PSPC:

- increasing the accuracy of data for incoming shipments in the PSPC Titan system would greatly increase our ability to plan and execute efficient logistics. We have highlighted several anomalies, and your teams have been very responsive – additional resources at PSPC to actively performance manage contract delivery schedules and critically assess the data in the Titan system would greatly benefit these efforts.

- our teams have been actively collaborating on the procurement of additional warehouse space but progress has been slow. Continued concerted PSPC effort to expedite both the interim solution of 350K square feet in the next two weeks and the overall logistics solution request for proposal with a view to September 1st implementation is imperative to ensure continuity of distribution.

2 – The state of shipments upon arrival, as well as a lack of clear information about what the shipment contains and which contract it is associated with is posing significant challenges for the warehouse operations. This has resulted in a substantial learning curve for the onboarding of Groupe Robert (GR) and prolonged time to deconsolidate mixed pallets, count and inventory shipments, which delays our ability to allocate and distribute.

Mitigation support from PSPC: We are working with GR to address issues on a daily basis and any efforts that PSPC can take to provide as much advance information about shipments as possible, as well as decrease the volume of mixed pallets would assist.

3 – A large volume of “outliers” which are products/shipments that require alternate logistics solutions, e.g. relabelling of 70M [REDACTED] surgical masks, are a significant resource draw that detracts from the daily operations of the team.

PHAC is currently in the process of hiring supply leads and procurement leads for commodities or commodity groupings who would be responsible for liaison with the 3PL and PSPC and associated issues management respectively, as well as a senior logistician who would be responsible for overseeing all operations with a view to end-to-end tracking of items.

Mitigation support from PSPC: PSPC could provide resources on an interim basis while the staffing process is underway, estimated at 2 months. Resources required: 2 x PG4/5 (supply expertise/procurement expertise, respectively); 4x PG2/3 to support supply/procurement managers and conduct issues management in support of technical and quality management teams.

Regarding concerns about the sampling process and the shipment of large volumes at once versus smaller volumes over intervals, the sampling process is representative of the shipment size to promote a thorough process. For example, you would adjust the sample size upwards for larger shipments. The risk with importing the entire shipment at once to reduce the number of samples taken is that we end up with large volumes of failed product in Canada that we then have to manage.

Understanding that this is a significant amount of information, and that you may wish to discuss in more detail, I would be happy to schedule some time for a call.

Regards,


.....

Responses to additional questions:

Clarification on 2-month supply

- The recent briefing note to the Minister reflects the procurement of a 2-month supply in addition to the 20% hold back the NESS receives from bulk procurement.
- The 2-month stockpile was delinked from bulk procurement to account for the fact that NESS is a bi-directional flow of PPE – it comes in, but is then used to respond to Requests for Assistance (RFA). The PPE model indicates that surgical masks, face shields, gloves and gowns will be depleted by Fall, i.e., the current orders will not be sufficient to meet the demand (although the model has some inherent limitations). Once the demand outpaces the supply, PTs will likely submit more RFAs. As such, buying in addition to what is coming would allow the GC to have sufficient and available products to respond to an increased RFA demand while securing additional supply.

N95 Delivery Schedule

- NESS will achieve a 2-month target of N95 (8.5M units) by August.

For your consideration.

Cheers,




Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9



Government of Canada | Gouvernement du Canada

PHAC Process for F/P/T Bulk Procurement Shipment to Distribution

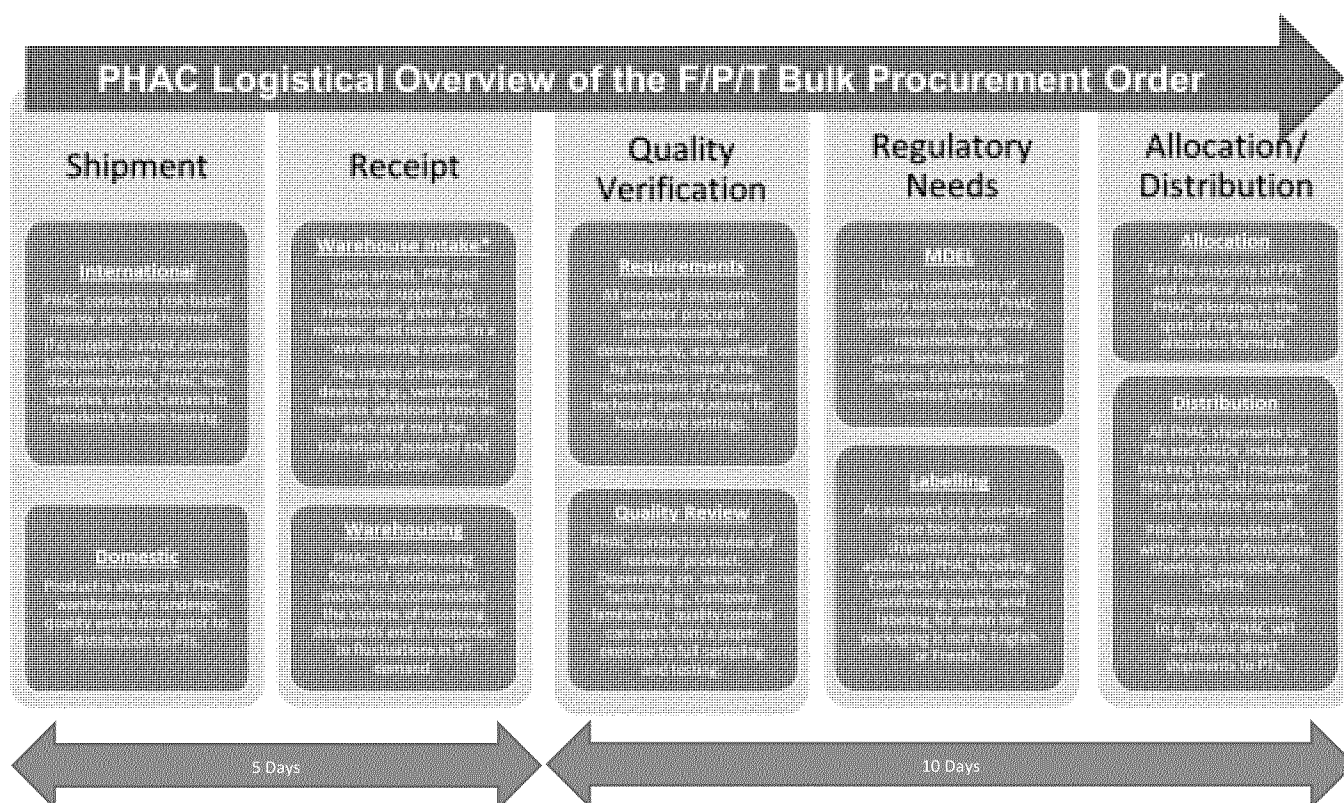
An overview of the process for F/P/T bulk procurement from shipment to final distribution to PTs to support frontline healthcare response is depicted below. On average, this cycle time for this process end to end takes 15 days. This average may be shorter for domestic shipments.

Product is entered into inventory at the “Receipt” stage and comprises the collection of data to support PHAC compliance with their Medical Device Establishment Licence (MDEL) to import and distribute medical devices, in the event that a recall is required.

For PPE, the time for the shipment to receipt stage takes on average 5 days. This timeframe refers to international air/sea shipments, which take the longest to process, and accounts for the following:

- Landing in Canada, unpacking, general box count and re-palletization by receiving warehouse (24-48hrs);
- Pick up by courier to transport to Group Robert warehouses in [REDACTED] (24-48hrs); and
- De-palletization, sorting (pallets are usually mixed product) and full count to capture all required inventory information, take photos (for creation of labels and product information sheets) and sampling by Measurements Canada personnel (48-72hrs depending on size and diversity of incoming shipment).

The remaining 10 days are comprised of quality verification, regulatory needs, allocation, and distribution.



Factors with implications for cycle time and how PSPC could support

Several factors can and have negatively affected cycle time. These factors include:

1. Volume of incoming product and warehousing challenges

The substantial upwards trajectory of multi-modal incoming shipment volume during the month of June quite literally overwhelmed available warehousing space and resources throughout the process continuum. This is compounded by warehouse space challenges. As a result, PHAC is performing logistics issues management on a daily basis that delays movement of product. Think of it as a daily logistics jigsaw puzzle. Current estimates have PHAC warehouses at full capacity within the next two weeks.

PSPC officials initially indicated that the overall logistics solution process, launched May 4th, would be in place by July 1st; new target date is October 1st. Early June PHAC/CAF found 350K square feet of additional space with warehouse personnel in [REDACTED] but PSPC advised that they would explore options and returned three individual 100K plus square feet options without warehouse staff; the issue has yet to be resolved; PHAC warehouses are full and PTs are beginning to refuse shipments due to their own capacity issues.

Mitigation steps:

- Increasingly accurate visibility on incoming shipments: PSPC has a team of procurement officers calling suppliers daily to confirm delivery schedules and enter the data into the Titan solution, however, PHAC recently flagged several inconsistencies in the Titan data. This work is invaluable and could benefit from additional resources who can action performance management for contracts (i.e., in addition to recording revised delivery schedules, actively managing the contract delivery) as well as capacity to review the data critically to identify gaps (i.e., Medicom contract delivery schedule not reflected; missing shipments that PHAC is aware of through logistics arrangements). Accurate data in Titan is key to PHAC's ability to plan and execute efficient logistics; and
- PSPC/PHAC have been actively collaborating on the procurement of additional warehouse space but progress has been slow. Continued concerted PSPC effort to expedite both the interim solution of 350K square feet in the next two weeks and the overall logistics solution request for proposal with a view to September 1st implementation is imperative to ensure continuity of distribution.

2. Transition to Groupe Robert and the State of Shipments Arriving

The transition from CAF support at [REDACTED] warehousing to interim solution with Groupe Robert (GR) occurred late May and suffered from a number of growing pains, notably around the entry of sufficiently detailed inventory data to complete the "receipt" process and subsequent allocation. Progress is being made but PHAC/CAF continue to work with GR to reach an appropriate end state. According to GR and NESS the state of the shipments, as well as the lack of information accompanying the shipments and on the product itself is unusual and has required adjusted processes to appropriately inventory – examples as follows:

- a. Shipments are packed with a view to maximizing space on flights, resulting in mixed pallets, further deconsolidated and reconsolidated upon arrival in a different formation, with multiple products on each pallet
- b. Waybills and other information are often not enclosed and difficult to track down
- c. Product labelling is at times in different languages, does not match contract information and/or is missing, requiring extra handling and investigation for much of the product

Mitigation step:

- Increase quality of shipment construction and accompanying information: PHAC is working with GR to address issues on a daily basis and any efforts that PSPC can take to provide as much advance information about shipments as possible, as well as decrease the amount of effort required to deconsolidate mixed pallets would assist.

3. Daily Logistics Challenges

The significant number of “outliers”, or product/shipments that require alternate logistics solutions and draw resources away from day-to-day operations, including:

- a. 50M gowns arriving from foreign suppliers that need to be relabelled;
- b. Storage of over 10M failed KN95 respirators;
- c. Relabelling of 75M surgical masks via a contract set up with a third party; and
- d. Refusal of technical grade hand sanitizer by PTs.

Mitigation steps:

- PHAC is currently in the process of hiring supply leads and procurement leads for commodities or commodity groupings who would be responsible for liaison with the 3PL and PSPC and associated issues management respectively, as well as a senior logistician who would be responsible for overseeing all operations with a view to end-to-end tracking of items.
- PSPC could provide resources on an interim basis while the staffing process is underway, estimated at 2 months. Resources required include: 2 x PG4/5 (supply expertise/procurement expertise, respectively); 4x PG2/3 to support supply/procurement managers and conduct issues management in support of technical and quality management teams.

Sampling Process

The sampling process is representative of the shipment size to promote a thorough process. For example, you would adjust the sample size upwards for larger shipments. The risk with importing the entire shipment at once to reduce the number of samples taken is that we end up with large volumes of failed product in Canada that we then have to manage.

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (HC/SC)
Sent: 2020-07-09 5:19 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: [REDACTED]

I concur, we cant put at risk the police investigation

[REDACTED]
[REDACTED]

From: [REDACTED]
Sent: 2020-07-09 4:57 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
Subject: RE: [REDACTED]

Thank you very much [REDACTED]

[REDACTED]

From: [REDACTED]
Sent: 2020-07-09 4:44 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: RE: [REDACTED]

[REDACTED]

Cheers,

[REDACTED]

From: [REDACTED] >

Sent: 2020-07-09 3:52 PM

To: [REDACTED]

Cc: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Subject: RE: [REDACTED]

[REDACTED]
Here are more details on what was learned today [REDACTED] I understand that [REDACTED] shared a copy [REDACTED]
[REDACTED]

[REDACTED]

Thank you

[REDACTED]

[REDACTED]

From: [REDACTED]

Sent: 2020-07-09 7:01 AM

To: [REDACTED]

Cc: [REDACTED]

[REDACTED]

[REDACTED]

Subject: RE: [REDACTED]

Not yet, that is part of the project planning and assessment from a technological perspective.

We have included this as part of stimulus funding opportunities as well in case we have that opportunity for funding.

[REDACTED]
Cel [REDACTED]
Office/Bureau [REDACTED]

Corporate Services Branch /
Direction générale des services de gestion
Health Canada & Public Health Agency of Canada /
Santé Canada & l'Agence de la santé publique du Canada

----- Original message -----

From: [REDACTED]

Date: 09/07/2020 06:36 (GMT-05:00)

To: "[REDACTED]"

Cc: "[REDACTED]"

[REDACTED]
[REDACTED]

Subject: Re: [REDACTED]

Thanks [REDACTED] Do you have a timeline re completing the work re [REDACTED]

Sent from my iPhone

On Jul 8, 2020, at 11:51 PM, [REDACTED]
wrote:

[REDACTED]
This is what we are aware of at this point. Unfortunately neither the individual from security who joined [REDACTED] on the call nor [REDACTED] We have asked for further updates early am so I will forward any more details [REDACTED] (I am aware that you need to brief by 8am.)

[REDACTED] - if you have further information from the program perspective please add to this material.

[REDACTED]

It will be important to review the facts and /or the events [REDACTED]

[REDACTED]

Update on security enhancement and Threat and Risk Assessments on PHAC warehouses across the country.

CSB has recently completed TRAs on all NESS locations across the country, and is in the process of finalizing all of the written reports, which are being shared with PHAC program lead as they are completed. Discussions on recommendations and actions to be taken will follow once PHAC has reviewed the reports. In completing these TRAs, the RCMP was engaged to assess any known threats to the NESS warehouses.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

NESS Security Safeguards:

As previously reported CSB/NSMD [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]

From: [REDACTED]
Sent: 2020-07-08 10:28 PM

To: [REDACTED]
Cc: [REDACTED]

Subject: Re: [REDACTED]

Would be good to get a sit rep on what we know, what's been done and next steps [REDACTED]
[REDACTED]

Sent from my iPhone

On Jul 8, 2020, at 9:35 PM, [REDACTED]
[REDACTED] wrote:

Understood.

[REDACTED]
Cell [REDACTED]
Office/Bureau [REDACTED]

Corporate Services Branch /
Direction générale des services de gestion
Health Canada & Public Health Agency of Canada /
Santé Canada & l'Agence de la santé publique du Canada

----- Original message -----

From: [REDACTED]
Date: 08/07/2020 21:33 (GMT-05:00)
To: [REDACTED]; >
Cc: "[REDACTED]"
[REDACTED]
Subject: Re: [REDACTED]

I need an update before call with minister tomorrow morning at 8 am. Need rapid assessment to address any security gaps.

Sent from my iPhone

On Jul 8, 2020, at 9:06 PM, [REDACTED]
[REDACTED] wrote:

I am following up on this. I don't yet have a new update but Security was working with the program and attended a joint call this afternoon [REDACTED] so will keep you posted on the outcome.

[REDACTED]
[REDACTED]

From: [REDACTED]
[REDACTED]
Sent: 2020-07-08 4:00 PM
To: [REDACTED]
[REDACTED]
Cc: [REDACTED],
[REDACTED]
Subject: Re: [REDACTED]

Please advise DSO want a sit rep by 18:00 of what we know and preliminary recommendations re action areas to address. [REDACTED]

Sent from my iPhone

On Jul 8, 2020, at 3:52 PM, [REDACTED]
[REDACTED] wrote:

[REDACTED] As an update [REDACTED]
[REDACTED]

More to follow.

[REDACTED]

From: [REDACTED]
[REDACTED]
Sent: 2020-07-08 11:52 AM
To: [REDACTED])
[REDACTED]
Subject: Re: [REDACTED]

[REDACTED]
[REDACTED]

Sent from my iPhone

On Jul 8, 2020, at 11:44 AM, [REDACTED]

[REDACTED]

[REDACTED] wrote:

[REDACTED]

[REDACTED]

Cheers

[REDACTED]

Sent from my iPhone

On Jul 8, 2020, at 11:38

AM, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] wrote:

[REDACTED]

Sent from my iPhone

On Jul 8,

2020, at

11:34

AM,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

wrote:

[REDACTED] We

are

confirmi

ng



Note
that
PHAC
DSO will
be
represen
ted on
the call.

More to
follow.



Sent
from my
iPhone

O
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[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-10 2:35 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Procurement of Medical PPE Warehouse and Logistical Services

[REDACTED] In advance of our Logistics and Inventory Management discussion planned for Monday at 1630, I am alerting you to some immediate actions and issues to increase our warehouse and logistical services capacity:

- Our current warehouse space foot print in [REDACTED] will be depleted in two weeks. And [REDACTED] is filling up quickly as well. PSPC is proceeding with negotiations with the landlord for our preferred 350K square foot warehouse space option in [REDACTED] while also increasing readiness to acquire an additional 150K square feet of space in [REDACTED]. An associated consideration with these space acquisitions is the availability of logistics services.
- One of the options to accelerate and increase our logistics posture is to procure a third-party logistics solution (beyond the current Groupe Robert contract) is to release an RFP. A consideration here is the effort required to potentially onboard a new provider and it is our assessment that there may not be other providers who could mobilize quickly enough or to sufficient scale to support this requirement. A competitive process was used to acquire Groupe Robert in the first place (Expression of Interest) and this may increase the rationale for a Sole-Source Justification to retain Groupe Robert in addition to discussions with the highest-potential firms. We have completed the required Sole-Source Justification documentation. To help test our assumptions regarding the appetite for this option, my PSPC counterpart ([REDACTED]) is going to try to raise this issue at their weekly meeting today with Minister Anand. Should this item not be raised or be able to be raised, then I would recommend that you engage with [REDACTED] to consider escalation options before next Friday's meeting with Minister Anand. I will keep you posted on this. Should this matter be unresolved by Monday afternoon, I would consider it necessary to flag this matter for awareness at the Monday 4 Corners call. In the mean time we are readying other less ideal contingencies for space and services.
- At the same time, PSPC is ready to release the RFP on short notice with an expedited process should the Sole Source Justification not be supported. There is concern concurrently releasing the RFP and considering a directed procurement.

For your consideration.

Regards,

[REDACTED]
[REDACTED]
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence



Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9



Government of Canada | Gouvernement du Canada

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-10 3:45 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: RE: PPE Supply Transparency Risk

Thanks [REDACTED]. Will do.

Cheers,

[REDACTED]

From: [REDACTED]
Sent: 2020-07-10 3:44 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
Subject: Re: PPE Supply Transparency Risk

Thanks [REDACTED] Think we should move expeditiously on TRA for end to end process. We should do joint with PSPC. Maybe we figure out who has capacity to get this expedited. Please let me know early next week re the plan.

Sent from my iPhone

On Jul 10, 2020, at 3:25 PM, [REDACTED] wrote:

[REDACTED] As an early remit, I offer the following for consideration regarding PPE supply transparency risk:

PSPC Website:

The PSPC *Supplying the Canadian Healthcare Sector in Response to COVID-19* website contains two data-informed components:

1: Overview of Purchases

- This section reflects the quantities ordered and received and is updated on a weekly basis; it does not have any details about shipments.

2: Examples of How Domestic Suppliers are Stepping up

- This section highlights progress on the *Plan to Mobilize Industry to Fight COVID-19* and lists specific suppliers, their locations, as well as the commodities that they are producing.
- Taking steps to reduce this visibility would reduce awareness of potential supply chain vulnerabilities and potential targets.

Operational Dissemination of Supply Chain Information and Data

- Details regarding shipments of PPE to and within Canada are shared amongst PSPC, PHAC and logistics partners including: CAF, Deloitte; third party logistics firms Bolloré Logistics, Group Robert; air carriers Cargojet and Air Canada, and; Purolator courier services to support operations.
 - While a closely-held posture is in place, the international scope and scale of the operation presents an increased vulnerability with an associated high volume of e-mail traffic on government and external systems.
- Consolidated logistics data holdings such as the PHAC and PSPC Control Towers have a higher security posture and are accessible via account only, with second factor authentication.

Next Steps

- The PPE Team has engaged the Departmental Security Officer for a further assessment of our expanding warehouse and logistics operations with planned engagement with PSPC and CAF counterparts for an end-to-end review of the security posture of the overall logistics operation, along with recommendations to increase the balance between operational necessity and transparency risk.

For your consideration.

Regards,

[REDACTED]
[REDACTED]
[REDACTED]
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence
[REDACTED]

Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

[REDACTED]

[REDACTED]

Government of Canada | Gouvernement du Canada

(PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-13 10:24 AM
To: [REDACTED] (PHAC/ASPC)
Subject: Fwd: URGENT: For consideration/decision: ICU capacity
Attachments: MOVES-SLC Flyer-2019.pdf; ATT00001.htm; Sommer Fisher Improv emerg vent CCM 94-full[1].pdf; ATT00002.htm; Neyman 2006 A Single Ventilator for Multiple Simulated Patients to Meet Disaster Surge[1].pdf; ATT00003.htm

Another ventilator subfolder document

Sent from my iPhone

Begin forwarded message:

From: [REDACTED]
Date: March 22, 2020 at 11:17:39 AM EDT
To: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: FW: URGENT: For consideration/decision: ICU capacity

Documents provided by [REDACTED] re vents.

From: [REDACTED]
Sent: 2020-03-22 10:43 AM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: URGENT: For consideration/decision: ICU capacity
Importance: High

Morning [REDACTED]

1. Thanks.
2. Re Ventilators. I am very aware of the Thornhill Medical group [REDACTED]

[REDACTED] They have designed a few ideas that are helpful for this outbreak. They have a portable respiratory ICU in a box system call the MOVES SLC that provides ventilation but also physiological monitoring and suctioning. It concentrates oxygen from the air therefore doesn't need a supply and has a long batter life, between wall connections. It is reportedly very good for portable ventilation for moderately to quite sick people with respiratory failure. It may not be able to supply ventilation and oxygenation as effective as current high-end ventilators, but is good for most all patients. I've not used it myself (few people have) but know it has been used a fair bit in austere environments. Seems like a good option for patients being cared for in uncommon locations – either in a hospital

or out of a traditional ICU/hospital setting

So, good option, limited supply for 4-6 weeks. Very reasonable to purchase and use to ensure they are fit for purpose if needed in a month if more are available then.

In terms of ensuring ICU and ventilator capacity during our various regions' peak case count, could recommend the following in series:

With respect to ICU Capacity:

- **Maximize capacity in current ICUs** by delaying discretionary procedures needing ICU (that's being done now but there is likely more that could be done in many hospitals over the next weeks)
- **Expand ICU areas to appropriate other areas** – post anesthetic care units, medical and surgical short stay high intensity units – is being done now in most hospitals.
- **Prepare a series of additional areas for patients with COVID and critical illness** (first, we'll be on Ward A, then B, then C) and set them up for oxygen, suctioning, monitoring etc.
- **Consider outside-of-hospital locations for the least sick patients in the hospital** (not likely the COVID patients in fact, but could be) where there is capacity for very low acuity care; this frees up the inside hospital infrastructure for sicker patients.

With respect to Ventilation:

- **Use current ventilators in circulation**, then **adding those in regular reserve** in the hospital, then asking to dip into regional/national conventional ventilator **stockpiles** as appropriate, **and maximizing cooperation among regions between those who are getting hit hard and those who are not yet with many patients.**
- Use **non-traditional ventilators** such as **small transport ventilators**, **"BiPAP" machines**, **MOVES SLC** or **other emerging platforms**, **operating room ventilators** that can provide support to patients who are not with the worst lung conditions (reserving the high-end ventilators for the most sick who can hopefully survive)
- Consider **very uncommonly employed ventilation systems** such as the **multi-circuit ventilator** - one ventilator that has tubing connected to many (e.g. 2-4) different patients, of similar size and similar lung compliance, with high efficiency filters on all limbs of the tubing to avoid cross-contamination from one patient to the next
- **Manual bag compression** using a simple inexpensive device such as () or the 'polio era' 'medical student/nursing student' manual ventilation by the bedside while in full personal protective equipment
- **Consider Medical Triage** using agreed upon criteria with broad stake-holder vetting as a very last resort.
- For such triaged patients, to **provide the best available care**, and including moving to having patients on just oxygen flow systems with a constant pressure in the system ("CPAP") using a simple tubing and CPAP valve if devices still exist.



From: [redacted]

Date: Sunday, March 22, 2020 at 9:07 AM

To: [redacted]

Cc: [redacted], [redacted]

[redacted]

[redacted]

Subject: URGENT: For consideration/decision: ICU capacity

CAUTION: External mail. Do not click on links or open attachments you do not trust.

Hi again [redacted]

Couple things:

1. PHAC interested in pursuing the study proposed. [redacted] will reach out to work on logistics on getting everything sorted. Thank you again for reaching out on this. Greatly appreciated.
2. Ventilators: Terribly bold to ask, but [redacted] was wondering if you and [redacted] are aware of the Thornhill ventilator product, info attached, and if you believe they are an appropriate product for the COVID context. Afraid this is a bit urgent. Advice greatly appreciated before noon today if at all possible.

Sincerely hope you don't mind us asking for your help with this [redacted]

Will call you later this morning.

[redacted]

From: [redacted]

Sent: 2020-03-21 6:25 PM

To: [redacted]

Cc: [redacted], [redacted]

[redacted]

Subject: Re: For consideration/decision: ICU capacity

Hi [redacted]

Thanks very much for your note.

I think we could get a lot done in two working weeks. I think in order to have helpful granular data over the long haul it's going to take us 2 to 3 months but we could get a lot done in two weeks with a couple of full-time people on it and a bit of support here. My voicemail is full (!) and being fixed by our information technology folks [redacted] - so I apologize that I'm not able to hear it over the weekend. Please feel free to reach out to me at any time.

My phone number is [REDACTED]

Sincerely

[REDACTED]

On Mar 21, 2020, at 2:33 PM, [REDACTED]
wrote:

CAUTION: External mail. Do not click on links or open attachments you do not trust. [REDACTED]

Hello [REDACTED]

Delighted to hear from you regarding your proposal below.

Have left you both voicemails today.

Would be happy to chat with you regarding your proposal.

One piece of information that would be very helpful to understand ASAP is the time it would take to do the Tier 1 study? How quickly could we have results?

Thanks

[REDACTED]

[REDACTED]

[REDACTED]

COVID-19

Public Health Agency of Canada

[REDACTED]

From: [REDACTED]

Sent: 2020-03-19 2:52 PM

To: [REDACTED]

Cc: [REDACTED]

[REDACTED], [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Subject: FW: ICU capacity

Importance: High

Hi [REDACTED],

Thank so much for your email. I will ensure that your email below is forwarded to senior management within PHAC and we will respond as quickly as we can. Thanks for all the work you do.

Office of Emergency Response Services/Bureau des services d'interventions d'urgences
Centre for Emergency Preparedness and Response/Centre de mesures et d'interventions
d'urgence
Health Security Infrastructure Branch/ Direction générale de l'infrastructure de sécurité
sanitaire
Public Health Agency of Canada/Agence de la santé publique du Canada

From: [REDACTED]
Sent: March 19, 2020 1:45 PM
To: [REDACTED]; [REDACTED]
Cc: [REDACTED]
Subject: RE: ICU capacity
Importance: High

Dear [REDACTED]

In our capacities as [REDACTED]

[REDACTED]

We are facing with the most worrisome acute global public health crisis in a generation, where Canadian hospitals may be overwhelmed by more critically ill patients than we can provide care. Over the past two months, in various health jurisdictions around the world – in Hubei province, China; Iran and Northern Italy, demand for critical care and mechanical ventilation have exceeded capacity, with the result being death for many patients who in usual times could have been supported through an infectious illness.

Early population-level modelling of COVID-19 critical illness in Canada has produced conservative scenarios where demand far exceeds usual capacity, and more likely scenarios where certain jurisdictions with early high attack rates and spread completely overwhelm the local capacity to provide care. Hospitals and critical care units have been preparing as never before to increase capacity – by taking over hospital wards and establishing temporary ICUs staffed by a combination of workers from all areas of the hospital.

Many jurisdictions, since the 2009-2010 H1N1 pandemic, have made preparations for surges in demand, and have developed mild stockpiles of necessary equipment, including mechanical ventilators, but jurisdictions have not prepared for the magnitude of outbreak experienced in many places across the world so far. After the 2009-2010 pandemic, the Canadian Critical Care Trials Group formed a critical care capacity working group to catalogue capacity for ICU care and mechanical ventilation in all provinces and territories. They found that there was substantial variability across provinces and that systems emerged provincially and locally in ways that leave the system vulnerable to surges in demand. The Canadian North was particularly undersupplied, leading to the need for medical evacuation and transportation should there be surges in an outbreak in rural and remote communities. We also found that very few centers at that time possessed means to care for the very sickest of patients using extra-ordinary means, for example extra-corporeal life support (ECLS, dialysis for the lungs), found to be effective in other jurisdictions and associated with the lowest population-level mortality rates for H1N1 in Australia and New Zealand, which employed ECLS more frequently than most any other country.

Over the past weeks, with appreciation of the magnitude of the demand-capacity mismatch in China and Italy, it has become clear that a key knowledge gap in planning our response is immediate knowledge of the number of ICU beds, capacity to expand those numbers, the number of conventional ventilators, ability to expand those numbers through existing stockpiles and repurposing of related equipment, and the number of ECLS machines in hospitals across the country. This is important because, as we typically see in outbreaks, including this one, that it hits in a geographic and temporally patchy way – one region may be quickly overwhelmed while another might not yet have many cases, and this epicenter changes over a time horizon of months. We need to be able to know where capacity exists and where we can justifiably shift capacity – possibly be transpiration of patients, but more likely by bringing capacity – personnel ventilators to patients. Right now there is no knowledge of this variability - we need this to help each other help our patients, and to help avoid the scenes of northern Italy or China where there have been stories of hospitals and regions allowing people to die because they do not have local resources to support them. The vital, emotional and political fall-out from this in Canada would be enormous and we aim to do our best to prevent this from happening.

We ask for your immediate help [REDACTED]

[REDACTED] in collecting vital information on the capacity to care for critically ill patients in Canada by quickly repeating the previously performed survey across the country, using the contacts and methodology previously employed.

At each geo-located Canadian hospital, we will determine the number (1) in routine use and (2) that can be brought into use, for both adult and paediatric patients:

The total number of ICU beds*

The total number of ICU beds capable of mechanical ventilation
The total number of mechanical ventilators*
The total number of non-invasive ventilators
The total number of transportation ventilators
The total number of anesthetic ventilators
The total number of high flow nasal oxygen devices
The total number of high frequency oscillatory ventilators
The total number of ECMO/ECLS machines*
The total number of hospital beds*

We request support in the form of:

- ? In Kind two (2) PHAC epidemiologists working at a distance, for 2.5 months full-time to help gather this data
- ? Financial support for 2 undergraduate students to support the epidemiologist, [REDACTED]
[REDACTED]
- ? In Kind Support from a PHAC or partner organization medical geographer to translate data into graphical displays and heat maps for the Canadian context (approximately 3 weeks work)
- ? Financial support for limited biostatistics support time (approximately 20 hours, \$1400)
- ? In Kind General coordination support from PHAC
- ? In Kind Rapid translations services of reports into two official languages

We suggest a tiered approach to deliverables:

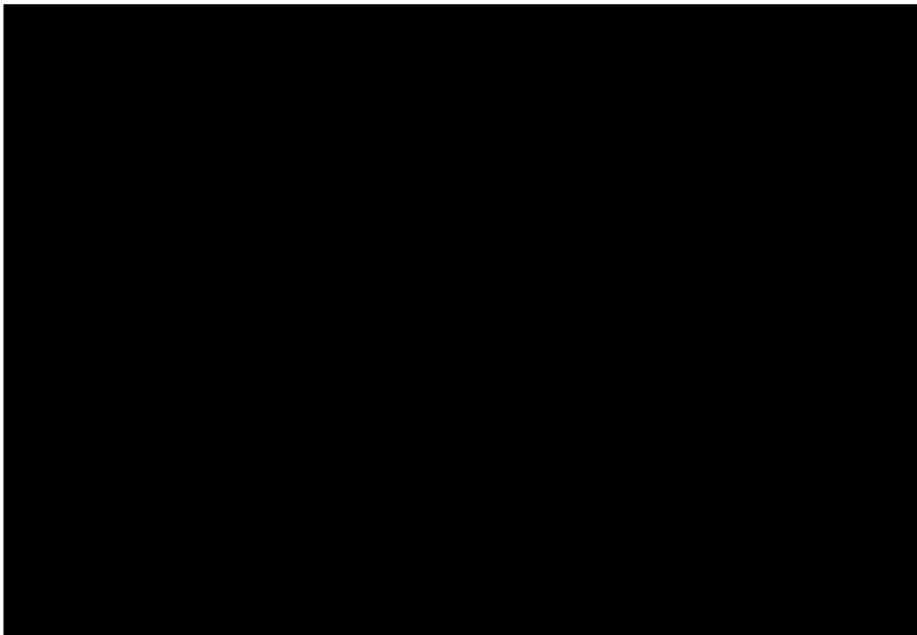
Tier 1 – a very rapid capacity survey focusing upon very KEY* items

Tier 2 – a granular dataset over 3 months to collect more detailed info that will be necessary across the outbreak, anticipated to last for the next 6-24 months.

Thank you very much for your consideration with this urgent public health request.

Sincerely,

[REDACTED]



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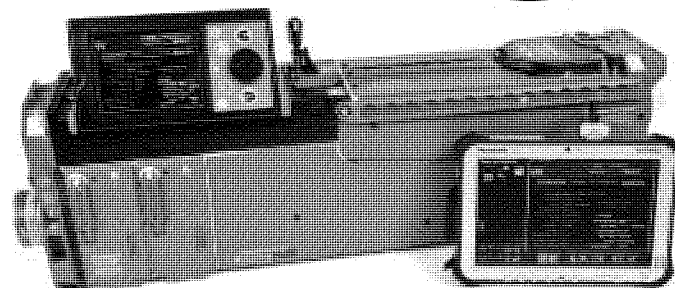
MOVES® SLC™ is a revolutionary, completely integrated Intensive Care Unit (ICU), which combines an O₂ concentrator, a unique O₂-conserving ventilator, suction, and complete vital signs monitoring into a single, compact, portable, battery-operated system.

Thornhill Medical's patented circle-circuit ventilator, in combination with the integrated O₂ concentrator, means **MOVES® SLC™** can effectively eliminate the need to carry heavy, bulky and dangerous high pressure O₂ cylinders.

How? A high FiO₂ can be maintained with low flow O₂, as the patient rebreathes their exhaled O₂ through **MOVES® SLC™**'s innovative circle-circuit ventilator.

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- Will operate in all transport platforms and provide the attending healthcare provider complete access to the patient.
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NY2020000015

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FEATURES

Physiological Monitoring:

FiO₂ / ETCO₂ (+Capnography) / ABP / CVP / ICP / NIBP / Masimo[®] SpO₂ (+Optional Masimo[®] Rainbow[®] SET Parameters) / 12 Lead ECG / Patient Temperature (x2); Patient data trends up to 24 hours

Oxygen Concentrator:

FiO₂ up to 85% (independent of minute ventilation) for ventilated patients in cyclic mode; FiO₂ greater than 85% (independent of minute ventilation) for ventilated patients in continuous mode; up to 93% O₂ in concentrated breathing gas at 2.5 LPM for non-ventilated patients

Ventilator:

IMV / SIMV / SIMV+PS / AC / PSV / APRV (Pressure or Volume Control)

Suction:

100 - 325 mmHg

SPECIFICATIONS

Weight: 17 kg (37 lbs.) excl. batteries/clamps

Battery Weight: 1.5 kg (3.3 lbs.) each

Dimensions: 84 cm (33") L x 14 cm (5.5") W x 25cm (10") H

Body Material: Aluminum

Temp-Operating: -26°C to 54°C (-15°F to 129°F)

Temp-Storage: -26°C to 54°C (-15°F to 129°F)

Water Ingress: IPX4

Humidity: 15% - 95% RH non-condensing

Altitude: 0-5.5 km (0-18,000 ft.)

Vibration: Tested to MIL-STD-810G and US Army Joint Enroute Care Equipment Test Standard (JECETS) for rotary-wing, fixed wing and jet aircraft as well as ground transportation vehicles.

Power: 100-240V AC 50/60Hz or battery power

Battery: Lithium polymer: Typical: up to 6 hrs. / set of 2. Minimum: 2.5 hrs / set of 2.

CE₂₇₉₇ FDA Cleared 



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A Single Ventilator for Multiple Simulated Patients to Meet Disaster Surge

Greg Neyman, MD, Charlene Babcock Irvin, MD

Abstract

Objectives: To determine if a ventilator available in an emergency department could quickly be modified to provide ventilation for four adults simultaneously.

Methods: Using lung simulators, readily available plastic tubing, and ventilators (840 Series Ventilator; Puritan-Bennett), human lung simulators were added in parallel until the ventilator was ventilating the equivalent of four adults. Data collected included peak pressure, positive end-expiratory pressure, total tidal volume, and total minute ventilation. Any obvious asymmetry in the delivery of gas to the lung simulators was also documented. The ventilator was run for almost 12 consecutive hours (5.5 hours of pressure control and more than six hours of volume control).

Results: Using readily available plastic tubing set up to minimize dead space volume, the four lung simulators were easily ventilated for 12 hours using one ventilator. In pressure control (set at 25 mm H₂O), the mean tidal volume was 1,884 mL (approximately 471 mL/lung simulator) with an average minute ventilation of 30.2 L/min (or 7.5 L/min/lung simulator). In volume control (set at 2 L), the mean peak pressure was 28 cm H₂O and the minute ventilation was 32.5 L/min total (8.1 L/min/lung simulator).

Conclusions: A single ventilator may be quickly modified to ventilate four simulated adults for a limited time. The volumes delivered in this simulation should be able to sustain four 70-kg individuals. While further study is necessary, this pilot study suggests significant potential for the expanded use of a single ventilator during cases of disaster surge involving multiple casualties with respiratory failure.

ACADEMIC EMERGENCY MEDICINE 2006; 13:1246–1249 © 2006 by the Society for Academic Emergency Medicine

Keywords: disaster, ventilator, respiratory failure, surge capacity

After the events of September 11, 2001, and the recent hurricanes in the Gulf Coast, there has been a focus on anticipating the need for medical care for large numbers of victims.¹ Addressing surge capacity requires a multitiered approach involving local and federal agencies as well as resource management (i.e., personnel, patient space, supplies, and special equipment). Recent experiences have shown that hospitals may be rapidly extended to operate at 120%–130% capacity.²

Depending on the nature of the disaster, many otherwise plentiful hospital supplies, such as ventilators, may suddenly become insufficient to support the demand.³

From the Department of Emergency Medicine, St. John's Hospital and Medical Center (GN, CBI), Detroit, MI.

Received March 3, 2006; revisions received May 4, 2006, and May 7, 2006; accepted May 8, 2006.

Lung simulators were donated by Puritan-Bennett.

Address for correspondence and reprints: Greg Neyman, MD, Department of Emergency Medicine, St. John Hospital and Medical Center, 22101 Moross Road, Detroit, MI 48236. E-mail: greg.neyman@stjohn.org.

In the event of a large influx of patients in respiratory distress (e.g., a large outbreak of botulism), the number of ventilators available may not be enough to support all of the patients.

While government resources would eventually be available, there may be a time when hospitals will need to provide ventilatory support to a greater number of patients than the available number of ventilators. Manual ventilation ("bagging") is possible, but it is possible that the additional personnel required would not be available.

Some institutions have begun to stockpile disposable automatic ventilators for use in the event of a disaster.⁴ One commercially available device is Vortran's Automatic Resuscitator, a single-patient, single-use, pressure-powered ventilator. It could be kept in stock and deployed when necessary. It runs on wall oxygen (50 psi) and is pressure cycled off the wall oxygen source, and seven can be run simultaneously off a single oxygen supply line by using the Vortran E-Vent Case multioutlet manifold device. One advantage is that this type of automatic ventilator is gas driven (from the oxygen source) and requires no electricity (this may be an advantage in certain types of disasters), is disposable, and is modifiable to provide ventilation for up to seven individuals off one oxygen

source. However, this device requires anticipatory purchase, and it lacks the computerized monitoring that standard ventilators have, necessitating more intensive staff support.⁵

Another option for providing increased ventilation capacity includes a proprietary device (patent pending) that is essentially a control system for splitting one ventilator to provide ventilation for two patients.⁶ This does not have the advantages of the previously described disposable ventilator, because it would rely on an electrically driven ventilator. Additionally, it would require the purchase of additional equipment (the proprietary control system).

Although larger urban hospitals may be able to justify the resources to stockpile disposable ventilators, smaller hospitals may not. In the event of a need for more ventilators than are currently available in a hospital, it may be valuable to explore methods to maximally utilize the ventilators that are already available. Hospitals do have generators and would likely be able to support electrical service for a short time after the disaster. Given this potential, it may be appropriate to consider a simple modification of the currently available hospital ventilators to provide more patients with ventilator support. Our hypothesis was that using simple, rapidly deployable modifications, a single ventilator could be used to ventilate multiple casualties when the number of victims exceeds the number of ventilators.

METHODS

Study Design

This was a simulator-based pilot study. This study was considered exempt after review by the institutional review board.

Study Protocol

Four sets of standard ventilator tubing (Hudson) were connected to a single ventilator (Puritan-Bennett, 840 series) via two flow splitters (one on the patient inflow limb of the circuit, and one on the patient exhaust limb). Each flow splitter was constructed of three Briggs T-tubes with included connection adapters (Hudson) (Figure 1), with the valves removed. The Briggs T-tube is utilized clinically (and generally available) for flow-by oxygen or humidity for a patient with an endotracheal or tracheos-

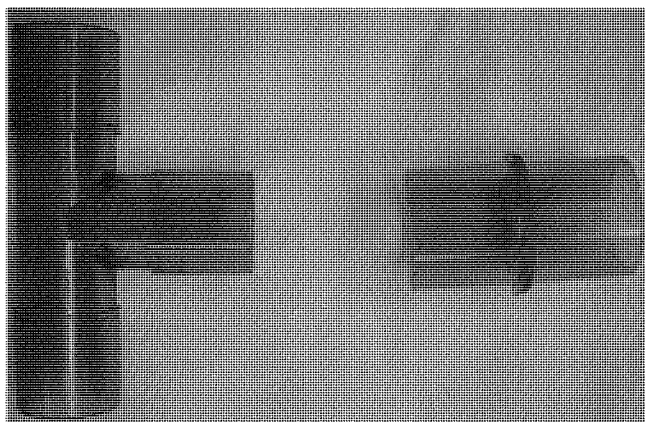


Figure 1. Briggs T-tube with included connection adapter.

tomy tube, or for in-line aerosol treatments of ventilated patients.

The T-tubes were arranged so that the two side ports of a central T-tube were attached to the bottom ports of the two side T-tubes via adapters that come with the T-tube. The final configuration of the three T-tubes is seen in Figure 2 (with a trimmed section of standard ventilation tubing at the hub for connection to the ventilator); it allowed for air flowing from the ventilator to be split evenly to four simulated patients and for the air returning from the four patients to flow back into the one exhaust port on the ventilator.

The ventilator tubing was run from the inflow splitter to the outflow splitter, with four test lungs (Puritan-Bennett) in the center. The test lungs were used to simulate one patient each on the modified ventilator circuit. The final configuration was a simulation of four patients on a single ventilator in parallel operation (Figure 3).

To test this circuit, a time frame was arbitrarily chosen as approximately six hours. There were two reasons for this. First, this is a simple feasibility study, and we would expect someone to inspect the system at least once in six hours if ever used in a real disaster. Second, we realize that beyond this feasibility study, animal studies are needed, and this could allow for observation of the function of this circuit for a longer period. Finally, in many potential disaster situations, by six hours additional support may be available.

Pressure control operation was randomly selected (via coin toss) to precede volume control. To approximate physiologic parameters, the ventilator settings were dialed to a peak pressure of 25 cm H₂O, 0 cm of positive end-expiratory pressure, and a respiratory rate of 16 breaths/min. The ventilator software chose an inspiratory/expiratory ratio of 1:2 automatically. After cumulative random interval inspections, total pressure control

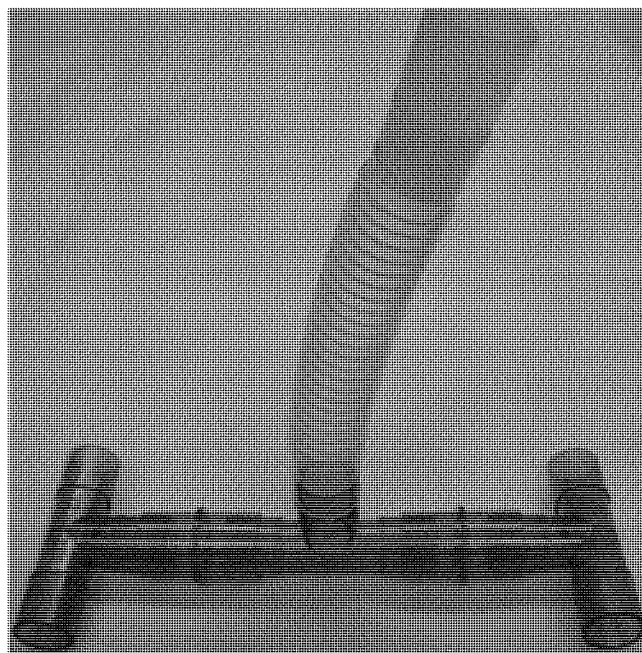


Figure 2. Flow splitter configuration of three T-tubes with connection adapters (shown here with trimmed section of ventilator tubing).

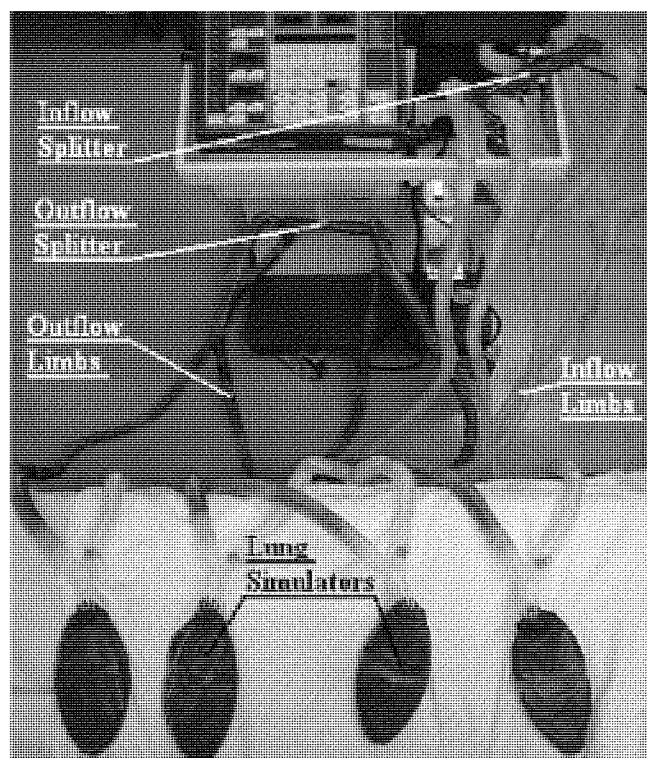


Figure 3. Final configuration of multiple patient ventilation (*outflow limbs darkly stained for purposes of graphic clarity only).

operation was 5 hours 33 minutes. Volume control settings of 2,000 mL tidal volume (500 mL per test lung) and a respiratory rate of 16 breaths/min were chosen to approximate physiologic parameters. The ventilator software chose an inspiratory/expiratory ratio of 1:1 automatically. After cumulative random interval inspections, total volume control operation was 6 hours 11 minutes.

Measurements

During operation, the circuit was inspected at random intervals in between examinations of patients in a busy metropolitan emergency department to simulate the intervals that the circuit would be inspected in a mass casualty event. The inspections occurred approximately every 23 (± 18) minutes, and the ventilator display readouts were recorded. Simultaneously, the lungs were subjectively inspected for symmetry of excursion and evidence of respiratory stacking. Specifically, the examiner monitored for asymmetric inflation of individual test lungs and incomplete deflation before subsequent inflation.

RESULTS

After the configuration was sealed, the ventilator system did not alarm. Visual inspection showed roughly equivalent excursion of all lung models. No respiratory stacking was seen. Averages of ventilator display readout samplings over the course of the study are presented in Table 1.

DISCUSSION

A four-patient configuration operated successfully on a single ventilator for almost 12 hours. Pressures did not

Table 1

Pressure and Flow Characteristics of Lung Simulators in Multiple Patient Ventilation Configuration as an Average of Random Collections

	Pressure Control	Volume Control
Total time (hr/min)	5:33	6:11
Peak pressure \pm SD (cm H ₂ O)	25 \pm 0	28 \pm 2
Mean pressure \pm SD (cm H ₂ O)	8.7 \pm 0.1	10.4 \pm 0.5
Peak expiratory end pressure \pm SD (cm H ₂ O)	1.3 \pm 0.1	1.8 \pm 0.1
Tidal volume \pm SD (mL)	1,884 \pm 90	2029 \pm 3
Estimated tidal volume per simulator \pm SD (mL)	471 \pm 22	507 \pm 1
Minute ventilation \pm SD (L)	30.2 \pm 1.4	32.5 \pm 0.1
Estimated minute ventilation per simulator \pm SD (L)	7.5 \pm 0.4	8.1 \pm 0.0
Respiratory rate (breaths/min)	16	16
Inspiratory/expiratory ratio	1:2	1:1

exceed 35 cm H₂O. Airway pressures beyond 35 mm H₂O are associated with ventilator-induced lung injury.⁷ Individual tidal volumes reached 471–507 mL, which approximates 7 mL/kg for a 70-kg individual. Studies have shown that ventilation with 6–8 mL/kg is associated with improved outcome in injured lungs.⁸ No evidence of respiratory stacking or preferential filling of individual lung simulators was observed.

LIMITATIONS

The chief limitation of this study is that it is a simulator study. Therefore, only successful physical ventilation could be demonstrated. Adequate oxygenation and the potential for ventilator-associated lung injury could not be addressed. The presumption of equal ventilation to all four lung simulators presumed equal lung physiology. A patient with asthma with greater resistance to ventilations may not receive equal ventilation with this system. Further animal studies are necessary to address this concern. The inability to directly measure volumes delivered to the individual test lungs may bias the results and thus change the actual method in which this ventilator configuration would be deployed. Potential infectious complications from sharing one ventilator were not investigated. Again, further study in this area would be beneficial.

Because this was a pilot study, further research is indicated to test the efficacy and safety of the modified circuit. Replication of the study in an animal model is indicated. Ventilator software may allow for ventilation of more patients than was explored in this study. This may be an important consideration in usefulness of ventilators in the disaster situation. Finally, development of quantitative measurement techniques of individual tidal volumes transferred would enhance further research efforts as well as clinical delivery.

CONCLUSIONS

This pilot study suggests that the physics of a ventilator/patient circuit could accommodate more than one

patient. In a catastrophic situation, when there are more patients who require ventilators than there are ventilators available, simple modification of the ventilator circuit could help absorb the extra burden.

The authors thank the entire Respiratory Therapy Department at St. John's Medical Center (Detroit, MI) and Dr. Peter Hoffmann (Physics Department, Wayne State University, Detroit, MI) for consultation regarding fundamental physics.

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— Apparatus and Techniques —

Improvised automatic lung ventilation for unanticipated emergencies

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Objectives: To design an improvised circuit that can be used to extend the capability of a single ventilator to ventilate two or more patients and that can be assembled from readily available parts in times of unanticipated emergency.

Design: Research and development, followed by technical analysis and evaluation.

Setting: Biomedical laboratory.

Measurements and Main Results: We describe two circuits that can be assembled from readily available inexpensive components to function as improvised ventilators. One circuit requires only a central mushroom valve driver and an additional source of fresh gas for each patient. The other circuit is configured as a number of secondary circuits in parallel, connected to a single ventilator. We constructed and tested the circuits using mechanical lung simulators. The secondary circuit configuration was more efficient in terms of fresh gas usage, but was more complex regarding operation and troubleshooting.

Conclusions: These two improvised circuits can extend the capability of a standard volume-cycled ventilator to provide automatic ventilation of the lungs in times of disaster. (Crit Care Med 1994; 22:705-709)

KEY WORDS: respiration, artificial; ventilators, mechanical; oxygenation; positive end-expiratory pressure; pulmonary emergencies; apparatus and instruments; positive-pressure respiration; critical illness

An issue of medical importance was raised during the Persian Gulf War of 1990 to 1991. Iraq's neighbors had to deal with the threat of the use of nerve gas against civilian and military populations. Regardless of the considerable civil defense measures instituted in response to the threat, a successful attack would burden the medical facilities with large numbers of awake, paralyzed, but otherwise healthy patients. It is unlikely that civilian hospitals equipped for peacetime operation would have an adequate number of ventilators in reserve to handle these patients (1). In more general terms, the need for multiplying ventilator capacity can occur in many places throughout the world as a result of war, massive industrial accidents, and natural disasters.

This article describes an improvised method of providing controlled automatic ventilation for patient numbers in excess of the number of ventilators that are available. We describe two systems that are easy to assemble, inexpensive, and show promise of effectiveness. Each system we describe is controlled by a single ventilator, and is capable of ventilating several patients with individualized tidal volumes, airway pressures, F_{IO_2} , and positive end-expiratory pressures (PEEP). The PEEP capability of the driving ventilator is maintained. Cross-infection is avoided by isolated patient circuits.

We assembled and tested two systems using mechanical lung simulators. Institutional Review Board approval was not required. In both systems the tidal volume was generated by controlling the expiratory port of the patient circuit with a mushroom valve driven by a ventilator. In one system, the inspired volume was generated by flow directly from the fresh gas source. In the other system, the inspired volume consisted of a combination of fresh gas flow and gas displaced by the controlling ventilator.

MATERIALS AND METHODS

Fresh Gas Flow and Mushroom Valve System. This configuration consists of a T-piece with a mushroom

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We thank Mr. Richard Smith for assembling the ventilator system and for his helpful and critical comments.

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valve on the expiratory port (Fig. 1). The required components for fresh gas flow and the mushroom valve system are: a mushroom valve, fresh gas flow source, high-pressure relief valve (pop-off valve), and low-pressure alarm. To minimize rebreathing, the fresh gas flow must be introduced as close as possible to the patient's endotracheal tube. In addition, the circuit should contain an alarm for airway pressure loss, and a pressure-relief valve (pop-off valve) to reduce the risk of barotrauma. A PEEP valve can be added to the expiratory port of any patient circuit, and thus individual PEEP can be optimized for each patient (2, 3). The ventilator's PEEP valve can also be engaged, but the same amount of PEEP will be applied to each patient.

Analysis of System. The advantages of this system are that it is inexpensive and easy to assemble, use, and trouble shoot. The number of patients that can be ventilated with this system is determined by the capacity of the ventilator to drive the mushroom valves and the availability of fresh gas sources. Its major disadvantage is its inefficient use of fresh gas flow. During the expiratory phase, the fresh gas flow is vented and thus wasted. For example, considering an inspiratory time of 2 secs, and a tidal volume of 500 mL at 12 breaths/min, a fresh gas flow of 15 L/min is required, of which only 6 L is used to ventilate the patient.

Secondary Circuit System. Fresh gas flowing during the expiratory phase of ventilation stays within the secondary circuit and makes up part of the inspired

volume. In this instance, the required fresh gas flow would be equal to the minute ventilation.

Assembly. Figure 2 is a schematic diagram of two secondary circuits attached to one ventilator. Table 1 lists the components required to double the ventilator capacity using this system. The ventilator should ideally be a volume- or pressure-cycled ventilator, using a mushroom valve on the expiratory port. The ventilator circuit is attached to each secondary circuit.

Secondary Circuit. The "box" should be transparent to allow visualization of the bag. It should have two ports, one port attached to the ventilator circuit, and the other port attached to the bag inside the "box"

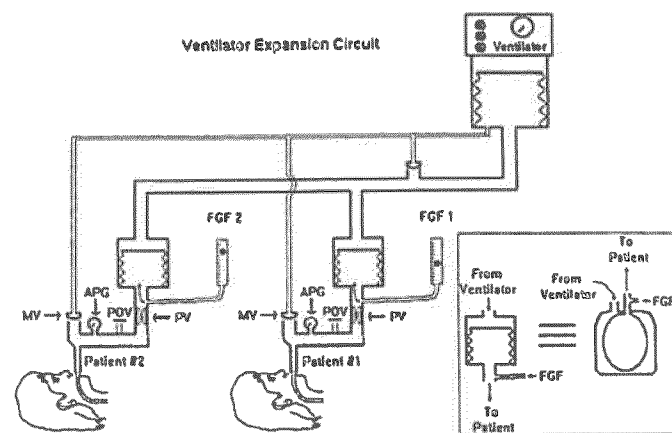


Figure 2. A schematic of the secondary circuit ventilator. Each secondary circuit is T-pieced to a volume-cycled ventilator circuit. The ventilator's mushroom valves are configured in parallel to the primary ventilator circuit and each secondary circuit. The "bag in box" is diagrammatically simplified as a bellows. MV, mushroom valve; APG, airway pressure gauge; POV, "pop-off" valve; PV, positive end-expiratory pressure valve; FGF, fresh gas flow.

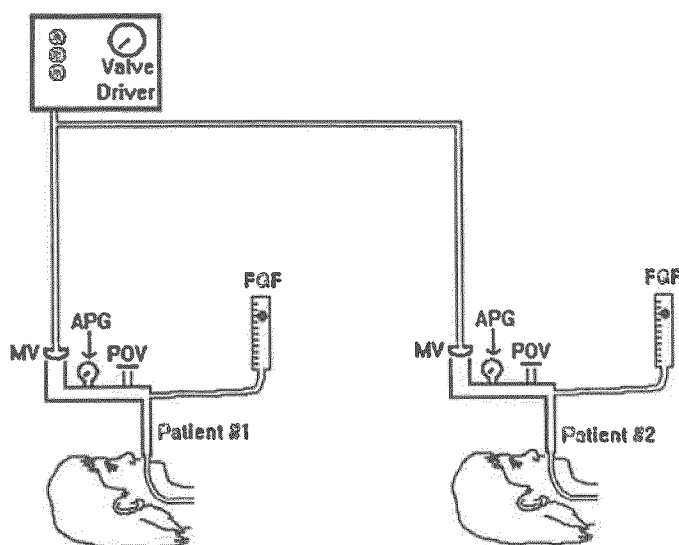


Figure 1. Fresh gas flow and mushroom valve ventilator showing a T-piece configuration. The fresh gas flow should enter the circuit as close as possible to the patient to avoid rebreathing. MV, mushroom valve; APG, airway pressure gauge; POV, "pop-off" valve; FGF, fresh gas flow.

Table 1. Apparatus for secondary circuit system required to double ventilatory capacity

"Bag in Box"
Two "boxes" e.g., 4-L suction bottles
Two 3-L bags
Two in-line spring-loaded PEEP valves
Mushroom Valves and Connectors
Two mushroom valves
1/8" ID tubing (4 m)
Two 4-mm "Y" connectors
Circuit Tubing and Connectors
Two 15-mm ID "T" connectors
Two nebulizer "T" connectors (as FGF inlet)
Two oxygen tubes
Four straight connectors
Nine meters of 22-mm corrugated aerosol tubing
Safety Monitors
Two aneroid manometers
Two pressure-relief valves (pop-off valves)
Two low-pressure alarm monitors

PEEP, positive end-expiratory pressure; ID, inner diameter; FGF, fresh gas flow.

(Fig. 2). The fresh gas flow and an in-line spring-loaded PEEP valve are attached to the port containing the bag. (Ball-on-ring type valves are gravity dependent and may fail if tipped.) The purpose of this PEEP valve is to allow the bag to fill during expiration and to provide a variable stepping down of the pressure from the primary ventilator circuit to the patient circuit. The remainder of the patient circuit should contain an aneroid pressure gauge and pressure-relief valve (pop-off valve). The patient expiratory port is controlled by a mushroom valve attached in parallel with the ventilator mushroom valve. A low-pressure alarm system is highly recommended for each secondary circuit.

We assembled the secondary circuit system from components in storage in our respiratory therapy department (Fig. 3) and tested it on mechanical lung simulators (Medishield, Harlow-Essex, UK). For our "box," we used a 4-L suction bottle (Gomco 01-90-3105, Chemetron Medical Products, Buffalo, NY), which had an airtight rubber seal cap containing two 15-mm inner diameter ports. One port had a plastic tube extending into the bottle, where we attached a 3-L anesthetic bag. To this port, we attached a 15- to 22-mm connector with oxygen stem (0001405, Airlife U/Adaptit™ straight adapter, Baxter Edwards Critical-Care, Valencia, CA) and a spring-loaded PEEP valve (900, Vital Signs, Totowa, NJ; or BD 06362, Bird, Palm Springs, CA). The rest of the circuit contained an aneroid pressure gauge (Bird), a pressure-relief valve (Bird), and a mushroom valve (000563, Puritan-Bennet, Pickering, ON, Canada).

Analysis of System. At fresh gas flow equal to minute ventilation, the ventilator's tidal volume capacity limits the cumulative tidal volume output of the secondary circuits. Since the volume of fresh gas flowing

during inspiration is added to the volume displaced from each secondary circuit, the individual tidal volume can be supplemented by increasing fresh gas flow above minute ventilation. In this way, additional secondary circuits can be attached without decreasing tidal volume in the interdependent circuits.

Suggested Method of Operation. Patients are selected for the interdependent system and the fresh gas flow is set for each secondary circuit at approximately the intended minute ventilation of each patient (70 to 80 mL/kg). The tidal volume setting on the ventilator is set equal to the intended combined tidal volumes of the patients. The ventilation frequency is set at 10 to 12 breaths/min with an inspiratory/expiratory ratio ranging from 1:2 to 1:4. The secondary circuits are attached to the patient's endotracheal tubes. The ventilator's tidal volume setting is adjusted such that the airway pressure in the primary and all secondary circuits provides the patient who has the lower chest compliance with an adequate tidal volume (4). The patient with the higher chest compliance may temporarily be getting a higher than intended tidal volume. This increased tidal volume is reduced by empirically increasing the resistance through this patient's secondary circuit PEEP valve and thus reducing his/her peak airway pressure. This circumstance will also cause gas from the ventilator to redistribute toward the companion secondary circuit and effectively increase the tidal volume of the patient with the lower chest compliance. Tidal volumes and minute ventilation can be further adjusted by altering the fresh gas flow. A PEEP valve can be added to the expiratory port of any secondary circuit, and thus, individual PEEP can be optimized for each patient (2, 3). The ventilator's PEEP valve can also be engaged but the same amount of PEEP will apply to each patient on an interdependent secondary circuit. To minimize the effects of dynamic changes in respiratory resistance and compliance in parallel secondary circuits, we recommend that patients with the most stable pulmonary compliance be grouped together on these circuits. Heat and moisture exchangers can be added to the patient-circuit interface to provide humidification.

Monitoring. Patients can be visually monitored by observing chest movement, as well as other clinical signs (5). Bag motion and airway pressures in the secondary circuits are also useful monitors. The primary and secondary circuit should be equipped with low- and high-pressure alarms. An expiratory monitor attached to the patient's secondary circuit will reflect the patient expiratory volumes as in a normal ventilator, as long as the fresh gas flow is less than or equal to minute ventilation. Ideally, the patient should be monitored for oxygen saturation and end-tidal P_{CO_2} .

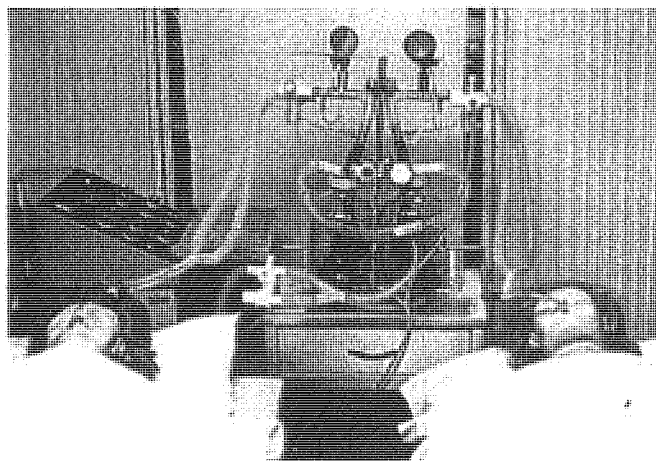


Figure 3. A photograph of the secondary circuit ventilator we assembled in our hospital from components readily available in the respiratory therapy department. The patients are manikins.

Blood gas measurements can be performed as necessary.

In the event of a power or gas source failure, the patients must be disconnected from the circuits and ventilated manually, as is the practice when standard ventilators are used.

Trouble-Shooting. A system malfunction is normally detected by an aberrant filling and emptying motion of one or more of the bags in the secondary circuits. The patients affected should be disconnected from the circuit, ventilated manually with a self-inflating bag, and the circuit attached to a rubber

anesthesia bag until the problem is identified. Malfunctions are classified according to one of the following three conditions: a) primary circuit malfunction; b) mismatched fresh gas flow; c) secondary circuit malfunction.

Trouble-shooting consists of differentiating between these three conditions. In a primary circuit malfunction, all patients and bags are affected simultaneously. Problems that appear to be affecting predominantly one patient reflect a fresh gas flow mismatched to minute ventilation, or a malfunction in any interdependent secondary circuit. The adequacy of fresh gas

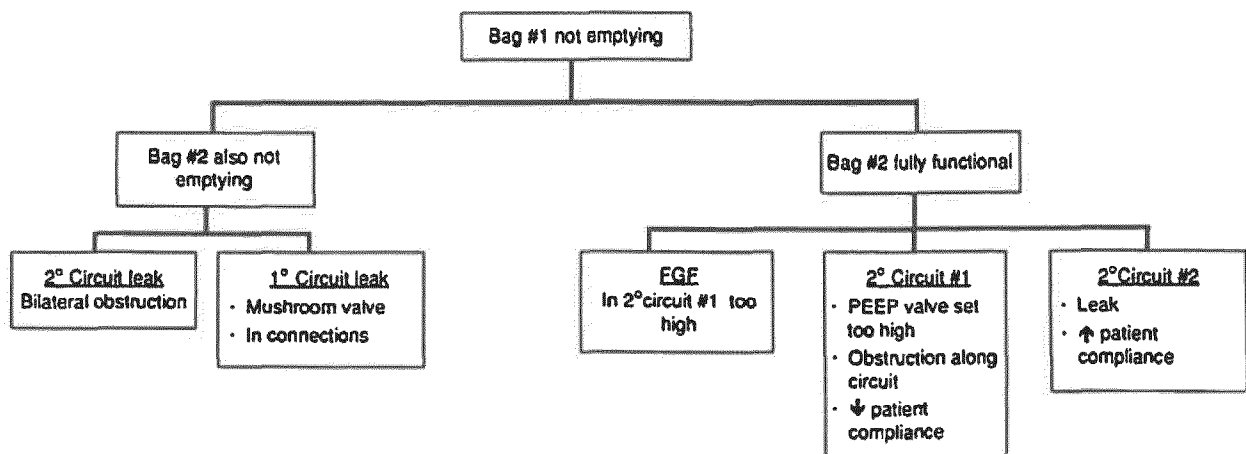


Figure 4. Chart for trouble-shooting when the bag in the secondary circuit on the index patient (*Bag #1*) is not emptying. *FGF*, fresh gas flow; *PEEP*, positive end-expiratory pressure.

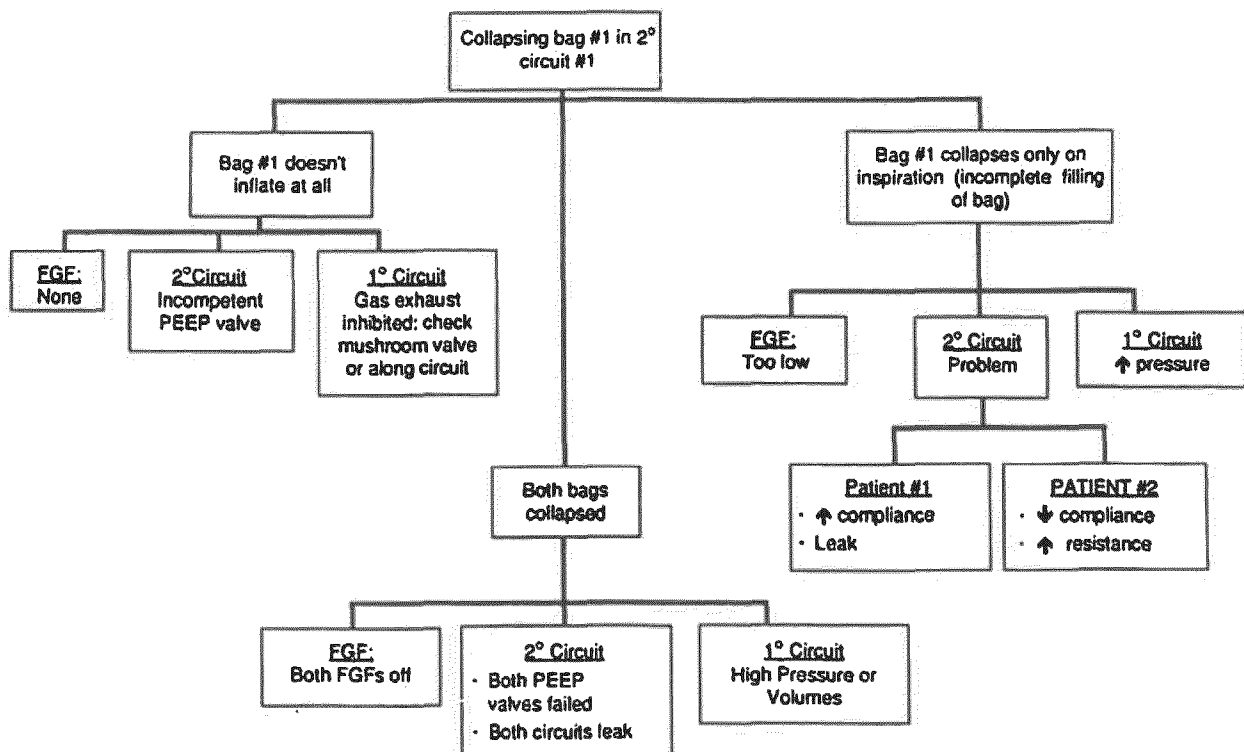


Figure 5. Chart for trouble-shooting when the bag in the secondary circuit on the index patient (*Bag #1*) is collapsing inappropriately. *FGF*, fresh gas flow; *PEEP*, positive end-expiratory pressure.

flow in the circuit appearing to malfunction is checked first, then each interdependent secondary circuit is examined for leaks or obstruction. Figures 4 and 5 outline the steps for trouble-shooting a sample secondary circuit system consisting of two secondary circuits (Fig. 2).

DISCUSSION

Positive-pressure ventilatory support has been known since antiquity (6–8). Its application has been limited by, among other things, the development of the technology of ready airway access, that is, endotracheal intubation (9).

Negative-pressure ventilators were developed at the turn of the 20th century. The Drinker "iron lung" gained widespread acceptance for the management of polio patients after a demonstration of its clinical efficacy in 1928 (10, 11). Nevertheless, the epidemic nature of the disease (polio) frequently resulted in numbers of paralyzed patients exceeding the number of negative-pressure ventilators available (7, 11, 12). This circumstance led to the development of negative-pressure chambers that were able to hold two and even four patients (11).

Technological improvements in endotracheal tubes responded to the need to provide positive-pressure ventilation during anesthesia for patients with open chests and for those patients paralyzed with curare (13). In January 1953, Lassen (12) described the use of endotracheal intubation and hand-delivered positive-pressure ventilation for polio victims as "therapeutic improvisations...when the one tank ventilator and six cuirass respirators proved wholly insufficient when the epidemic developed into a major catastrophe."

The development of positive-pressure ventilators followed. They have evolved into expensive, complex machines designed to provide ventilatory support for patients with lung disease (13–15). In one respect, we have come full circle. Positive-pressure machines have replaced negative-pressure machines, but their supply is once again limited to satisfying ongoing requirements (1) and there are no provisions for an unanticipated large increase in demand other than

one-to-one manual ventilation as described by Lassen (12).

In this article, we describe a simple, easily recruited source of automated, intermittent, positive-pressure ventilation that was obtained by extending the capabilities of a ventilator, to ventilating more than one patient.

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[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-13 4:05 PM
To: [REDACTED]
[REDACTED]
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Cc: [REDACTED]
Subject: RE: Logistics and Inventory Management
Attachments: Short-Term PPE and NESS Plan.docx; NESS-Revised.pptx; NESS Resurgence Plan and Critical Path - 2020-07-02.docx

-----Original Appointment-----

From: [REDACTED] **On Behalf Of** [REDACTED]
Sent: 2020-07-13 2:09 PM
To: [REDACTED]
[REDACTED]
Cc: [REDACTED]
Subject: Logistics and Inventory Management
When: 2020-07-13 4:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: New dial in: 613-960-7511 // PIN: [REDACTED]

Strategic Stockpile of Life-saving Medical Equipment and Supplies

OPERATIONAL PLAN AND CRITICAL PATH

Background

To respond to the unprecedented nature of COVID-19, PHAC has completely transformed its surge support role in providing supplies to provinces and territories (P/T) in emergencies, such as infectious disease outbreaks, natural disasters and other public health events, when their own resources are insufficient.

The Government of Canada has invested more than \$4B dollars in critical personal protective equipment (PPE) and life-saving medical equipment and supplies for the COVID-19 response, and it is anticipated the federal government will continue to play an essential role as long as the COVID-19 pandemic continues.

Canada has limited capacity to produce these critical health assets domestically, and securing supplies internationally has been a global challenge. Early in the response, the Government of Canada established a number of dedicated intake processes to effectively triage and assess responses as a result of the overwhelming interest expressed by industry to the call for help to combat COVID-19 in Canada:

- Public Service and Procurement Canada (PSPC) established a web portal and intake form for suppliers that are able to provide specific products (i.e. N95 masks, gowns, gloves and other PPE) or services (i.e. nursing, food, security);
- Industry, Science and Economic Development Canada (ISED) launched a “call to action” to Canadian manufacturers to help fight COVID-19. This facilitated an intake for manufacturers that; make needed supplies, have the potential to rapidly re-tool existing facilities or equipment, or who have skilled workers that could be available to work elsewhere in Canada.
- National Research Council (NRC) issued a COVID-19 “Challenge Program” to bring together a national network of researchers and scientific facilities to address the pressing needs for supplies, medical counter measures, and disease-tracking technology. Additionally, through the Industrial Research Assistance Program (IRAP), the NRC issued a call out, leveraging its existing relationships with Canada’s innovative SMEs, seeking innovative solutions and candidate for funding through Innovative Solutions Canada.

PHAC has focussed efforts on establishing new structures, systems, and policies to manage the procurement, intake, testing, warehousing, and distribution of products, as well as creating new capacity for modelling and reporting. This has been done in close collaboration with Health Canada who has been a partner in regulating products and leading complementary modelling and reporting efforts.

These extraordinary efforts have resulted in new domestic capabilities with respect to N95 respirators, surgical masks, gowns, and ventilators. Talks are underway with additional suppliers to further develop and secure strong domestic supply chains to reduce Canada’s reliance on international markets. The objective is to establish a resilient and diverse supply chain and enhanced

management of a full breadth of critical emergency assets is required to mitigate risks of overreliance on vulnerable supply chains.

In the context of the COVID-19 pandemic, improvements are needed in the...

1. **SHORT TERM: To ensure continued federal response to COVID-19** by maintaining supply chain efforts as well as acquisition and deployment of critical health assets.
2. **LONG TERM: To enhance capacity and infrastructure** to support effective pan-Canadian stockpile management and secure domestic supply chains, as well as establish a stable and predictable source of ongoing funds to support acquisitions of critical health assets.

In doing so, Canada will be better prepared to respond to the current COVID-19 pandemic and future health and public health issues, to protect the health of Canadians and support the economy.

Overview of the National Emergency Strategic Stockpile (NESS)

The NESS is a federal owned stockpile that contains a supply of life-saving pharmaceuticals, medical supplies, and medical equipment for the health sector as surge capacity to support P/T responses to public health events and emergencies.

Since the NESS was established in 1952 to support civil defence in a Cold War Era, there have been significant changes in the emergency planning context. Since 9/11 and the subsequent anthrax attacks in the United States, the focus of NESS has been on the supply of medical countermeasures that would not normally be stockpiled by provinces and territories and cannot be purchased on the commercial market. Post Severe Acute Respiratory Syndrome (SARS), the stockpile was further enhanced with supplies to respond to a influenza pandemic with a focus on antivirals. The NESS is currently managed through a network of ■ warehouses across Canada.

Challenges that Need to be Addressed

Lessons learned from past events have resulted in incremental improvements in the NESS over time but gaps remained. The COVID-19 pandemic highlighted critical gaps in Canada's ability to provide the necessary medical supplies to the health sector, and necessitated unprecedented investments in personal protective equipment, testing supplies and biomedical equipment. This was enabled by a whole-of-government approach in end to end supply chain management involving PHAC, Health Canada, Public Services Procurement Canada, National Research Council, Global Affairs Canada, Innovation, Science and Economic Development Canada and the Canadian Armed Forces.

There are numerous lessons-learned from the response to COVID-19 thus far:

- Novel nature of COVID-19 and global spread drove unprecedented demand for personal protective equipment (PPE), testing supplies and biomedical equipment.
- National targets for P/T stockpiles of PPE were undefined and insufficient in some P/Ts.
- Targets for NESS stockpile of PPE for surge capacity were undefined and insufficient.

- There was massive disruption of traditional supply chains due to global competition for finite health assets.
- There was an absence of domestic manufacturing capabilities and there were protectionist regimes around the world and export restrictions in China.
- The current federal role in supply chain management on behalf of P/Ts was never contemplated.
- Proactive federal procurement of additional supplies in early stages of COVID-19 was limited by constraints of PHAC budget.
- There was competition between P/T and federal purchasing efforts.
- There was inadequate logistics infrastructure for multi-modal shipment from origin of manufacture through to distribution to end user.
- There were product quality challenges necessitating implementation of a testing, quality verification and labeling program.
- Legacy NESS systems were not sufficiently agile to respond to operational scale of new federal role.
- There was a lack of data to inform stockpiling and procurement decisions.

PART 1: PLAN TO ADDRESS PPE, TESTING SUPPLIES AND EQUIPMENT NEEDS TO SUSTAIN COVID-19 RESPONSE IN THE SHORT-TERM

While significant quantities of supplies have not yet been delivered to Canada, current supply and demand modelling indicates that Canada may face potential shortages of key supplies in the face of a second wave of COVID-19. Investments are required to prepare for the next public health emergency.

Table 1. Short-Term Plan Key Milestones

Task	Timeframe
<ul style="list-style-type: none"> • Acquire additional PPE, testing supplies and equipment to sustain the response and maintain minimum stockpile levels in NESS 	Ongoing with target stockpile for Q3 2020-21
<ul style="list-style-type: none"> • Lease additional warehouse space for the increased NESS holdings due to COVID-19 	Q2 2020-21
<ul style="list-style-type: none"> • Establish a new third party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased 	Q2 2020-21
<ul style="list-style-type: none"> • Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed 	Q2 2020-21
<ul style="list-style-type: none"> • Proactively acquire vaccination supplies required to administer a potential COVID vaccine to mitigate the risks of shortages of products when a vaccine becomes available 	Procurement complete. Receipt of goods ongoing.
<ul style="list-style-type: none"> • Integrate and enhance NESS functions under one organizational structure to sustain the response and prepare for the departure of the Canadian Armed Forces and potential loss of other loaned resources 	Q2 2020-21
<ul style="list-style-type: none"> • Strengthen human resource capabilities in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance 	Q2 2020-21
<ul style="list-style-type: none"> • Initiate a new warehouse management system with an integrated order management system and business intelligence tools 	Q2 2020-21

PART 2. PREPARE FOR FUTURE PUBLIC HEALTH EMERGENCIES

COVID-19 has led to the realization of a need to revisit the priorities for stockpiling and the role of the NESS, in collaboration with P/Ts where appropriate. It has reinforced the need for a sustainably funded supply management strategy for critical PPE, biomedical equipment, and medical countermeasures.

Table 2. Longer-Term Plan Key Milestones

<p>Develop a long term strategy for the NESS including:</p> <ul style="list-style-type: none"> • Conduct an independent lessons learned of Canada's supply chain and stockpiling challenges highlighted by COVID-19 and associated actions • Work with international partners to identify best practices in other national approaches • Convene an expert task group to recommend national targets for stockpiling of PPE and other key supplies based on item criticality and domestic supply availability • Define P/T and NESS targets for stockpiling • Establish approach for early identification of supply chain vulnerabilities as a result of an emerging threat • Establish defined triggers and contingency fund to initiate proactive procurement of additional medical supplies and equipment in response to an emerging threat • Re-define governance and roles and responsibilities for all stakeholders 	Q2-4 2021-2022
<p>Implement long term strategy for the NESS including:</p> <ul style="list-style-type: none"> • Secure ongoing funding to maintain recommended stockpiles • Define and implement optimal models for stockpile management (owned versus vendor managed) • Implement robust life cycle management strategies including actions to avoid expiry of supplies (where possible), supported by necessary authorities and investments in people, systems and infrastructure • Establish a performance monitoring framework to monitor implementation towards target NESS stockpiles and effectiveness of life cycle management strategies • Strengthen the NESS warehousing network by investing in up to █ federal owned warehouses that meet the specific requirements of the NESS (e.g. compliance with Good Manufacturing Practices, temperature control, security) <ul style="list-style-type: none"> ○ Continue to explore opportunities for collaboration with the Department of National Defence/Canadian Armed Forces 	Q4 2021-2022 and ongoing

The National Emergency Strategic Stockpile (NESS)

Actions to sustain the COVID response and prepare for future emergencies

DRAFT June 21, 2020

PROTECTING AND EMPOWERING CANADIANS
TO IMPROVE THEIR HEALTH



Purpose

- Discuss pre-COVID pandemic planning assumptions for medical supplies for the health sector and the role of the National Emergency Strategic Stockpile (NESS)
- Discuss COVID-19 challenges and actions
- Outline additional short-term actions needed to support the continued availability of PPE and other supplies for Canada's COVID-19 response
- Outline proposed long-term actions to strengthen Canada's preparedness to support the availability of medical supplies and equipment for a future public health event or emergency

Pre-COVID Pandemic Planning Context

The Federal/Provincial/Territorial (F/P/T) Response Plan for Biological Events is response plan for the health sector to facilitate formal coordination of F/P/T responses to public health events that are biological in nature and of a severity, scope or significance to require a high level F/P/T response.

Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector (CPIP) is a F/P/T guidance document that outlines how jurisdictions will work together to ensure a coordinated and consistent health-sector approach to pandemic preparedness and response.

The provision of health care is an essential component of response and is primarily a P/T responsibility. Roles and responsibilities related to supplies for the health sector are as follows:

P/T Government Responsibilities

- ensuring the provision of medications, supplies and equipment required for provision of pandemic health care services

Federal Government Responsibilities

- ensuring the provision of health services, medications, supplies and equipment for specified federal populations/employees who normally access federally operated health care services
- mobilizing medical supplies in the National Emergency Strategic Stockpile (NESS) as surge capacity to support P/T responses
- facilitating the acquisition of extra medical supplies through Public Services and Procurement Canada and other federal agencies as appropriate

The CPIP defines target capabilities for P/T and NESS stockpiles of antivirals but for medical supplies or equipment.

Overview of the National Emergency Strategic Stockpile (NESS)

- The NESS is a **federal owned stockpile** that contains a supply of life-saving pharmaceuticals, medical supplies and medical equipment for the health sector as **surge capacity to support P/T responses** to public health events and emergencies.
- Since the program was established in 1952 to support civil defence in a Cold War Era here have been significant changes in the emergency planning context:
 - Since 9/11 and the subsequent anthrax attacks in the United States, the focus of NESS has been on the supply of **medical countermeasures** (MCM), [REDACTED] that would not normally be stockpiled by provinces and territories and cannot be purchased on the commercial market.
 - Post Severe Acute Respiratory Syndrome (SARS), the stockpile was further enhanced with supplies to respond to a influenza pandemic with a focus on **antivirals**.
- NESS is currently managed through a network of [REDACTED] **warehouses** (Annex A).
- The core **budget** of the NESS is approximately **\$3 million per year**. Yearly expenditures have fluctuated significantly (Annex B) as the NESS budget has been supplemented by internal reallocation and time-limited funding to:
 - Acquire additional supplies during an public health event or emergency (H1N1, Ebola, COVID-19)
 - Replace expiring antivirals
 - Invest in MCMs for preparedness [REDACTED]
 - Acquire and pre-position supplies for major events (2010 Olympics, 2015 Pan-Am Games, 2018 G7)

COVID-19 Challenges – Lessons Learned



Unprecedented demand and insufficient stockpiles

- Novel nature of COVID-19 and global spread drove unprecedented demand for personal protective equipment (PPE), testing supplies and biomedical equipment
- National targets for P/T stockpiles of PPE undefined and insufficient in some P/Ts
- Targets for NESS stockpile of PPE for surge capacity undefined and insufficient
- Proactive federal procurement of additional supplies in early stages of COVID-19 limited by constraints of PHAC budget



Supply chain vulnerabilities

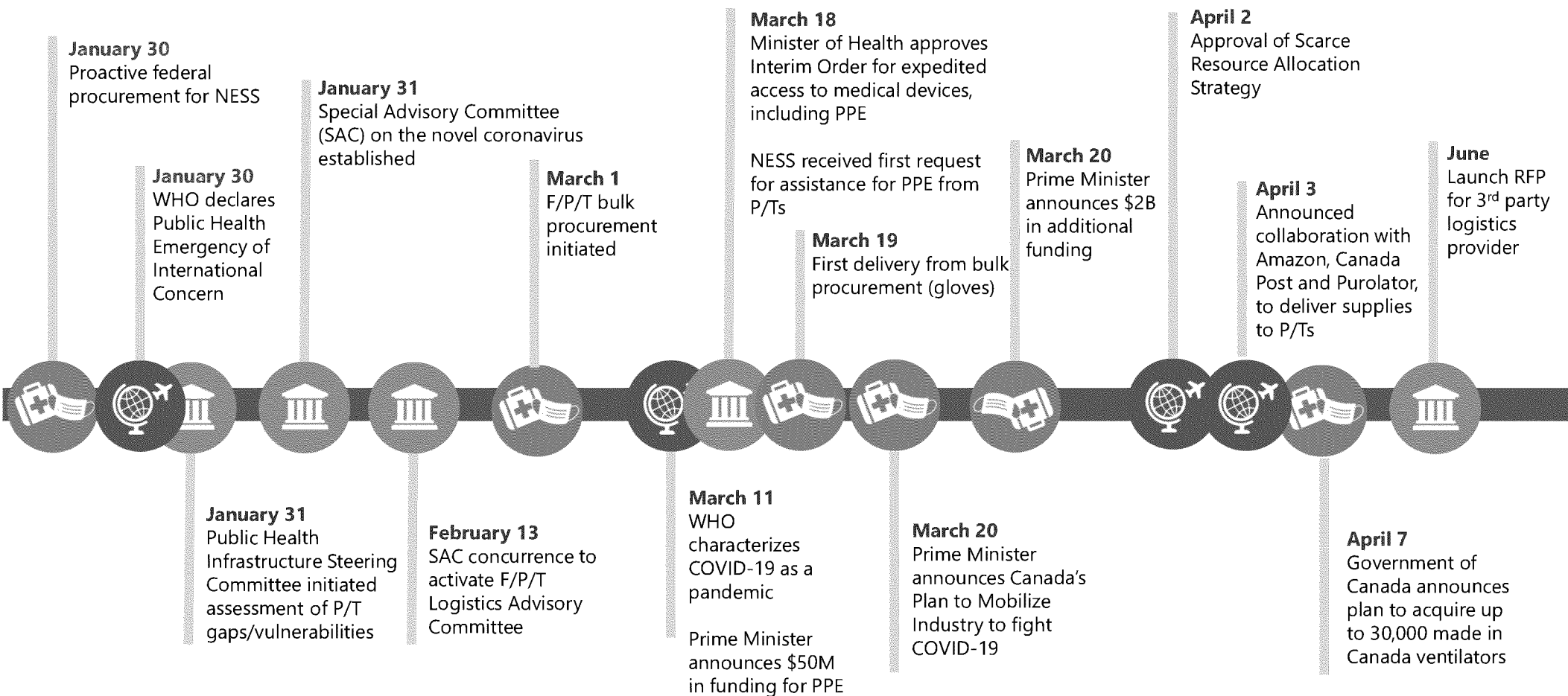
- Massive disruption of traditional supply chains due to global competition for finite health assets
- Absence of domestic manufacturing capabilities
- Protectionist regimes around the world
- Product quality challenges necessitating implementation of a testing, quality verification and labeling program
- Export restrictions in China
- Competition between P/T and federal purchasing efforts



Data and infrastructure gaps

- Federal role in end to end supply chain management on behalf of P/Ts never contemplated or resourced
- Inadequate logistics infrastructure for multi-modal shipment from origin of manufacture through to distribution to end user
- Legacy NESS systems not sufficiently agile to respond to operational scale of new federal role
- Lack of data to inform stockpiling and procurement decisions

COVID-19 Key Actions Taken



The Need for Continued Action

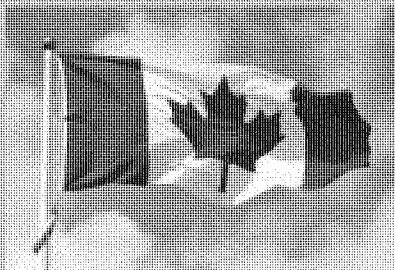
- Lessons learned from past events have resulted in incremental improvements in the NESS over time but gaps remained.
 - For example:
 - Very limited ongoing funding to maintain and enhance the NESS stockpile
 - Budget 2020 provided ongoing funding for investments in medical countermeasures
 - The main NESS warehouse is experiencing rust out [REDACTED] is it cost effective to invest in necessary upgrades at the current location
 - The NESS inventory management systems are outdated and do not have the features of a modern warehouse management system
 - P/Ts have not maintained their share of the antiviral stockpile; antivirals are more difficult to acquire rapidly
- The COVID-19 pandemic highlighted critical gaps in Canada's ability to provide the necessary medical supplies to the health sector that necessitated:
 - A whole of government approach in end to end supply chain management involving PHAC, Health Canada, Public Services Procurement Canada, National Research Council, Global Affairs Canada, Innovation, Science and Economic Development Canada and the Canadian Armed Forces
 - Unprecedented investments in personal protective equipment, testing supplies and biomedical equipment (Annex C).
- While significant quantities of supplies have not yet been delivered to Canada (Annex D), current supply and demand modelling indicates that Canada may face potential shortages of key supplies in the face of a second wave of COVID-19
- Investments are required to prepare for the next public health emergency

Required actions to sustain COVID-19 response

- Based on current information, additional investment of up to **\$2.6 billion** may be required over the next two years:
 - Acquire additional PPE, testing supplies and equipment to sustain the response and maintain minimum stockpile levels in NESS
 - Lease additional warehouse space for the increased NESS holdings due to COVID-19
 - Establish a new third party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased
 - Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed
 - Proactively acquire vaccination supplies required to administer a potential COVID vaccine to mitigate the risks of shortages of products when a vaccine becomes available
 - Integrate and enhance NESS functions under one organizational structure to sustain the response and prepare for the departure of the Canadian Armed Forces and potential loss of other loaned resources

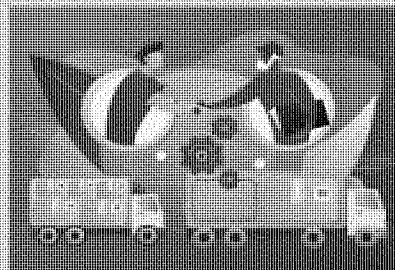
Proposed actions to prepare for future public health emergencies

National Approach to Ensuring Availability of Supplies



- ✓ Conduct an **independent lessons learned** of Canada's supply chain and stockpiling challenges highlighted by COVID-19 and associated actions
- ✓ Work with international partners to identify **best practices** in other national approaches
- ✓ Convene an **expert task group** to recommend **national targets for stockpiling** of PPE and other key supplies based on item criticality and domestic supply availability
 - ✓ Define P/T and NESS targets for stockpiling
- ✓ Establish approach for **early identification of supply chain vulnerabilities** as a result of an emerging threat
- ✓ Establish **defined triggers and contingency fund** to initiate proactive procurement of additional medical supplies and equipment in response to an emerging threat

Operating Model for Strategic Stockpile Management



- ✓ Re-define **governance and roles and responsibilities** for all stakeholders
- ✓ Secure **ongoing funding** to maintain recommended stockpiles
- ✓ Define and implement **optimal models** for stockpile management (owned versus vendor managed)
- ✓ Implement robust **life cycle management** strategies including actions to **avoid expiry** of supplies (where possible), supported by necessary authorities and investments in people, systems and infrastructure
- ✓ Establish a **performance monitoring** framework to monitor implementation towards target NESS stockpiles and effectiveness of life cycle management strategies

People, Systems and Infrastructure



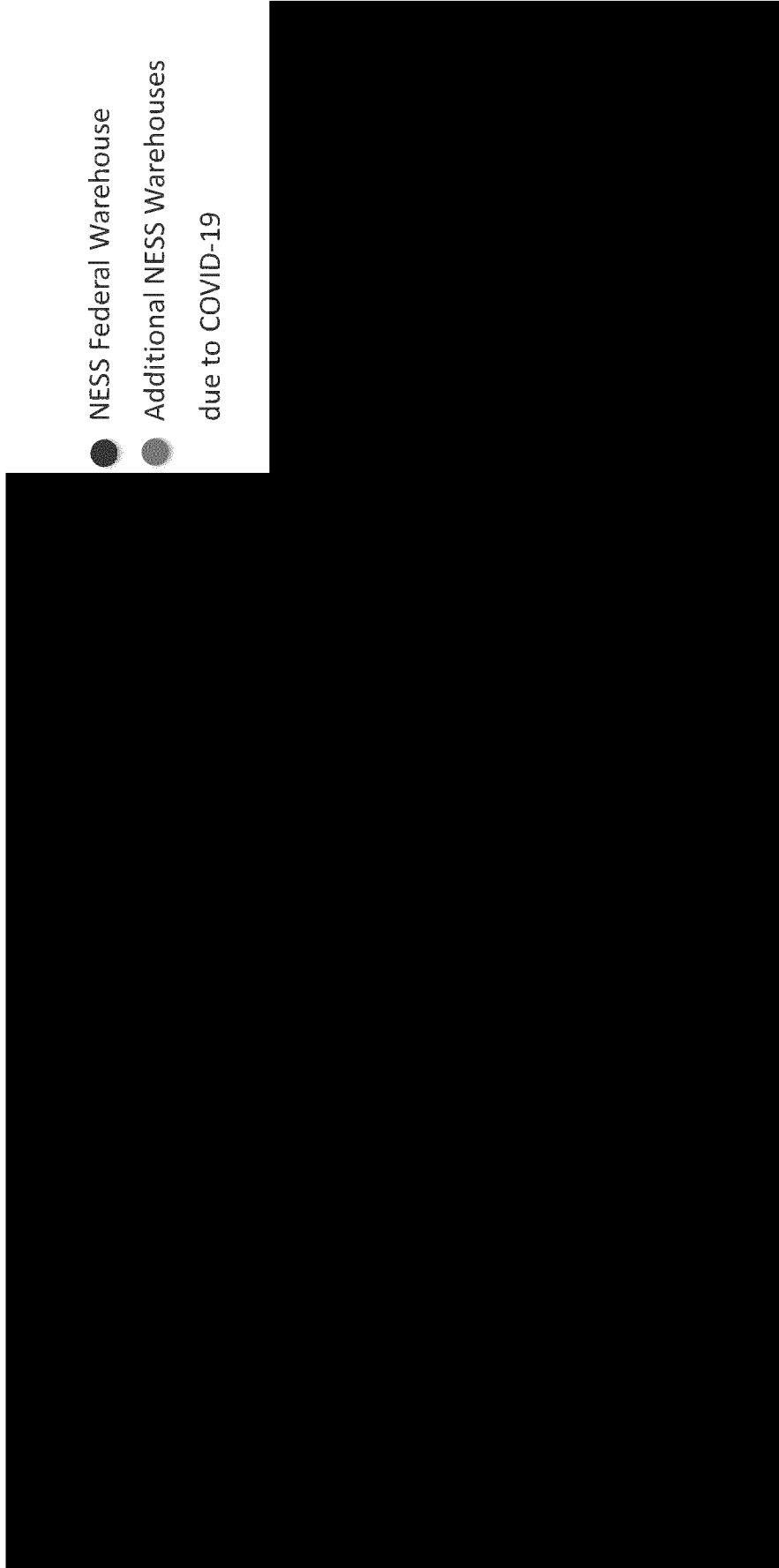
- ✓ Strengthen **human resource capabilities** in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance
- ✓ Implement a new **warehouse management system** with an integrated order management system and business intelligence tools
- ✓ Strengthen the NESS warehousing network by investing in up to two **federal owned warehouses** that meet the specific requirements of the NESS (e.g. compliance with Good Manufacturing Practices, temperature control, security)
 - ✓ Continue to explore opportunities for collaboration with the Department of National Defence/Canadian Armed Forces

Additional Authorities Required

- The current mandate of the NESS does not allow PHAC to donate or sell supplies unless they are declared surplus to Canada's needs.
 - PHAC requires additional authorities to:
 - donate or sell NESS supplies for the purpose of life cycle management activities to avoid expiry (where possible)
 - donate or loan NESS supplies to international organizations or other countries for the purpose of international assistance
- Specific donation decisions would need to be assessed to address relevant contractual, financial, regulatory or legal considerations.

Annexes

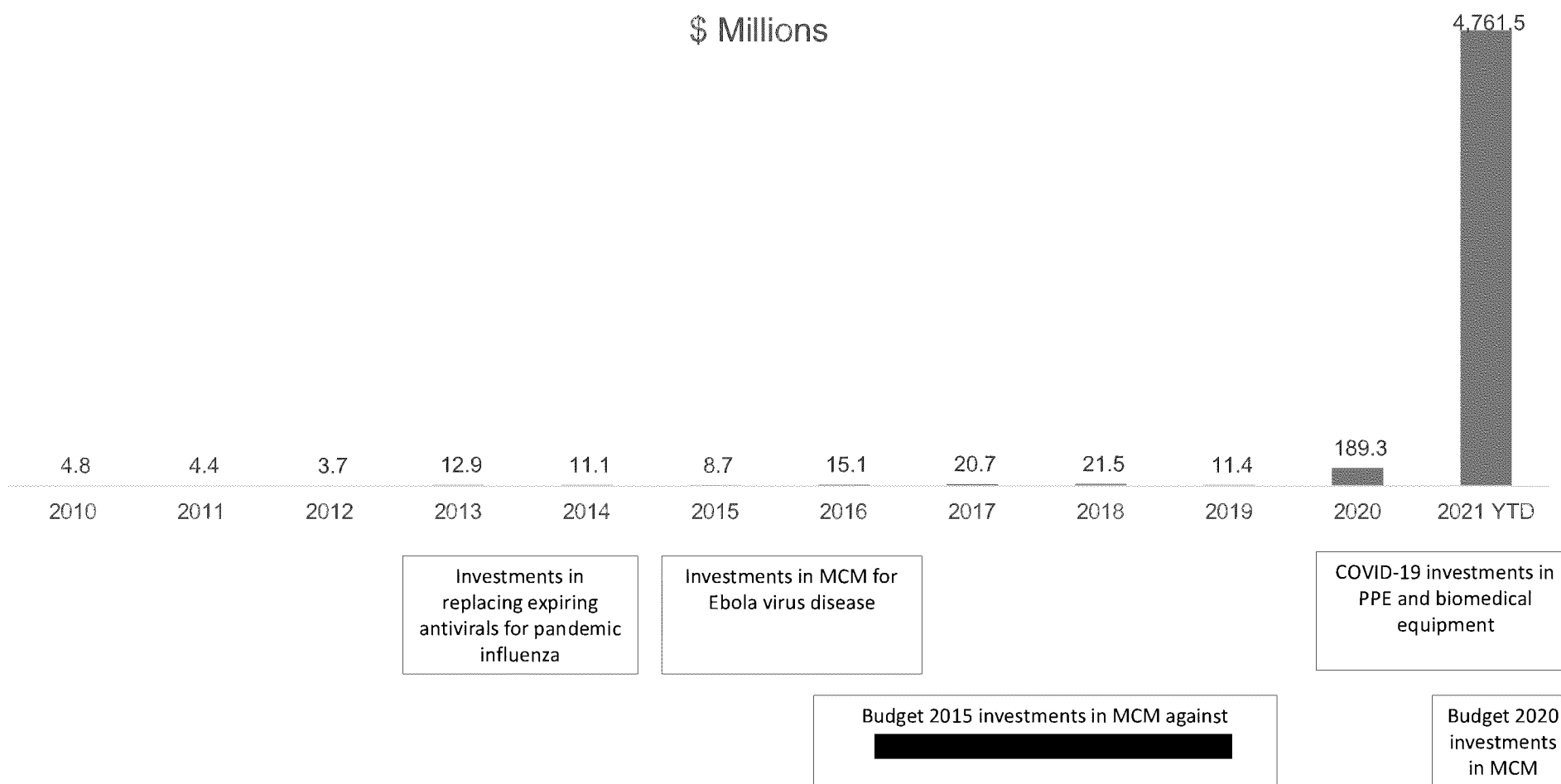
Annex A: NESS Warehouse Network



June 2020

Annex B: NESS Expenditures from 2010 to 2021 (OCFO to validate)

\$ Millions



Annex C: Key COVID-19 Metrics (as at June 20, 2020)

\$ 4.7 billion

Spent and committed

2 billion

Units of PPE purchased

56 million

Units of PPE delivered to P/Ts

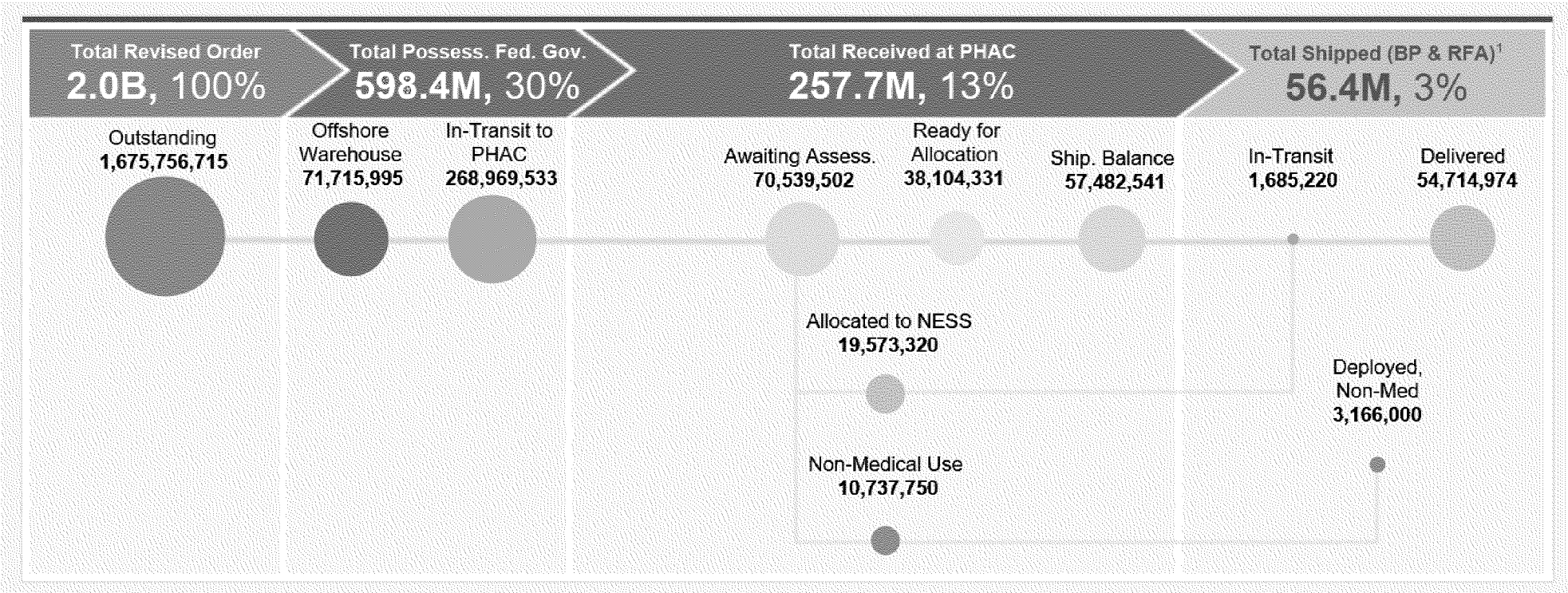
over 50,000

Pieces of biomedical equipment
purchased

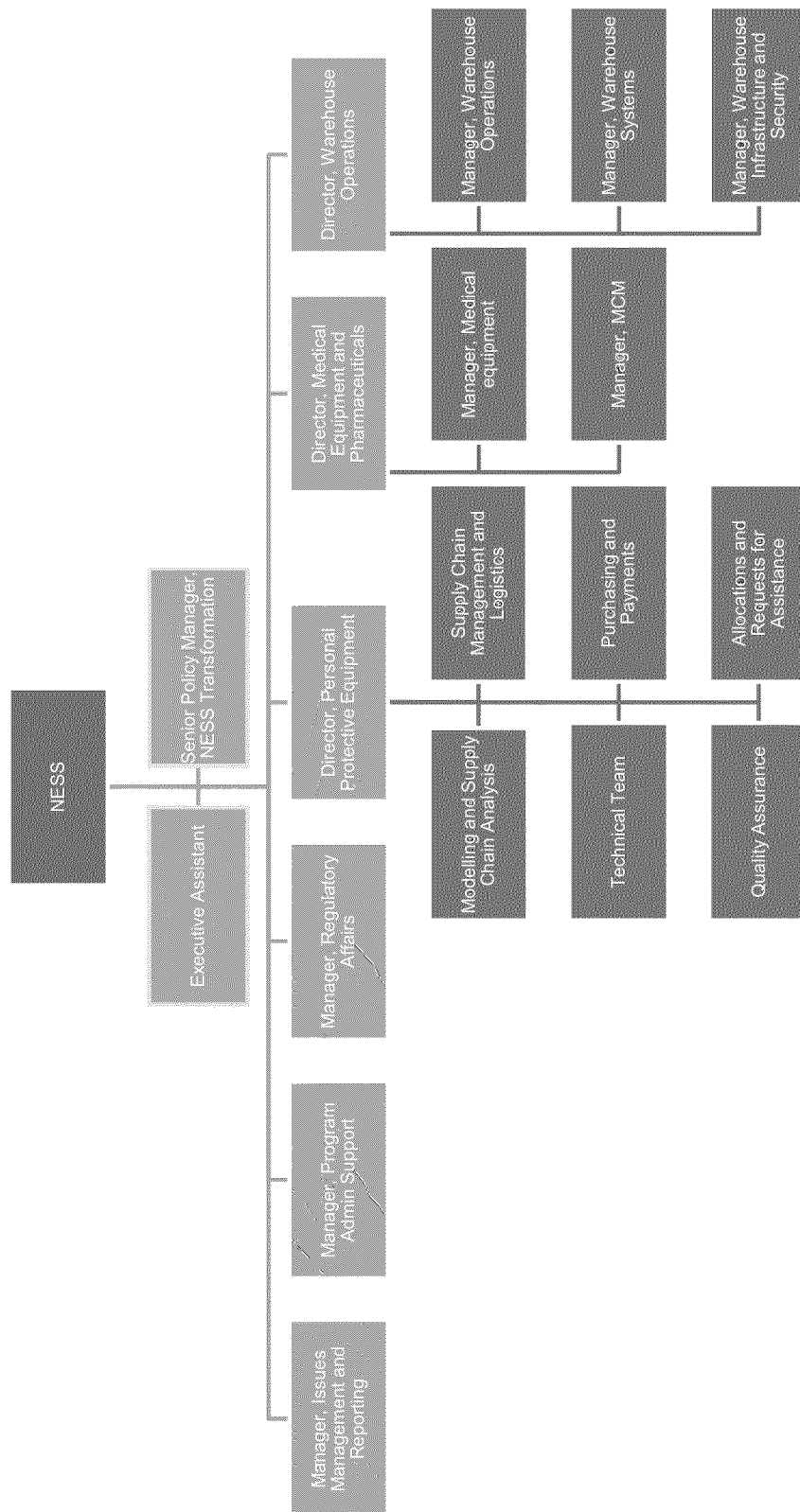
53

Requests for assistance responded to

Annex D: Current Status of Bulk Procurement Supplies (as at June 20, 2020)



Annex E: Proposed NESS Structure (draft for internal discussion)



Annex F: A Comparison of Two Pandemics

H1N1 pandemic

- During the H1N1 pandemic, the P/Ts accessed the NESS for the following items:
 - 135 adult ventilators
 - 198,800 masks
 - ████████ capsules of pediatric antivirals










Source: H1N1 lessons learned

COVID-19 pandemic

- As of June 21, 2020, PHAC has ordered 2 billion units of PPE and shipped over 56 million units of PPE to P/Ts including:
 - 28 M pairs of gloves
 - 16 M surgical masks
 - 3.4 M face shields
 - 1.4 M gowns
 - 1.5 M N95 respirators and equivalents

Source: PHAC Control Tower

Short-Term PPE and NESS Plan

Task	Timeframe	Health	Need Help From?	What?	When?	Current Action
<ul style="list-style-type: none"> Establish a new third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased 	Q2 2020-21		Min PSPC	Sole-Source Decision	13-07-20	RFP ready as contingency
<ul style="list-style-type: none"> Complete TRA on PPE supply chain 	Q2 2020-21					Pursuing external procurement of TRA
<ul style="list-style-type: none"> Initiate an options analysis for a new warehouse management system with an integrated order management system and business intelligence tools 	Q2 2020-21					
<ul style="list-style-type: none"> Transition from Canadian Armed Forces Detachment 	Q2 2020-21					Transition plan by 17-07-20. CAF target date is 31-07-20.
<ul style="list-style-type: none"> Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed 	Q2 2020-21					
<ul style="list-style-type: none"> Proactively acquire vaccination supplies required to administer a potential COVID vaccine to mitigate the risks of shortages of products when a vaccine becomes available 	Procurement complete. Receipt of goods ongoing.					
<ul style="list-style-type: none"> Integrate and enhance NESS functions under one organizational structure to sustain the response 	Q2 2020-21					
<ul style="list-style-type: none"> Increase human resource capabilities in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance 	Q2 2020-21					
<ul style="list-style-type: none"> Acquire additional PPE, testing supplies and equipment to sustain the response and maintain minimum stockpile levels in NESS 	Ongoing with target stockpile for Q3 2020-21					Memo to Minister

Space note to Bill

RFI for new up to 8-year lease for the regular NESS . Medium term. New lease in place by Sept 30. Occupancy in Q3. Green.

Long-term NESS warehouse infrastructure [REDACTED]

PT Engagement Strategy - - mandate approach. Appropriate table(s) LAC/SAC/CDMH



FOR INFORMATION

20-109490 – 376

MEMORANDUM TO THE MINISTER OF HEALTH

De-Escalation of Personal Protective Equipment Donations / Réduction des dons d'équipements de protection individuelle

SUMMARY

- Since the end of March, the number of offers to donate personal protective equipment (PPE) to the Public Health Agency of Canada (PHAC) has diminished.
- PHAC's PPE Donations Team, with support from the Canadian Armed Forces, was originally created to coordinate the influx of offers from both domestic and international organizations, provide warehousing space, and conduct quality verification prior to distribution to provinces and territories (PTs).
- To date, these efforts have resulted in the distribution of approximately 590 thousand N95 respirators and equivalents (e.g., KN95; FFP2); 1.6 million surgical masks; over 400 thousand pairs of nitrile gloves; 60 thousand protective gowns; and over 80 thousand face shields.
- With fewer offers to donate, the PPE Donations Team is proposing a de-escalation of the program. This would involve the redirection of staff to the larger PPE Strategy Team, the standing down of the PPE Donations public portal, and the transitioning of any ongoing warehousing and distribution needs to the Canadian Red Cross (CRC).
- In transitioning to the CRC, PHAC will continue to cover all donations under its Medical Devices Establishment Licence. Additionally, the CRC's ongoing costs are covered under an agreement with Public Safety that stipulates that the CRC is maintaining a capacity to collect, move and distribute key medical supplies and goods (e.g., PPE) across Canada.
- Next steps for the PPE Donations Team will be to circulate a notification to the Privy Council Office and other government departments (e.g., Global Affairs Canada), communicating that the online portal is sun-setting and directions on how the PPE Donations Team can be contacted on an ad-hoc basis to facilitate any future donations.

JUL 13 2020

MECS# 20-109490 – 376

Contact:

Telephone:

Canada

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-13 12:42 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
[REDACTED]
Subject: RE: Plan for TRA for PPE Supply Chain

Thanks [REDACTED] Agreed and will follow up on this. [REDACTED] This needs to be tighter.

Cheers,

[REDACTED]

From: [REDACTED]
Sent: 2020-07-13 12:37 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
Subject: Re: Plan for TRA for PPE Supply Chain

Other point for me is what do we have embedded in contracts with service providers like [REDACTED] Think we want immediate notification of [REDACTED] Didn't quite get an immediate heads up I think - could be wrong on that. We should have clarity of process - who is advised, decisions to be taken are made by whom etc. Think it's important to ensure we've consistency if approach across the board. [REDACTED]

Sent from my iPhone

On Jul 13, 2020, at 12:33 PM, [REDACTED] > wrote:

[REDACTED] Following discussion and review with CSB/DSO and PSPC, here the proposed approach to the TRA for the PPE Supply Chain:

- A comprehensive threat and risk assessment of the overall end-to-end process would require a third party contract with associated timelines. The scope, scale and novelty of this engagement would exceed internal capacity.
- As such, we have engaged PSPC about leveraging the current contract with Deloitte to issue a task authorization, requesting a rapid vulnerability assessment. Deloitte would be well-positioned in terms of readiness, familiarity and boots on the ground across the PPE supply chain. Alternatives include existing supply arrangements, noting that this would be considerable engagement in a specialized field.
- The vulnerability assessment would include a review of the physical and information security processes of each of our partners within the overall continuum (e.g., Bolloré, Cargojet, Purolator, Group Robert, etc.), as well as the “hand-off” between each of these service providers. Consideration would also be given to transparency risk more broadly regarding communications and information-sharing.
- The objective would be to immediately identify any vulnerabilities so that mitigation measures can be implemented, as well as to identify whether further exploration is required.
- Pending results, a more comprehensive assessment would be coordinated through a 3rd party service provider contract vehicle.

I will follow up by the end of the week or earlier to confirm viability/readiness of Deloitte.

For your consideration.

Regards,

[Redacted Signature]

Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence

Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

[Redacted Signature]

Government of Canada | Gouvernement du Canada

(PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-15 1:05 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: Updated Short-Term PPE and NESS Workplan
Attachments: Short-Term PPE and NESS Plan 15 July 2020.docx

[REDACTED] Attached is an updated *Short-Term PPE and NESS Workplan*. Changes from the last version are in bold and italics and I have added a “Change” tracker to the new “Health + Change” column. This reflects movement since the last version. I have also retitled the “Action” column as “Action to Get to Yellow or Green”. Will establish a goal of keeping the Red and Yellow items to one page (without reducing the font). There is also a **Parking Lot** at the bottom of Page 2.

I will issue updates as appropriate. Format and approach are malleable to suit your preferences.

For your consideration.

Cheers,

[REDACTED]
[REDACTED]
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence







[REDACTED]
Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9






[REDACTED]
[REDACTED]
Government of Canada | Gouvernement du Canada

Short-Term PPE and NESS Plan

**** Changes in Bold and Italics ****

15 July 2020

Task	Timeframe	Health + Change	Need Help From?	What?	When?	Action to Get to Yellow or Green
<ul style="list-style-type: none"> Establish a new third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased 	Q2 2020-21	 =	Min PSPC DM PSPC	Sole-Source Decision Contract extension decision	17-07-20 17-07-20	<ul style="list-style-type: none"> Deep dive with MIN PSPC planned for 17-07-20. Groupe Robert is submitting proposal for 1- and 2-year extension scenarios [REDACTED] by Friday. This would ideally be within DM spending authority. ** RFP for Long-Term Contract for Logistics targeted for release 16 July 2020.
<ul style="list-style-type: none"> Complete TRA on PPE supply chain 	Q2 2020-21	 =				<ul style="list-style-type: none"> PSPC is amending contract with Deloitte to support this requirement.
<ul style="list-style-type: none"> Allocation Strategy for Biomedical equipment. FPT Readiness for Resurgence 	Q2 2020-21	 =				<ul style="list-style-type: none"> Address lack of response from PTs. Appropriate Governance Table?
<ul style="list-style-type: none"> Increase human resource capabilities in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance 	Q2 2020-21	 ↓				<ul style="list-style-type: none"> TBD
<ul style="list-style-type: none"> Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed 	Q2 2020-21	 =				<ul style="list-style-type: none"> TBD
<ul style="list-style-type: none"> Acquire additional PPE, testing supplies and equipment to sustain the response and maintain minimum stockpile levels in NESS 	Ongoing with target stockpile for Q3 2020-21	 ↓	Min HC	Decision on Memo		<ul style="list-style-type: none"> Approval of Memo to Minister 20-109279-396

Task	Timeframe	Health + Change	Need Help From?	What?	When?	Action to Get to Yellow of Green
<ul style="list-style-type: none"> Proactively acquire vaccination supplies required to administer a potential COVID vaccine to mitigate the risks of shortages of products when a vaccine becomes available 	Procurement complete. Receipt of goods ongoing.	 =				
<ul style="list-style-type: none"> Integrate and enhance NESS functions under one organizational structure to sustain the response 	Q2 2020-21	 =				
<ul style="list-style-type: none"> RFI for new up to 8-year lease for the regular NESS. Occupancy in Q3 2020-21 	Q2 2020-21	 =				
<ul style="list-style-type: none"> Initiate an options analysis for a new warehouse management system with an integrated order management system and business intelligence tools 	Q2 2020-21	 =				
<ul style="list-style-type: none"> Project initiation for Long-term NESS warehouse infrastructure CAF/Trenton. [REDACTED] 	Q2 2020-21	 =				

Parking Lot

- *Add 3M N95 Contract*

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-20 6:06 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
(PHAC/ASPC)
Subject: RE: PHAC role in Essential Services Contingency Reserve

What I understand is that if the ESCR is open to health, PSPC would refer any health related requests from service providers to PHAC for assessment.

This would also require consultation with PTs when requests for supplies are received through the ESCR, to ensure the request does not duplicate efforts, or contradict with PT programs and decisions pertaining to the supply of PPE.

So this would effectively create a parallel and somewhat competing structure for PPE requests for the health sector.

But the ESCR process would have the potential to create a significantly higher volume of requests and will likely create new challenges in terms of working with our PTs to validate requests.

From: [REDACTED]
Sent: 2020-07-20 5:56 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: PHAC role in Essential Services Contingency Reserve

As far as I know we have no role re the essential service contingency reserve. What role do you think we may have?

Sent from my iPhone

On Jul 20, 2020, at 5:45 PM, [REDACTED] wrote:

Hi [REDACTED] and [REDACTED];

As I think you know, PSPC has been leading efforts to establish an Essential Services Contingency Reserve (ESCR) to ensure essential service organizations have access to the supplies they need to keep themselves and others safe during COVID-19.

Our understanding since discussions on the ESCR began many months ago was that while health is an essential service, any requests for supplies for the health sector would continue to be managed through the PTs who could, if needed, submit a request for assistance to NESS.

As such, we did not establish a plan or assign any resources to review any health related requests to the ESCR.

However, it has come to our attention via Health Canada that there may be confusion / different views around the PHAC role in the ESCR. We are unsure of the source of this and we have been consistent in our messaging around this as work to advance the ESCR has advanced.

Can you please let us know if you have a different understanding or view based on your own discussions.

I'm flagging this now as PSPC is intending to set to announce tomorrow.

Thanks,

-





FOR CONCURRENCE

20-110148 - 777

MEMORANDUM TO [REDACTED]

Transfer of
Transfert de [REDACTED]

SUMMARY

- The National Emergency Strategic Stockpile (NESS) has a [REDACTED] that can be released through an official Request for Assistance by a province or territory (P/T). NESS holdings of [REDACTED] will soon expire.
- In June 2020, discussions were held with P/Ts to determine how the drugs could be applied to COVID-19 response efforts, prior to their expiration this calendar year.
- [REDACTED] has submitted a Request for Assistance. We anticipate receiving a similar request from [REDACTED]
- Your concurrence is sought to proceed with the transfer of [REDACTED]
 - [REDACTED]
 - [REDACTED]

BACKGROUND:

P/Ts can request access to life-saving medical equipment, such as ventilators, via a Request for Assistance for surge purposes. The NESS stores a certain amount of products [REDACTED]

[REDACTED] The NESS currently holds [REDACTED] that are due to expire on December 31, 2020. It is estimated that this would treat approximately [REDACTED]

[REDACTED] currently stockpiled in the NESS.

[REDACTED]

In June 2020, discussions were initiated with P/Ts to determine how NESS products classified as anticipatory [REDACTED] could be used ahead of their expiration.

PHAC engaged P/Ts through the Logistics Advisory Committee (LAC) and proposed that a targeted distribution to one or two high-need jurisdictions be approved. LAC members agreed with this approach and PHAC held follow-up discussions with [REDACTED]

On July 14, 2020, PHAC received a Request for Assistance from the [REDACTED] for the transfer of [REDACTED] to the province for use in the health system. [REDACTED] We anticipate receiving a similar request from [REDACTED]

Although the current NESS Policy Frame grants the Director responsible for the NESS with authority to approve domestic deployment of pandemic supplies, transfers of pharmaceuticals are processed on a case-by-case basis with approval from the Deputy Head of PHAC.

CONSIDERATIONS:

It is estimated that 2.5% of patients with COVID-19 will require admission to an intensive care unit and ventilator support. [REDACTED]

[REDACTED] and analgesia.

Due to the rapid rise in procurement of these drugs in hospitals, there is now an imminent shortage of these drugs and several are classified as an anticipatory [REDACTED] shortage is a drug shortage with no available therapeutic alternatives marketed in Canada and arises when a manufacturer or importer is unable to meet demand for the drug.

PORTFOLIO CONSIDERATIONS:

Health Canada has an ongoing Request for Information (RFI) process to procure drugs [REDACTED] select drug classes currently under an anticipatory or actual [REDACTED] shortage to address the immediate needs of the health system.

RESOURCE IMPLICATIONS:

Given that multiple drug lots held within the NESS will expire in this calendar year, the drugs should be distributed as soon as possible to ensure no loss of product.

Federal populations would not likely be in position to utilize medication for patients [REDACTED] [REDACTED] would be provided in hospitals under P/T jurisdiction.

[REDACTED] will deplete current [REDACTED] holdings in the NESS. We anticipate that additional units [REDACTED] will be procured through the aforementioned Health Canada RFI process under NESS authorities.

RECOMMENDATIONS/CONCLUSION:

It is recommended that you indicate your concurrence with the transfer [REDACTED] [REDACTED] by signing the "I concur" block below.



July 21, 2026
Date

- 4 -

☐ do not concur

☒ concur



22.7.20
Date



Date

MECS# 20-110148 - 777

Contact: 
Telephone: 

(PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-24 8:51 AM
To: [REDACTED] PHAC/ASPC
Cc: [REDACTED]
Subject: Updated Short-Term PPE and NESS Plan
Attachments: Short-Term PPE and NESS Plan 24 July 2020.docx

Good morning [REDACTED] Attached for your consideration is the updated Short-Term PPE and NESS Plan. The short-term logistics/space item is out of the Red and into Yellow, several updates throughout, and there are some new items on the second page. Will increase focus on the medium-term view for discussion upon your return.

Best regards,

[REDACTED]
[REDACTED]
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence

[REDACTED]
Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

[REDACTED]
[REDACTED]
Government of Canada | Gouvernement du Canada

Short-Term PPE and NESS Plan
24 July 2020

**** Changes in Bold and Italics ****

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#	Task	Timeframe	Health + Change	Need Help From?	What?	When?	Action to Get to Yellow or Green
1	• Establish a new short-term third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 2020-21	Y ↓				<ul style="list-style-type: none"> • <i>PSPC to finalize lease negotiation for 350K warehouse</i> • <i>Groupe Robert submitted proposal to operate facility.</i> Estimates are within DM PSPC spending authority. • <i>Contract with Groupe Robert to be finalized.</i> • <i>Discussion July 24 between PHAC, PSPC and Groupe Robert to confirm details set-up requirements</i>
2	• Establish a new long-term party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 2020-21	Y =				<ul style="list-style-type: none"> • <i>RFP for Long-Term Contract for Logistics released 16-07-20</i> • <i>Closing date for RFP extended from July 27 to August 4</i> • <i>Follow-up to Qs from bidders conference and RFP amendments in translation/final approvals</i>
23	• Complete TRA on PPE supply chain	Q2 2020-21	Y =				<ul style="list-style-type: none"> • <i>Anticipated start by Deloitte of July 27</i>
34	• Allocation Strategy for Biomedical equipment. FPT Readiness for Resurgence	Q2 2020-21	Y =				<ul style="list-style-type: none"> • <i>Address lack of response from PTs. Appropriate Governance Table?</i>
45	• Increase human resource capabilities in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance	Q2 2020-21	Y =				<ul style="list-style-type: none"> • <i>Develop HR staffing plan and fill critical positions</i> <ul style="list-style-type: none"> ○ <i>Potential logistics lead pending</i> ○ <i>Staffing of logistics team in progress</i> ○ <i>Staffing of regulatory affairs lead in progress</i> ○ <i>Policy lead to start July 27</i>
56	• Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed	Q2 2020-21	Y =				<ul style="list-style-type: none"> • TBD
67	• Acquire additional PPE, testing supplies and equipment to sustain the response and maintain minimum stockpile levels in NESS	Ongoing with target stockpile for Q3 2020-21	Y =				<ul style="list-style-type: none"> • <i>Memo to Minister 20-109279-396 approved</i> • <i>Glove contracts pending; competition for remaining requirement</i> • <i>LAC survey on gowns pending to inform procurement strategy</i> • <i>Further discussions on approach to other commodities required</i>

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From: [REDACTED] (PHAC/ASPC)
Sent: 2020-07-27 10:10 AM
To: [REDACTED] PHAC/ASPC
Subject: Fwd: CMAJ: COMMENTARY: Canada's National Emergency Stockpile System: time for a new long-term strategy

An idea/opinion that I came across as a future NESS model.

A better approach may be to integrate the NESS with the commercial supply.¹⁰ Integration could be accomplished through a "prime vendor"⁴ Crown corporation or not-for-profit organization. The prime vendor would manage inventory, procurement, contract negotiations, data reporting, logistics and distribution.⁴ This organization could be modelled after shared services organizations (SSOs), which procure supplies through joint purchasing agreements to save money and ensure stable and fair pricing.¹¹ The prime vendor would keep stockpile warehouses full and sell supplies to hospitals, private clinics and long-term care facilities for routine use, thereby keeping stocks fresh and ensuring adequate supply for emergency responses. The Government of Canada could use the supply and demand data from sales to better coordinate emergency responses and anticipate shortages to trigger earlier manufacturing responses.¹⁰ The types of supplies stocked could be reviewed regularly to ensure relevance. If this approach is effective, then the prime vendor could expand operations to include critical care products and pharmaceuticals.

Sent from my iPhone

Begin forwarded message:

From: "Media Monitoring / Suivi des Medias (HC/SC)" <hc.media.monitoring-suiivi.des.medias.sc@canada.ca>
Date: July 13, 2020 at 10:11:59 EDT
Subject: CMAJ: COMMENTARY: Canada's National Emergency Stockpile System: time for a new long-term strategy

Distribution group/Groupe de distribution: HC.F PEIA COVID19 / COVID19 AREP F.SC

July 13, 2020

Canada's National Emergency Stockpile System: time for a new long-term strategy
CMAJ, Scott Laing and Ellen Westervelt

KEY POINTS

- The coronavirus disease 2019 pandemic has put the spotlight on problems with the personal protective equipment supply chain in Canada and elsewhere.
- Canada's National Emergency Stockpile System (NESS) was last audited in 2010; a problem with expired supplies was noted then and persists to this day.

- Emergency supply stockpiles are expensive to maintain, and management of expired supplies generates substantial financial and material waste.
- A better approach may be to integrate the NESS with the commercial supply through a “prime vendor” that could minimize financial and material waste by selling supplies to health care organizations; this would continually refresh the stockpile, ensuring an adequate unexpired emergency supply, and provide much-needed supply and demand data for emergency responses.

Recent media reports identified that millions of personal protective equipment (PPE) supplies in Canada’s National Emergency Stockpile System (NESS) have expired and gone to waste.¹ Government officials and health care organizations are also trying urgently to secure new stock to address widespread shortages.² Management of emergency stockpiling has proven challenging for Canada and other countries, including the United States and Australia, particularly regarding stock expiration and financial waste.^{3,4} We propose an alternative long-term strategy to maintain Canada’s stockpile that aims to minimize waste and ensure adequate supply, based on consideration of other countries’ pandemic responses and stockpile audits.

The NESS was established in 1952 during the Cold War and consisted of a mobile hospital and the social supports needed for a nuclear disaster response.⁵ The NESS evolved following national and international disasters to more broadly include medical equipment, pharmaceuticals and social services supplies.⁵ After the severe acute respiratory syndrome (SARS) pandemic in 2003, the Public Health Agency of Canada (PHAC) was established and the NESS assets were transferred from Health Canada to PHAC.⁵ The SARS pandemic also led to both the Emergency Management Act⁶ and the Federal Emergency Response Plan,⁷ which outlines that the Government of Canada should lead the coordination of emergency responses to “all hazards.”^{6,7}

As of the latest public NESS audit (2010), the estimated value of all assets was \$300 million, annual operations budgets were \$4 million and annual warehouse leases were \$7.7 million.⁵ Supplies were stored in 11 warehouses across the country and had been deployed 128 times in the previous 25 years.⁵ The problem of expired supplies was raised in the 2010 NESS audit, as some supplies were found to date back to the 1960s.⁸ Current stockpile maintenance plans rely on either deployment or disposal of supplies, but many supplies expire before use because deployment occurs only once other stocks are depleted.⁸ Media reports indicate that Canada’s stockpile still contains many expired supplies. ¹ Exact quantities of available supplies are also unknown,¹ because the NESS lacks an electronic inventory management system and the latest publicly available data are from the 2010 audit.⁸ The Government of Canada is currently struggling to coordinate timely procurement of new PPE² owing to long wait times for order fulfillment, which was also identified in the 2010 audit.⁸ The resulting PPE shortages have hindered provision of some health services, particularly in the community, where many family doctors have had limited access to essential PPE.⁹ These supplies may be purchased through third-party medical supply companies, which becomes difficult when demand increases.

After the novel influenza A (H1N1) pandemic in 2009, an American analysis highlighted problems that arose with the PPE supply chain.¹⁰ Many organizations substantially increased orders to build their own stockpiles and, when orders were cancelled or partially filled, they placed orders with multiple vendors. When the government tried to help coordinate a response, considerable challenges arose; supply and demand could not be predicted because no centralized ordering system existed to provide supply and demand data, and private vendors resisted sharing their data for fear of competition.¹⁰ These challenges led to recommendations to monitor PPE usage and centralize ordering information.¹⁰

Like Canada, the US maintains its Strategic National Stockpile (SNS) to coordinate emergency responses.³ A review of the SNS also revealed high expenses owing to supplies expiring before they could be used.³ To reduce the impact of stock expiration, the US elected to extend expiration dates beyond

manufacturer's posted dates.³ Although this approach may be effective in the short term, it has not solved the expiration problem.³

An audit of the Australian National Medical Stockpile (ANMS) revealed that Australia's stockpile strategies are wasteful and expensive.⁴ In the 10 years preceding that audit, Australians invested \$750 million into the ANMS. Of that, nearly \$250 million of stock expired, generating disposal costs of \$75 million.⁴ Australia's stockpile maintenance strategy involves stock rotation, returning expired stock and shelf-life extensions.⁴

It is past time for Canada to adopt a new, long-term stockpile strategy — one that utilizes supply and demand data,¹⁰ ensures supplies are used before they expire,^{3,4,8} and is financially responsible.^{3,4,8}

One approach could be to mandate that all suppliers report orders to a central agency for tracking.¹⁰ Such a body could better coordinate stockpile dispensing and initiate earlier manufacturing responses.¹⁰ Another approach could be to further develop disposal⁸ and shelf-life extension programs.^{3,4} However, neither approach would solve problems with stock expiration or consequent financial and material waste.^{3,4}

A better approach may be to integrate the NESS with the commercial supply.¹⁰ Integration could be accomplished through a "prime vendor"⁴ Crown corporation or not-for-profit organization. The prime vendor would manage inventory, procurement, contract negotiations, data reporting, logistics and distribution.⁴ This organization could be modelled after shared services organizations (SSOs), which procure supplies through joint purchasing agreements to save money and ensure stable and fair pricing.¹¹ The prime vendor would keep stockpile warehouses full and sell supplies to hospitals, private clinics and long-term care facilities for routine use, thereby keeping stocks fresh and ensuring adequate supply for emergency responses. The Government of Canada could use the supply and demand data from sales to better coordinate emergency responses and anticipate shortages to trigger earlier manufacturing responses.¹⁰ The types of supplies stocked could be reviewed regularly to ensure relevance. If this approach is effective, then the prime vendor could expand operations to include critical care products and pharmaceuticals.

We recognize that the proposed prime-vendor approach will not solve current shortages¹ or international procurement issues.² It would have challenges, including manufacturer selection, optimizing the stockpile size, inventory management logistics and bureaucratic obstacles. Therefore, the prime vendor could start on a small scale and expand only when prepared.

Stock expiration is an important challenge with national stockpiles. Accordingly, a new long-term PPE supply-chain solution is urgently needed. Selling and refreshing supplies to maintain a minimum stock for emergencies could ensure adequate supply and minimize wasted resources. Canada needs to act now to be better prepared for the next emergency.

<https://www.cmaj.ca/content/192/28/E810>

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Media Monitoring Team
HC/SC - PHAC/ASPC

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Merci,
L'Équipe de surveillance des médias
HC/SC - PHAC/ASPC

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-04 10:57 AM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: Updated PPE and NESS Workplan
Attachments: PPEandNESSWorkplan29July.xlsx

Good morning [REDACTED] Here is the updated PPE and NESS Workplan, noting that it has been migrated to Excel to increase capabilities.


Note in particular that there are no items in the RED.

Cheers,

[REDACTED]
[REDACTED] | [REDACTED]
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence

[REDACTED]
Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

[REDACTED]
[REDACTED]
Government of Canada | Gouvernement du Canada

#	Task	Timeframe	Health	Change	Need Help From?	What?	When?	Action to Get to Yellow or Green	OPI
1	• Establish a new short-term third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 2020-21	Yellow	Down				<ul style="list-style-type: none"> <i>PSPC has finalized lease negotiation for 350K [REDACTED] warehouse, contract in place with Groupe Robert, and space will be operational 10 Aug.</i> 	
2	• Establish a new long-term party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 2020-21	Yellow	Same				<ul style="list-style-type: none"> RFP for Long-Term Contract for Logistics released 16-07-20 Closing date for RFP extended from July 27 to August 4 Follow-up to Qs from bidders conference and RFP amendments in translation/final approvals 	
3	• Complete TRA on PPE supply chain	Q2 2020-21	Yellow	Same				<ul style="list-style-type: none"> Anticipated start by Deloitte of July 27 	
4	• Allocation Strategy for Biomedical equipment. FPT Readiness for Resurgence	Q2 2020-21	Yellow	Same				<ul style="list-style-type: none"> Address lack of response from PTs. Appropriate Governance Table? 	
5	• Increase human resource capabilities in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance	Q2 2020-21	Yellow	Same				<ul style="list-style-type: none"> Develop HR staffing plan and fill critical positions <ul style="list-style-type: none"> <i>Logistics Lead confirmed [REDACTED].</i> <i>Start date week of 17 Aug TBD</i> Staffing of logistics team in progress Staffing of regulatory affairs lead in progress 	
6	• Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed	Q2 2020-21	Yellow	Same				<ul style="list-style-type: none"> TBD 	
7	• Acquire additional PPE, testing supplies and equipment to sustain the response and maintain minimum stockpile levels in NESS	Ongoing with target stockpile for Q3 2020-21	Yellow	Same				<ul style="list-style-type: none"> Memo to Minister 20-109279-396 approved Glove contracts pending; competition for remaining requirement LAC survey on gowns pending to inform procurement strategy Further discussions on approach to other commodities required 	

**** Changes in Bold and Italics ****

Short-Term PPE and NESS Plan

2020-11-10 3:07 PM

#	Task	Timeframe	Health	Change	Need Help From?	What?	When?	Action to Get to Yellow of Green	
8	• Proactively acquire vaccination supplies required to administer a potential COVID vaccine to mitigate the risks of shortages of products when a vaccine becomes available	Procurement complete. Receipt of goods ongoing.	Green						
9	• Integrate and enhance NESS functions under one organizational structure to sustain the response	Q2 2020-21	Green					Review and address critical resource gaps created on implementation of new structure	
10	• RFI for new up to 8-year lease for the regular NESS. Occupancy in Q3 2020-21	Q2 2020-21	Green					Initial site visits underway	
11	• Initiate an options analysis for a new warehouse management system with an integrated order management system and business intelligence tools	Q2 2020-21	Green					Deloitte requirements workshops underway	
12		Q2 2020-21	Green						
13	• [REDACTED]	Q2 2020-21	Green					[REDACTED]	
14	• [REDACTED]	Q2 2020-21	Green					[REDACTED]	
15	• Approval of funding letter for additional PPE acquisitions and logistics/warehousing costs	Q2 2020-21	Green					OCFO drafting letter based on inputs from PPE team	
16	• Provide input into 'integrity' funding request to address costs for 2021-22 and beyond as a result of COVID requirements	Q2 2020-21	Green					OCFO leading with inputs from PPE team	
17	• <i>Follow through on Mobile Hospitals</i>	Q2 2020-21	Green						
18	• <i>Support to OAG Audit – targeting Audit Plan Summary in September 2020 and December 2020 tabling</i>	Q2 2020-21	Green						

Drop-Down List Stuff

Health
Green
Yellow
Red

Change
Up
Same
Down



SAC Presentation:

Procurement of additional PPE to bolster the NESS for a potential resurgence of COVID-19

August 6, 2020



Purpose

- Outline the Public Health Agency of Canada's (PHAC) plan to bolster the NESS in preparation for a potential resurgence of COVID-19.
- Seek provincial and territorial (PT) assurances that preparations are underway at the PT level for a potential resurgence of COVID-19.

Background

- FPT roles and responsibilities are outlined in the *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector* (CPIP) and the *FPT Public Health Response Plan for Biological Events*.
- PTs are responsible for ensuring the provision of medications, supplies and equipment required for the provision of healthcare services.
- The federal government is responsible for:
 - Ensuring the provision of medications, supplies and equipment for specified federal populations/employees who normally access federally operated healthcare services;
 - Mobilizing medical supplies in the NESS as surge capacity to support PT responses; and,
 - Facilitating the acquisition of additional medical supplies through PSPC, as appropriate.

PHAC's Plan to Bolster the NESS

- Although the NESS is being replenished through the 20% bulk procurement allocation, stocks are not substantially increasing due to a significant number of RFAs (66 to date), as well as support provided to other government departments such as the Canadian Armed Forces.
- PHAC is moving forward with the stockpiling of an 8-week supply of PPE, which represents half of the recommended 16-week supply previously promoted in the CPIP.
- PHAC is initiating the immediate procurement of 50 million gowns, 127 million surgical masks and 14 million face shields.
- PHAC has already initiated the procurement of 750 million pairs of gloves as the supply chain is beginning to experience challenges.
- This plan is supported by the Pan-Canadian PPE Demand and Supply Model (the “PPE Model”) developed by Health Canada.

Discussion Points

- PHAC is committing to stockpile an 8-week supply of PPE as surge capacity to support PTs. Are PTs taking similar approaches to preparedness for a potential resurgence of COVID-19?

#	Category	Sub-Category	Task	Timeframe	Health	Change	OPI	Status	Need Help From?	What?	When?
1	1-Operations	1A-Warehousing and logistics	• Establish a new short-term third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 20-21	Green	Down		350K Space in ██████████ is operational at a minimum level and is receiving deliveries. Work continues to bring all amenities up to standard (racking, washrooms, workstations, etc)			
2	1-Operations	1A-Warehousing and logistics	• Establish a new long-term (7/8-year) lease for the regular NESS. Occupancy in Q3 2020-21	Q3 20-21	Green	Same		Initial site visits completed. RFP is underway.			
3	1-Operations	1A-Warehousing and logistics	• Complete TRA on PPE supply chain	Q2 20-21	Green	Same					
4	1-Operations	1B-Medical equipment	• Follow through on Mobile Hospitals	Q2 20-21	Green	Same		Need to assign a lead			
5	1-Operations	1E-Issues management/other	• Support to OAG Audit – targeting Audit Plan Summary in September 2020 and December 2020 tabling	Q2 20-21	Green	Same					
6	1-Operations	1E-Vaccine supplies and equipment	• Proactively acquire vaccination supplies required to administer a potential COVID vaccine to mitigate the risks of shortages of products when a vaccine becomes available	Q2 20-21	Green	Same					
7	1-Operations	1F-Resources		Q2 20-21	Green	Same					
8	1-Operations	1F-Resources		Q2 20-21	Green	Same					
9	1-Operations	1F-Resources	• Approval of funding letter for additional PPE acquisitions and logistics/warehousing costs	Q2 20-21	Green	Same		OCFO drafting letter based on inputs from PPE team			
10	1-Operations	1F-Resources	• Provide input into 'integrity' funding request to address costs for 2021-22 and beyond as a result of COVID requirements	Q2 20-21	Green	Same		OCFO leading with inputs from PPE team			
9	2-NESS Transformation	2E-IT Systems	• Initiate an options analysis for a new warehouse management system with an integrated order management system and business intelligence tools	Q2 20-21	Green	Same		Deloitte requirements workshops underway			
10	1-Operations	1A-Warehousing and logistics	• Establish a new long-term third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 20-21	Yellow	Same		Bid evaluation is underway.			
11	1-Operations	1A-Warehousing and logistics	• Complete TRA on PPE supply chain	Q2 20-21	Yellow	Same		Anticipated start by Deloitte of July 27			
12	1-Operations	1A-Warehousing and logistics	Develop a short and long-term risk mitigation plan related to the TRA for the NESS main warehouse	Q3 20-21	Yellow						
13	1-Operations	1B-Medical equipment	• Allocation Strategy for Biomedical equipment. FPT Readiness for Resurgence	Q2 20-21	Yellow	Same		Appropriate Governance Table?			
14	1-Operations	1B-Medical equipment	• Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed	Q2 20-21	Yellow	Same		Quality assurance process for large incoming shipments under development (e.g. sampling) Classification of positions and recruitment of biomedical technologists in progress; hard to staff positions Need to request extension of DND support			
15	1-Operations	1C-Personal protective equipment	• Acquire additional PPE to sustain the response and maintain minimum stockpile levels in NESS	Q3 20-21	Yellow	Same		Memo to Minister 20-109279-396 approved. Glove contracts pending; competition for remaining requirement. LAC survey on gowns pending to inform procurement strategy. Further discussions on approach to other commodities required Develop risk staining plan and fill critical positions.			
16	1-Operations	1F-Resources	• Increase human resource capabilities in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance	Q2 20-21	Yellow	Same		Policy Lead confirmed: ██████████ started Logistics Lead confirmed: ██████████ Start date week of 17 Aug TBD. Classification of logistics positions and staffing of logistics team in progress.			
17	1-Operations	1F-Resources	• Integrate and enhance NESS functions under one organizational structure to sustain the response	Q2 20-21	Yellow	Up		Review and address critical resource gaps created on implementation of new structure			
18	2-NESS Transformation	2A-Strategy	Develop high level framework and proposed approach for cabinet discussions	Q2 20-21	Yellow			██████████ drafting; brainstorming week of August 11			

#	Category	Sub-Category	Task	Timeframe	Health	Change	OPI	Status	Need Help From?	What?	When?
19	2-NESS Transformation	2A-Strategy	<i>Develop an overarching NESS transformation strategy</i>								
20	2-NESS Transformation	2A-Strategy	<i>Develop NESS specific program performance framework</i>								
22	2-NESS Transformation	2B-Requirement setting	<i>Develop an approach to integrated scenario planning and define risk based options for long-term target stockpile requirements</i>								
23	2-NESS Transformation	2B-Requirement setting	<i>Develop target operating models / options analysis for inventory categories</i>								
21	2-NESS Transformation	2B-Requirement setting	<i>Develop a long-term investment plan</i>								
23	2-NESS Transformation	2C-Operations	<i>Develop a long-term life cycle management plan</i>								
24	2-NESS Transformation	2D-Strategic engagement	<i>Define priorities for PT engagement and develop PT engagement plan</i>								
22			* [REDACTED]	Q2 20-21	Yellow	Same	[REDACTED]	[REDACTED]			
24	2-NESS Transformation	2F-Resources	<i>Develop long-term funding requirements</i>								

#	Category	Sub-Category	Task	Timeframe	Health	Change	OPI	Status	Need Help From?	What?	When?
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Drop-Down List
Stuff
Do Not Erase!

Timeframe	Health	Change	OPI	Note: Alt + Enter for carriage return in a cell
Q2 20-21	Green	Up		
Q3 20-21	Yellow	Same		
Q4 20-21	Red	Down		

Category	Sub-Category
1-Operations	1A-Warehousing and logistics
2-NESS Transformation	1B-Medical equipment
	1C-Personal protective equipment
	1D-Medical countermeasures
	1E-Vaccine supplies and equipment
	1F-Resources
	1E-Issues management/other
	2A-Strategy
	2B-Requirement setting
	2C-Operations
	2D-Strategic engagement
	2E-IT Systems
	2F-Infrastructure
	2F-Resources
	2G-Quality system

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-09 4:36 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: Short-Term PPE and NESS Workplan
Attachments: Copy of PPEandNESSWorkplan9Aug.xlsx

Follow Up Flag: Follow up
Flag Status: Completed

Welcome back [REDACTED] I hope you had a restful break.

Attached for your consideration is the Short-Term PPE and NESS Workplan. You will note some additional structure, categorization, and capabilities (assisted by migration to Excel) and the document's scope has increased. We will wrestle with a way to distill an iteration/view of this report for you – and will welcome your insights as to your preferences. The OPI column is evolving and includes [REDACTED] the incoming [REDACTED] who will replace [REDACTED] and whose title will include the word "Logistics". We still do not have a confirmed start date for [REDACTED] – likely the week of 24 Aug as he may not yet have his Letter of Offer.

Looking forward to our next PPE Discussion.


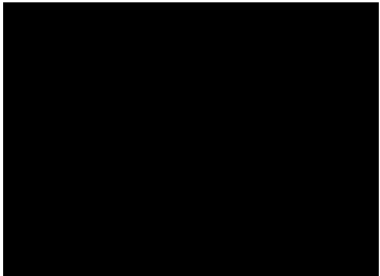
Cheers,

[REDACTED]
[REDACTED]
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence


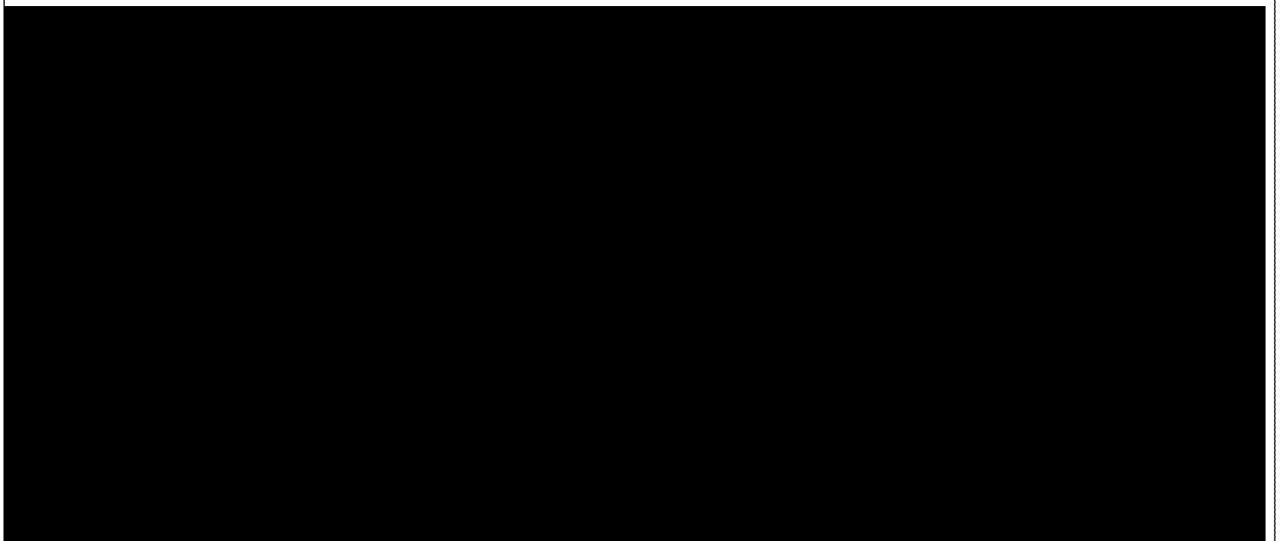
[REDACTED]
Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

[REDACTED]
[REDACTED]
Government of Canada | Gouvernement du Canada

Version 3:
Survey of PPE Allocation Across the Health Sector
by Provincial / Territorial Jurisdictions

#	Question	Answer
1	Number of jurisdictions who have responded to the survey?	8: 
2	Is your Provincial/Territorial Health Department/Agency allocating PPE to the following health care settings:	
	▪ Hospitals	8/8
	▪ Home care (public)	7/8
	▪ Home care (private)	4/8
	▪ Publicly administered long-term care facilities	8/8
	▪ Privately administered long-term care facilities	7/8
	▪ Assisted living facilities for seniors / Retirement residences	6/8
	▪ Hospices	5/8
	▪ Mortuary Services (e.g., funeral homes; crematoriums; cemetery workers)	2/8
		
	Are you considering essential visitors (including family/friend caregivers) in the abovementioned care settings in your planning for allocation of PPE?	8/8
	Are you considering palliative care providers in the abovementioned care settings in your planning for allocation of PPE?	8/8
	▪ Emergency Medical Services (e.g. Ambulance)	5/8
	▪ Emergency Response - Fire	3/8
	▪ Emergency Response – Law Enforcement	3/8
	▪ Primary Health Care Setting (e.g. family doctor offices, health clinics)	5/8
	▪ Pharmacies	2/8
	▪ Correctional Institutions	5/8
	▪ Indigenous Health Care Settings	8/8
	▪ Blood Donor Clinics	5/8
	▪ Blood Test or Other Health Service Laboratories	5/8
	▪ Alternate Care Sites (e.g. respiratory health / testing sites)	6/8
	▪ Shelters (e.g. homeless, refugee, women's etc.)	5/8
	▪ Dental Offices / Clinics	2/8

	<ul style="list-style-type: none"> Other Allied Health provider settings outside of hospitals (e.g. Physiotherapy, Psychiatric, Medical Imaging, Social Services clinics etc.) 	0/8 No responses provided
3	<p>How is PPE allocated across the health sector within your jurisdiction? Does it include allocations to health-related associations that subsequently manage requests from individual offices (e.g., family doctor offices, health provider settings outside of hospital, etc.)? If an allocation formula is used please include details.</p> <div style="background-color: black; height: 50px; width: 100%;"></div> <div style="background-color: black; height: 500px; width: 100%;"></div>	
4	<p>Is your Provincial/Territorial Health Department/Agency allocating PPE to settings outside of the Health Sector (e.g. Police, Fire, Funeral Services, child care etc.)? If so, please provide any additional details</p> <div style="background-color: black; height: 30px; width: 100%;"></div>	

	
5	<p>Please provide any additional comments:</p> 



** Paid providers include personal support workers, registered nurses, licensed practical nurses, etc.*

National Emergency Strategic Stockpile (NESS) Transformation

Context

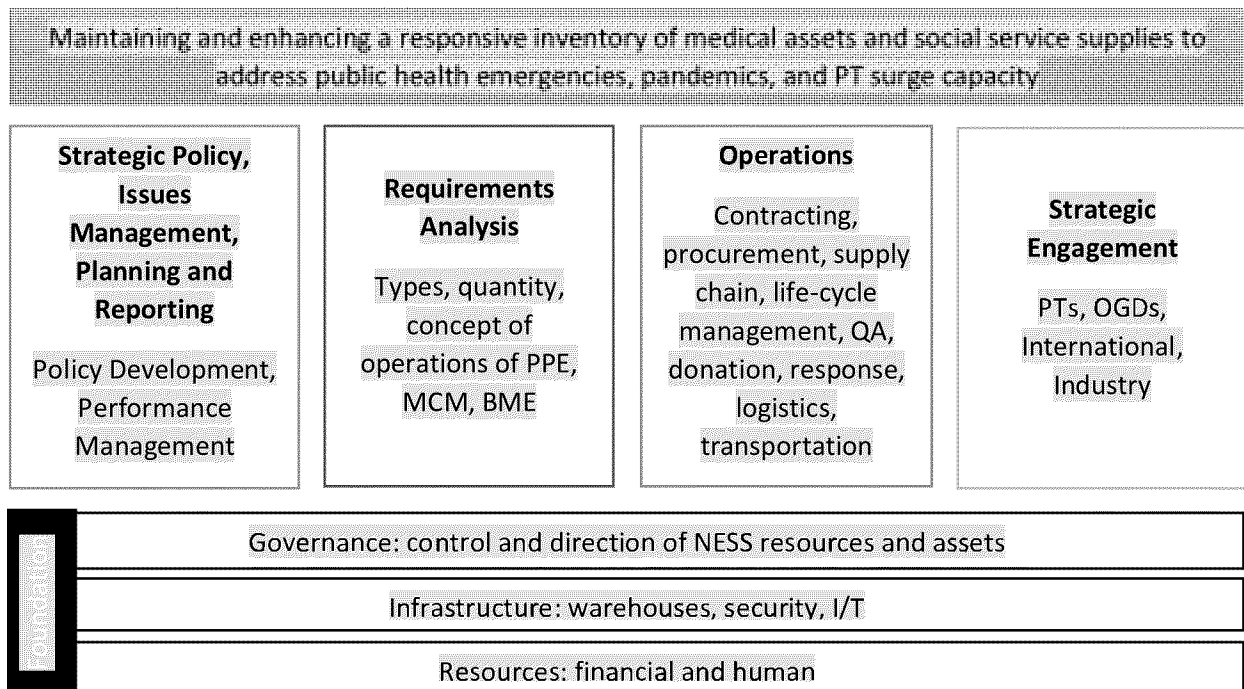
National Emergency Strategic Stockpile (NESS) authorities allow for the purchase, stockpiling, and distribution of medical assets, medical countermeasures, and social service supplies to provinces and territories (PTs) as surge capacity, for a planned event, and/or during an emergency. However, as evidenced by the COVID-19 pandemic, ramp-up and maintenance of a sustained response has proved challenging for acquiring supplies and human resources.

A shift from regular operations to response mode included the NESS, along with PSPC, taking on more of a purchasing role for the country, with supplies distributed directly to PTs for immediate use, which is departure from the historical operations of the NESS. It is noted that some assets are being stockpiled in warehouses, as PTs are not ready or willing to take on more inventory, and in preparation for a resurgence of COVID-19 cases. It is further noted that capacity to manage only one event is apparent, but should there be another emergency layered on top, additional surge capacity will likely be limited.

To carry out its role and responsibility, the NESS relies on broad system capacity, clear procedures, and reliable infrastructure as well as coordination amongst partners and stakeholders to support operations, including logistics and life-cycle management.

Mapping the Transformation of the NESS

- The below Framework could be explored to identify gaps and considerations to inform options for a longer-term strategy for transforming the NESS into a future-proof stockpile.
- Clarifying the strategic direction, scope, and parameters to approach NESS transformation would set the pace for policy and program development, decision-making, and investments in the NESS.
- Further linkages would be required on NESS alignment with CEPR program integrity and broader Agency re-organization initiatives.



Phase I: Topics for Brainstorming Sessions (Areas for Further Exploration)

- Purpose: to gain an understanding, through a series of discussions, of immediate needs to address the COVID-19 response, and longer-term efforts required to maintain a state of readiness in the NESS to respond to PT requests, emergencies, pandemics, and planned events

Setting the Foundation

- *Governance* – Understanding the structure, role and responsibility, and level of risk tolerance (possible for the development of a risk tolerance framework)
- *Infrastructure* – physical infrastructure, security, and I/T requirements (will require input from PSPC, engineers, security and I/T experts)
- *Resources* – range of competencies, having the right employees in the right positions, organizational structure to adapt to changing needs, and funding to support FTEs and NESS operations

Components of the NESS

- *Strategic Policy, Issues Management, Planning and Reporting*: ongoing support and regular business:

Issues Management, Planning and Reporting – Transactional items, QP Notes, ATIP Request, Correspondence, and ongoing input to corporate performance measurement

- *Requirements Analysis* – Informed by threat and risk assessments and scenarios to determine the types and quantities of assets to stockpile in the NESS, and in response to emergencies or events
- *Operations* – crux of NESS business, including contracting/procurement (i.e. with PSPC, manufacturing, distribution, and supply chain companies); life-cycle management; quality assurance of products; domestic and international donation; response to emergencies, pandemics, and events; logistics; maintaining 24-hour transportation and delivery services within Canada; and, divestment and disposal of assets
- *Strategic Engagement*:
 - PT – leverage existing mechanisms to engage PT counterparts on policy, logistical, and operational issues
 - OGDs – examining NESS services for federal populations and possible partnership in the potential acquisition, storage, and transportation of inventory
 - International – sharing of information, best practices, and possible coordinated acquisitions
 - Industry – engage pharmaceutical, manufacturing, supply, and transportation chains for potential contracting and up-to-date information on products

Phase II: Understanding the Gaps and Needs – Likely to be further revealed during brainstorm sessions and through policy development

Phase III: Taking Stock of Key Decision Points – To be further developed

- Drug Shortages
- Supplying OGDs and sectors
- Authorities for donation / repurpose / dispose of stock
- Issues for PT engagement, including cost-sharing, prepositioning, and life-cycle management
- Vendor Management vs Warehousing

Phase IV: Proposing a Way Forward – TBD

Phase V: Implementation – TBD

ANTICIPATED VENTILATOR DELIVERY SCHEDULE**Key Caveats**

- The table was developed with the most current information provided by manufacturers.
- The risk factor represents the likelihood that delivery could be delayed due to supply chain vulnerability, global allocation processes, quality control performance, prior delays and/or regulatory authorizations.
- Vexos, CAE and CEV await authorization from Health Canada to initiate the manufacturing and distribution of their ventilators. Schedules are tentative at best and revised delivery dates will be requested once the ventilators are authorized for distribution under the HC IO.

Manufacturer/Model	Status	Risk	August	September	October	November	December	January	February	March	Received	Accepted	Total
Tier 1													
Medtronic – PB980	In Progress	Low		55	200						20	Pending	285
GE – Carescape R860 V1	In Progress	Medium	81	160	160	60					49	4	500
Draeger – Evita V500	Delayed	Medium	5	5		101		15		70	0	0	200
Draeger – Baylog VN500	Delayed	Medium								15	0	0	15
BOMImed – Hamilton C6	Not Started	Medium		10	10	25	5				0	0	50
Trudell – Bellavista 1000	Delayed	Medium	50	150	100	100					0	0	400
Geringe – Servo I	Not Started	Low				200					0	0	200
Tier 2													
Zoll – EMV+	Completed	Low									200	200	200
Thornhill – MOVES SLC	Delayed	High	138	180	240	300	144				24	22	1,020
BOMImed – Mindray SV800	Completed	Low									158	Pending	158
Tier 3													
FTI – V4C-560	In Progress	Medium	840	2,640	2,640	3,360	508				12	12	10,000
Vexos – MVM	Delayed	High		900	600	4,000	4,500				0	0	10,000
CEV – Winnipeg Ventilator 2.0	Delayed	High	2,700	3,700	800						0	0	7,500
CAE – Air1	Delayed	High	211	1,400	4,900	3,335					4	0	10,000
Totals	-	-	4,025	9,200	9,652	11,468	5,168	15	0	85	467	238	40,528

#	Category	Sub-Category	Task	Timeframe	Health	Change	OPI	Status	Need Help From?	What?	When?
#VALUE!	1-Operations	1A-Warehousing and logistics	• Establish a new long-term third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 20-21	Yellow	Same		<i>Bid evaluation is underway.</i>			
#VALUE!	1-Operations	1A-Warehousing and logistics	• Complete TRA on PPE supply chain	Q2 20-21	Yellow	Same		<i>Summary of security requirements for each provider complete Draft workplan will be shared 17 Aug. Targeting September completion</i>			
#VALUE!	1-Operations	1A-Warehousing and logistics	<i>Develop a short and long-term risk mitigation plan related to the TRA for the NESS main warehouse</i>	Q3 20-21	Yellow						
#VALUE!	1-Operations	1B-Medical equipment	• Allocation Strategy for Biomedical equipment. FPT Readiness for Resurgence	Q2 20-21	Yellow	Same		Appropriate Governance Table?			
#VALUE!	1-Operations	1B-Medical equipment	• Implement a biomedical equipment maintenance program to ensure purchased biomedical equipment (e.g. ventilators) meets quality assurance on delivery and is maintained and ready to deploy when needed	Q2 20-21	Yellow	Same		<i>Quality assurance process for large incoming shipments under development (e.g. sampling) Classification of positions and recruitment of biomedical technologists in progress; hard to staff positions May need to request extension of DND support May need to do an OFMAR request</i>			
#VALUE!	1-Operations	1C-Personal protective equipment	• Acquire additional PPE to sustain the response and maintain minimum stockpile levels in NESS	Q3 20-21	Yellow	Same		Memo to Minister 20-109279-396 approved. Glove contracts pending; competition for remaining requirement. IAC survey on gowns pending to inform procurement strategy. Further discussions on approach to other commodities required			
#VALUE!	1-Operations	1F-Resources	• Increase human resource capabilities in program development, technical analysis, quality assurance, supply chain management, stakeholder engagement and partnerships and regulatory compliance	Q2 20-21	Yellow	Same		<i>Develop HR staffing plan and fill critical positions. Policy Lead confirmed: started Logistics Lead confirmed: Start date week of 17 Aug TBD. Classification of logistics positions and staffing of logistics team in progress. Classification of biomedical technologist positions and staffing in progress. Staffing of regulatory affairs lead in progress. Staffing of director of medical equipment and pharmaceuticals required. Staffing of director of NESS warehouse operations required.</i>			
#VALUE!	1-Operations	1F-Resources	• Integrate and enhance NESS functions under one organizational structure to sustain the response	Q2 20-21	Yellow	Up		Review and address critical resource gaps created on implementation of new structure			
#VALUE!				Q2 20-21	Yellow			<i>drafting; brainstorming week of August 11</i>			
#VALUE!				Q2 20-21	Yellow	Same					
1	1-Operations	1A-Warehousing and logistics	• Establish a new short-term third-party logistics solution to manage the logistics, processing, warehousing, and distribution of the extraordinary volume of supplies purchased	Q2 20-21	Green	Down		<i>350K Space in is operational at a minimum level and is receiving deliveries. Work continues to bring all amenities up to standard (racking, washrooms, workstations, etc)</i>			
2	1-Operations	1A-Warehousing and logistics	• Establish a new long-term (7/8-year) lease for the regular NESS. Occupancy in Q3 2020-21	Q3 20-21	Green	Same		<i>Initial site visits completed. RFP is underway.</i>			
#REF!	1-Operations	1B-Medical equipment	• <i>Fallow through an Mobile Hospitals</i>	Q2 20-21	Green	Same		<i>Need to assign a lead</i>			
#REF!	1-Operations	1E-Issues management/other	• <i>Support to OAG Audit – targeting Audit Plan Summary in September 2020 and December 2020 tabling</i>	Q2 20-21	Green	Same		<i>Underway with dedicated leads on PPE and NES Team</i>			
#REF!	1-Operations	1E-Vaccine supplies and equipment	• Proactively acquire vaccination supplies required to administer a potential COVID vaccine to mitigate the risks of shortages of products when a vaccine becomes available	Q2 20-21	Yellow	Down		<i>Addressing personnel and capacity gaps in addition to efforts to coordinate/assist with the vaccine procurement effort</i>			

#	Category	Sub-Category	Task	Timeframe	Health	Change	OPI	Status	Need Help From?	What?	When?
#REF!	1-Operations	1F-Resources		Q2 20-21	Green	Same					
#REF!	1-Operations	1F-Resources		Q2 20-21	Green	Same					
#REF!	1-Operations	1F-Resources	• Approval of funding letter for additional PPE acquisitions and logistics/warehousing costs	Q2 20-21	Green	Same		OCFO drafting letter based on inputs from PPE team			
#REF!	1-Operations	1F-Resources	• <i>Provide input into 'integrity' funding request to address costs for 2021-22 and beyond as a result of CDVID requirements</i>	Q2 20-21	Green	Same		OCFO leading with inputs from PPE team			
#REF!	2-NESS Transformation	2E-IT Systems	• Initiate an options analysis for a new warehouse management system with an integrated order management system and business intelligence tools	Q2 20-21	Green	Same		Deloitte requirements workshops underway			
#REF!	2-NESS Transformation	2A-Strategy	<i>Develop an overarching NESS transformation strategy</i>	Q2 20-21	Yellow						
#REF!	2-NESS Transformation	2A-Strategy	<i>Develop NESS specific program performance framework</i>	Q2 20-21	Yellow						
#REF!	2-NESS Transformation	2B-Requirement setting	<i>Develop an approach to integrated scenario planning and define risk based options for long-term target stockpile requirements</i>		Yellow						
#REF!	2-NESS Transformation	2B-Requirement setting	<i>Develop target operating models / options analysis for inventory categories</i>		Yellow						
#REF!	2-NESS Transformation	2B-Requirement setting	<i>Develop a long-term investment plan</i>		Yellow						
#REF!	2-NESS Transformation	2C-Operations	<i>Develop a long-term life cycle management plan</i>		Yellow						
#REF!	2-NESS Transformation	2D-Strategic engagement	<i>Define priorities for PT engagement and develop PT engagement plan</i>		Yellow						
#REF!	2-NESS Transformation	2F-Resources	<i>Develop long-term funding requirements</i>								

#	Category	Sub-Category	Task	Timeframe	Health	Change	OPI	Status	Need Help From?	What?	When?
<div>Drop-Down List Stuff Do Not Erase!</div>				Timeframe	Health	Change	OPI	Note: Alt + Enter for carriage return in a cell			
				Q2 20-21	Green	Up					
				Q3 20-21	Yellow	Same					
				Q4 20-21	Red	Down					

Category	Sub-Category
1-Operations	1A-Warehousing and logistics
2-NESS Transformation	1B-Medical equipment
	1C-Personal protective equipment
	1D-Medical countermeasures
	1E-Vaccine supplies and equipment
	1F-Resources
	1E-Issues management/other
	2A-Strategy
	2B-Requirement setting
	2C-Operations
	2D-Strategic engagement
	2E-IT Systems
	2F-Infrastructure
	2F-Resources
	2G-Quality system

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-13 4:24 PM
To: [REDACTED] PHAC/ASPC
Cc: [REDACTED]
Subject: PPE Discussion Documents
Attachments: NESS Transformation.docx; Anticipated Ventilator Delivery Schedule_August112020_v7.docx; PPEandNESSWorkplan13Aug.xlsx

Good afternoon [REDACTED] In advance of today's PPE Discussion, I am sharing for your consideration:

- An *Anticipated Ventilator Delivery Schedule* that was developed to inform the DM PPE Procurement discussion and in response to a question raised by [REDACTED] at the 4 Corners (and submitted for today's discussion).
- A draft *NESS Transformation* paper that I will refer today to gauge your sense of urgency in terms of timing regarding planned engagement with Cabinet and thus inform our prioritization and velocity on getting the necessary pieces together.
- An updated *Workplan*, noting the addition of some content and structure that likely will require a more focused document for the purposes of briefing you (but helpful for my deliberations with my team).
 - You will note that the OPI column is populated with [REDACTED]'s name in anticipation of his arrival to get an early idea regarding workload balancing.
 - [REDACTED] starts on 26 Aug and he is already doing handover with [REDACTED] and has had discussions with [REDACTED]. In fact he will be onsite tomorrow to meet with the team.

Cheers,

[REDACTED]
[REDACTED]
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence

[REDACTED]
Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

From: [REDACTED]
Sent: 2020-08-14 4:15 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: PPE briefing for the Minister's CoS
Attachments: FPT PPE WG ROD 2020-08-13.docx; FPT PPE Presentation Aug 14 2020.pptx

[REDACTED] attached is the summary from the FPT meeting we had yesterday, along with the deck that we used to facilitate the discussion.

I was thinking that we could build on this kind of deck to support the briefing with Mino next week, which would include the 3M numbers for N95s, and more information about current RFPs that PSPC has out on these items, including for the NESS stockpiles. We can draw a lot of this information from the issue sheets we've been developing for the DM PPE Procurement table in collaboration with PHAC, PSPC and ISSED.

(Don't be alarmed by the N95 numbers - the projections have gone up with the latest fluctuations in the provincial Rts, but they will be readjusted downwards next week, based on our consultation with CIHI about usage protocols. Of note, [REDACTED] thought our projections were quite high (which is probably better for us to be on the safe side).

The numbers showing in the pie charts are 'on order' only, and don't include the inventory on hand, which we assume will be part of building the stockpile. PTs have about 17M N95s on hand and we have another 150K for the health care sector. The 3M numbers are not yet included either given it's not announced, but we could include them for the briefing with Mino. We wanted to be conservative with the showing the gap to the PTs, so we could get a real sense of their own situations.

[REDACTED]
[REDACTED]
Canada's Workforce Health and Safety
COVID Task Force, Health Canada
[REDACTED]
[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: 2020-08-14 3:17 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
Subject: Re: PPE briefing for the Minister's CoS

Great - thanks [REDACTED] She is looking for that info but also a deep dive session with knowledgeable people about the whole PPE supply and demand landscape and model.

[REDACTED]
[REDACTED]
Health Canada

> On Aug 14, 2020, at 3:12 PM, [REDACTED] > wrote:

>

> Yes, she mentioned that on our quick PPE Mino check in today. I gave her a sense of our great FPT meeting yesterday on key PPE commodities and we will send up an updated version of the deck we used for the PMO briefing. The team is also working on getting some info on her questions related to what procurement is underway - we will focus on the key commodities that have already been discussed at the DM committee (N95, surgical masks, gloves, gowns).

>

> Just a flag [REDACTED] but [REDACTED] is acting for me, and [REDACTED] and [REDACTED] are very well versed in the model.

>

> [REDACTED]

[REDACTED]
> Canada's Workforce Health and Safety

> COVID Task Force, Health Canada

> [REDACTED]

[REDACTED]

>

>

> -----Original Message-----

> From: [REDACTED]

> Sent: 2020-08-14 3:02 PM

> To: [REDACTED]

[REDACTED]

> Cc: [REDACTED]

[REDACTED]

> Subject: PPE briefing for the Minister's CoS

>

> Hi - [REDACTED] would like a detailed briefing of our PPE supply and demand modelling, PT data, areas of concern, etc. We can include a model demo.

>

> [REDACTED] and my office will set it up with you both.

>

> [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

> Health Canada



Health Canada and the Public
Health Agency of Canada

Santé Canada et l'Agence
de la santé publique du Canada

Canada

DRAFT FOR INTERNAL DISCUSSION ONLY

Ensuring Adequate Medical Supplies: *A conversation about key commodities*

F-P/T Working Group on Personal Protective Equipment

August 13, 2020



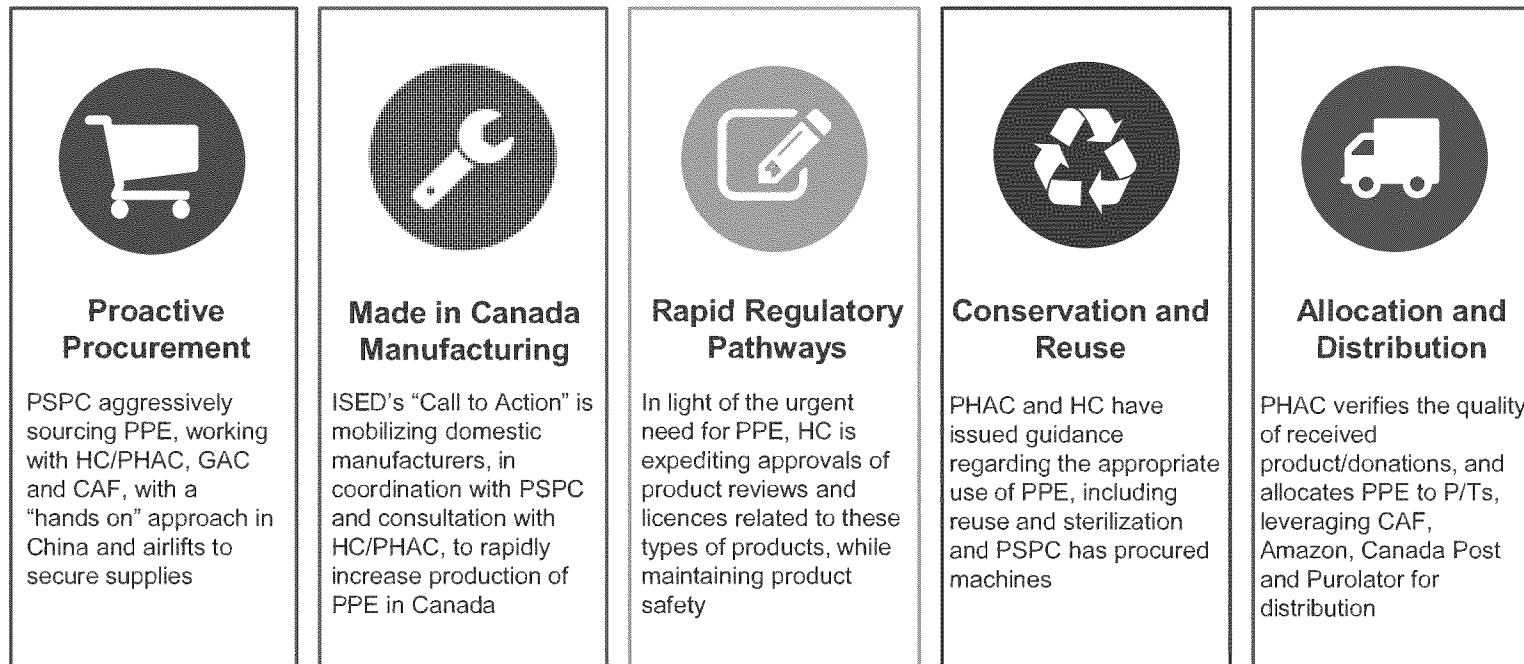
Context and Purpose

- Ensuring an adequate supply of PPE for the public health sector was identified as a criteria for safe reopening of the economy agreed to by First Ministers
- Federal and P/T governments have collaborated closely to identify needs and share information on existing inventories to inform forward planning
- To support a safe restart, an F/P/T discussion is needed in order to:
 - Validate P/T needs and procurement plans for key items of PPE
 - Improve data sharing related to PPE supply and demand to manage supply issues

ADM-Level F-P/T Forum

- Intended as a special joint task group, to discuss strategic issues related to PPE
- Health and non-health perspectives will be considered, to support the management of the health and safety of Canadians in preparation for a resurgence of COVID-19
- Comprised of leads from each of the 13 provinces and territories
- Respectful of the function of existing procurement and logistics tables (see Annex A)

The Government has Deployed a Multi-pronged Strategy to Support Access to PPE for the Health Sector

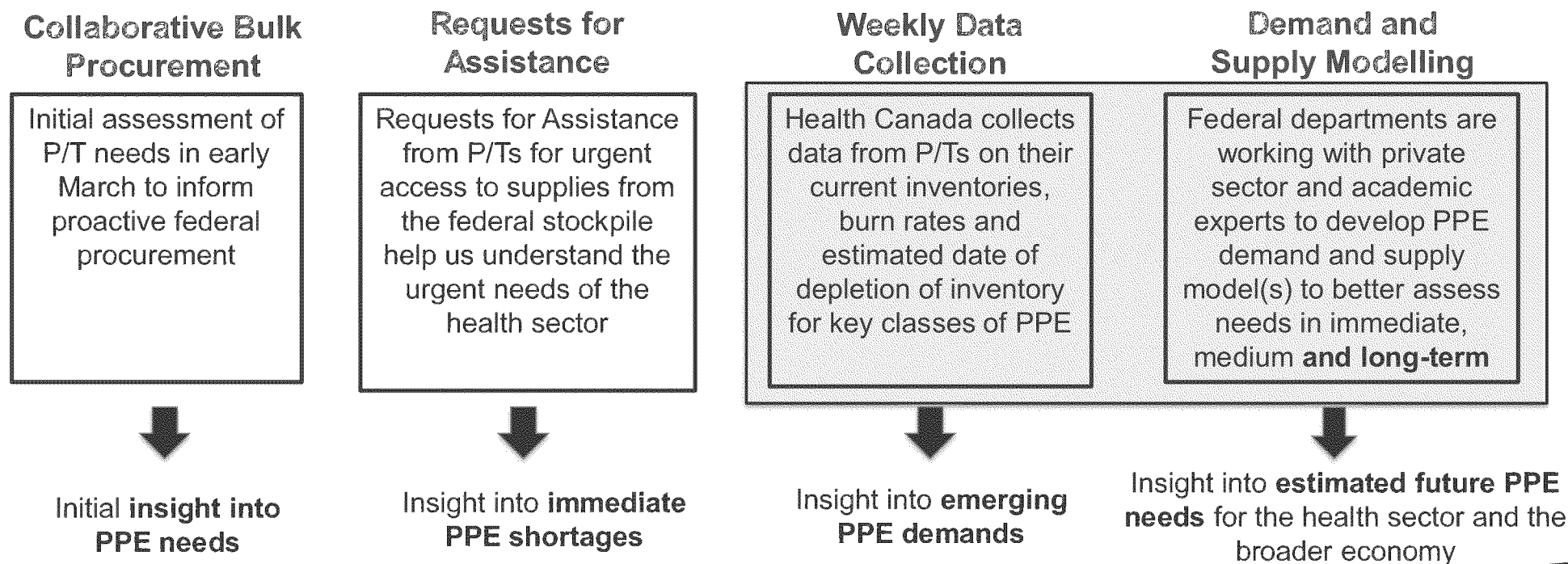


Takeaway

Securing sufficient PPE for health sectors remains challenging and overall demand is expected to increase in the near-term, for key commodities

Assessing the Health System's Need for PPE

- **Goal:** Help to ensure the health care system and other essential services have sufficient supply of PPE
- **How:** Working closely with P/Ts to understand PPE demand in four ways:



An integrated Pan-Canadian view can provide additional insights to support decision making



Enable visibility of supply and demand by region and time phase



Generate insights that inform decisions on international procurement vs. domestic development



Improve visibility into overall supply to enable more effective procurement and allocation strategies

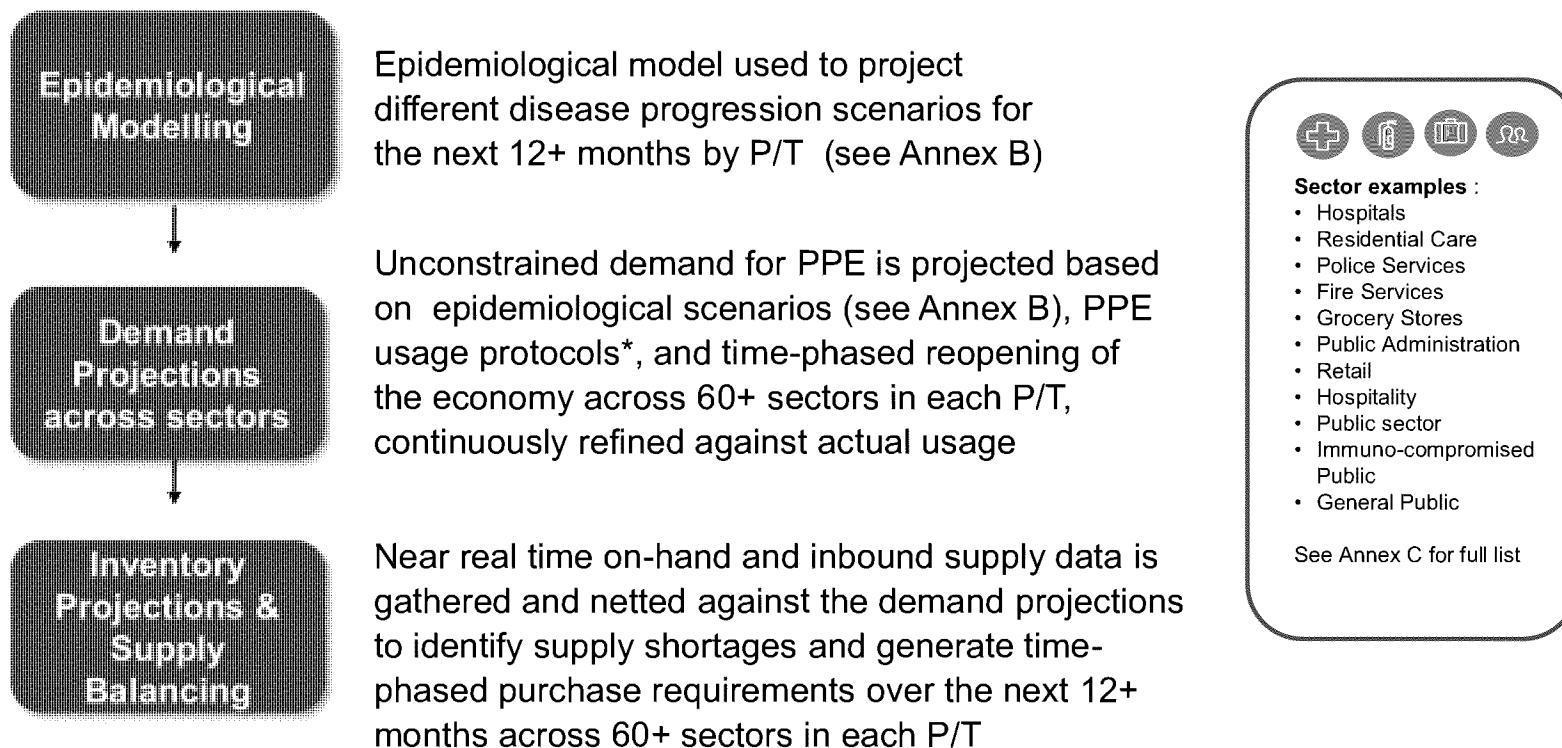


Inform public health policy to manage / conserve consumption



Promote shared learnings and benchmarks across jurisdictions

Pan-Canadian PPE Supply and Demand Model projects estimated demand and supply across all economic sectors for next year



Cross-Sector Estimates

Item	Public Health Sector Demand ¹	Public Sector Demand ²	Economy-Wide Demand ³
N-95	99,803,000	3,836,000	195,359,000
Surgical Mask	847,494,000	105,742,000	2,032,093,000
Nitrile Gloves (pairs)	2,393,315,000	154,391,000	4,574,648,000
Disposable Gowns	339,148,000	1,970,000	628,730,000

- Strategies need to consider all sectors
 - Supply sources may be limited
 - Competition for same sources likely high
 - Lack of PPE impacts health, essential services, and economic reopening strategies

1) Public health sector includes: hospitals, public hospitals and residential care facilities, public home health care services, public medical and diagnostic laboratories, etc

2) Public sector includes: Community food and housing services, provincial protective services, transit, educational services, utilities, etc

3) Economy-wide includes: public and private health, federal government, private essential sectors, public sector, broader private sector, general public, etc

Early insights: N-95 Respirators

Supply and demand inventory projections for public health sector

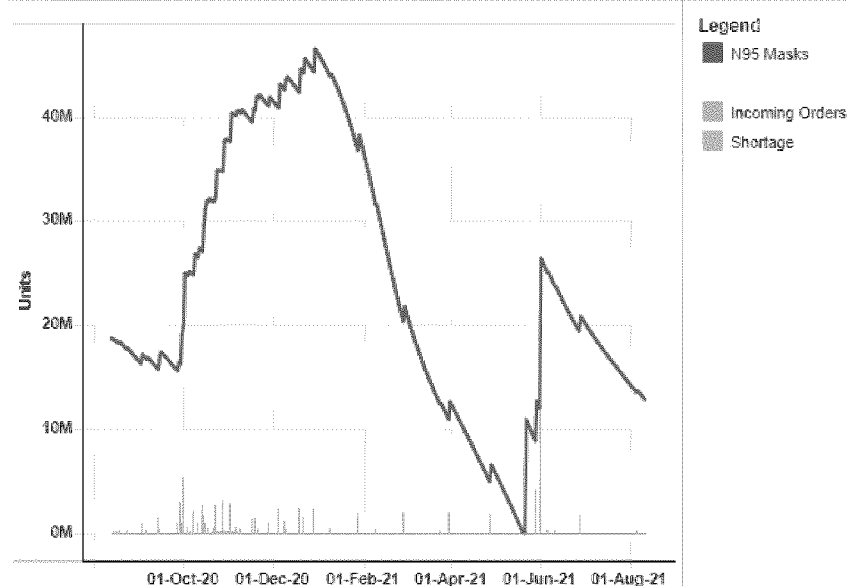
Projected Inventory: All Orders

■ Demand < 80% of Supply ■ Demand > Supply

Projected Inventory including Incoming Orders

	0-3 days	4-7 days	8-14 days	15-30 days	30-60 days	>60 days	Projected Stockout
Disposable Gowns	●	●	●	●	●	●	Jan 11, 2021
Face Shields	●	●	●	●	●	●	Jul 07, 2021
Goggles	●	●	●	●	●	●	Jun 18, 2021
N95 Masks	●	●	●	●	●	●	May 19, 2021
Nitrile Gloves	●	●	●	●	●	●	Nov 06, 2020
Surgical Masks	●	●	●	●	●	●	Jun 01, 2021
Surgical Masks w/ Attached Shield	●	●	●	●	●	●	Jan 17, 2021
Vinyl PF Gloves	●	●	●	●	●	●	May 13, 2021

Projected Inventory Over Time: All Orders

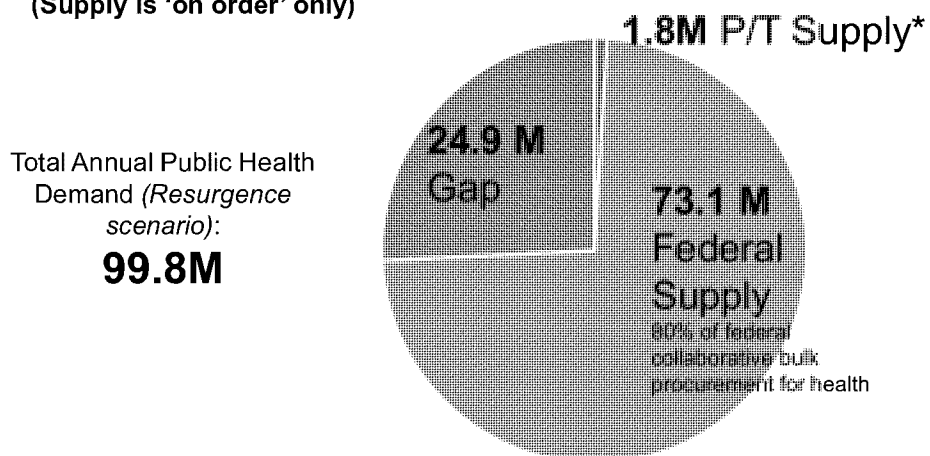


Resurgence scenario best estimate as of Aug 12, 2020

Potential supply-demand scenarios: N-95 Respirators

Public Health Supply vs Demand

(Supply is 'on order' only)



Potential federal actions:

- Continue work to support domestic manufacturing which will increase incoming supply
- Support PTs by better understanding plans for decontamination and re-use

Considerations

- Domestic supply of N-95 respirators is expected to come on-line in August (20M), with more expected in the coming year; with inventory supply picture is relatively strong
- Efforts to provide domestic equivalency to NIOSH certification will facilitate use of equivalent masks, provided that change management efforts are undertaken
 - Continue to consider where non-NIOSH certified products may be acceptable
- Conservation and re-processing will also support security of supply for high risk, aerosol producing procedures in the interim
- Stockpile need to managed carefully given product lifespan

* P/T supply is extrapolated based on supply numbers provided by some jurisdictions. It takes into account a 2 month (+20% buffer) inventory at the P/T level.

Early insights: Surgical Masks

Supply and demand inventory projections for public health sector

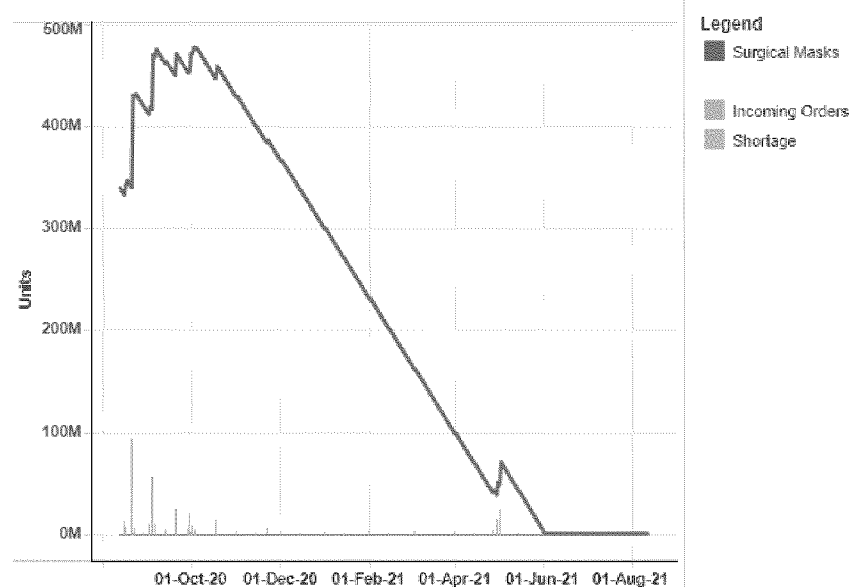
Projected Inventory: All Orders

Demand < 80% of Supply
 Demand > Supply

Projected Inventory including Incoming Orders

	0-3 days	4-7 days	8-14 days	15-30 days	30-60 days	>60 days	Projected Stockout
Disposable Gowns							Jan 11, 2021
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Goggles							Jun 16, 2021
N95 Masks							May 19, 2021
Nitrile Gloves							Nov 06, 2020
Surgical Masks							Jun 01, 2021
Surgical Masks w/ Attached Shield							Jan 17, 2021
Vinyl PF Gloves							May 13, 2021

Projected Inventory Over Time: All Orders



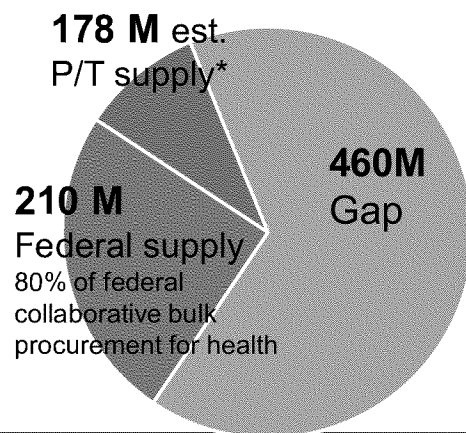
Resurgence scenario best estimate as of Aug 12, 2020

Potential supply-demand scenarios: Surgical masks

Public Health Supply vs Demand (supply is on order only)

Total Annual Public Health
Demand (*resurgence
scenario*):

847.4M



Potential federal actions:

- Procure additional masks to support stockpiles (NESS, ESCR)
- Collaborate with PTs on procurement and discuss needs (e.g., sizes, textiles)
- Amplify guidance on use of reusable options, where appropriate
- Looking at need for procurement of clear masks for hearing impaired

Considerations

- Demand for surgical masks is high in health and other sectors and expected to remain high
- Current supply is sufficient to meet demand in the short term, with stock depletion anticipated in December
- Surgical masks are dependant on melt blown materials, sourced from international supply chains
- Domestic sources of production are coming on-line in August of this year

* P/T supply is extrapolated based on supply numbers provided by some jurisdictions. It takes into account a 2 month (+20% buffer) inventory at the P/T level.

Early insights: Gloves

Supply and demand inventory projections for public health sector

Projected Inventory: All Orders

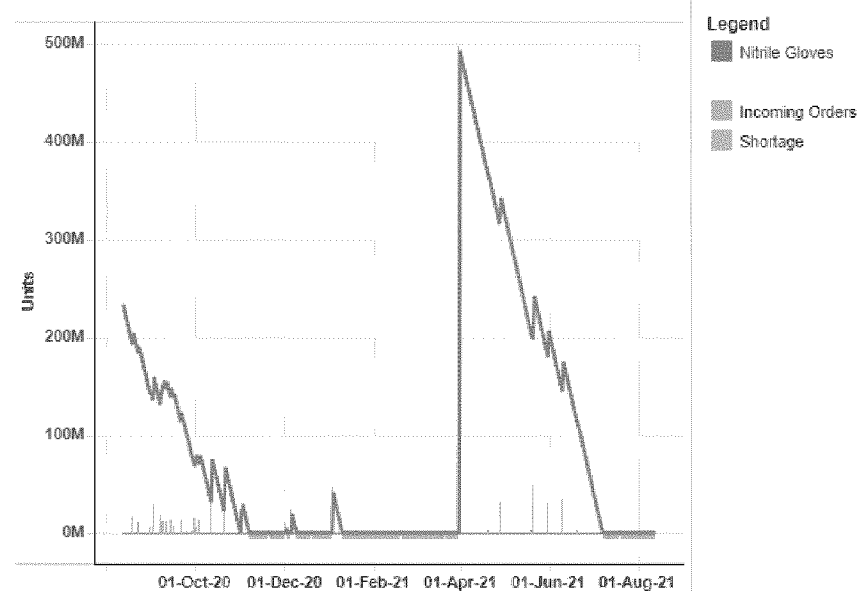
■ Demand < 80% of Supply

■ Demand > Supply

Projected Inventory including Incoming Orders

	0-3 days	4-7 days	8-14 days	15-30 days	30-60 days	>60 days	Projected Stockout
Disposable Gowns	●	●	●	●	●	●	Jan 11, 2021
Face Shields	●	●	●	●	●	●	Jul 07, 2021
Goggles	●	●	●	●	●	●	Jun 16, 2021
N95 Masks	●	●	●	●	●	●	May 19, 2021
Nitrile Gloves	●	●	●	●	●	●	Nov 06, 2020
Surgical Masks	●	●	●	●	●	●	Jun 01, 2021
Surgical Masks w/ Attached Shield	●	●	●	●	●	●	Jan 17, 2021
Vinyl PF Gloves	●	●	●	●	●	●	May 13, 2021

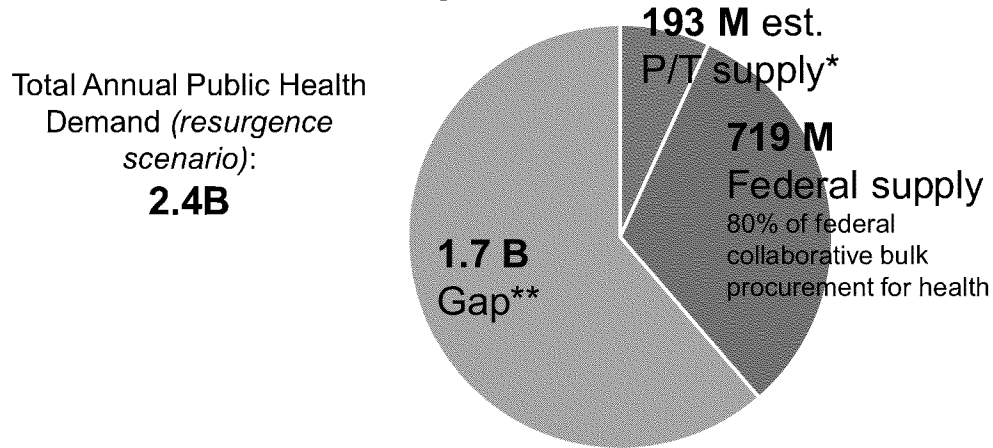
Projected Inventory Over Time: All Orders



Resurgence scenario best estimate as of Aug 12, 2020

Potential supply-demand scenarios: Nitrile Gloves

Public Health Supply vs Demand



Potential Federal action:

- Ready to support procurement, complementing PT activities
- Investigating options for domestic manufacturing
- Looking for input on sizes, types, materials

Considerations

- Demand is high among health and non-health sectors and expected to remain high as dental practices and elective surgery resumes
- No existing domestic production capacity
- Few suppliers/high competition
- Alternative materials hard to procure (vinyl) and poses allergy risk (latex)

*P/T supply is extrapolated based on supply numbers provided by 5 jurisdictions. It takes into account a 2 month (+20% buffer) inventory at the P/T level.

**250M was added to the gap to represent the remaining ordering that would need to occur for P/Ts to reach a 2 month (+20% buffer) inventory

Early insights : Gowns

Supply and demand inventory projections for public health sector

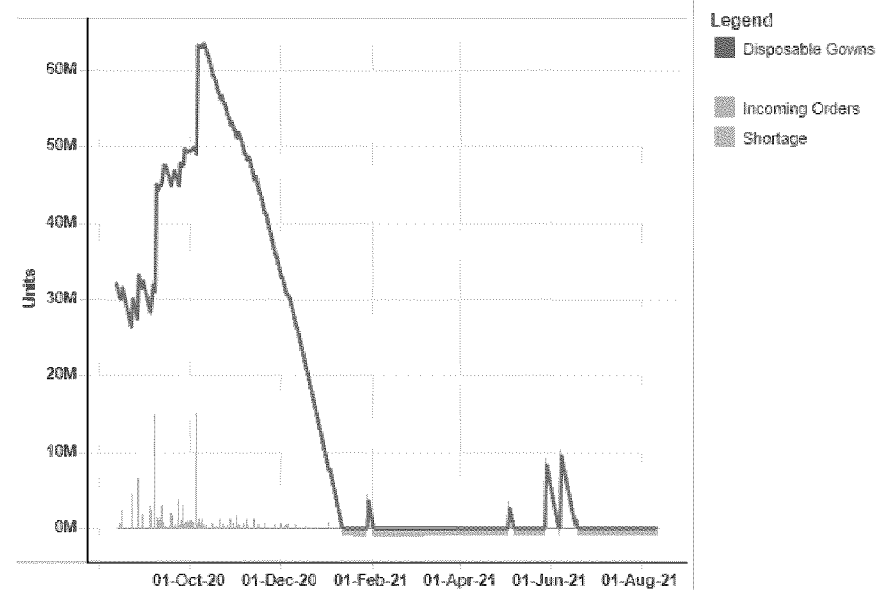
Projected Inventory: All Orders

Demand < 80% of Supply
 Demand > Supply

Projected Inventory including Incoming Orders

	0-3 days	4-7 days	8-14 days	15-30 days	30-60 days	>60 days	Projected Stockout
Disposable Gowns							Jan 11, 2021
Face Shields							Jul 07, 2021
Goggles							Jun 16, 2021
N95 Masks							May 19, 2021
Nitrile Gloves							Nov 06, 2020
Surgical Masks							Jun 01, 2021
Surgical Masks w/ Attached Shield							Jan 17, 2021
Vinyl PF Gloves							May 13, 2021

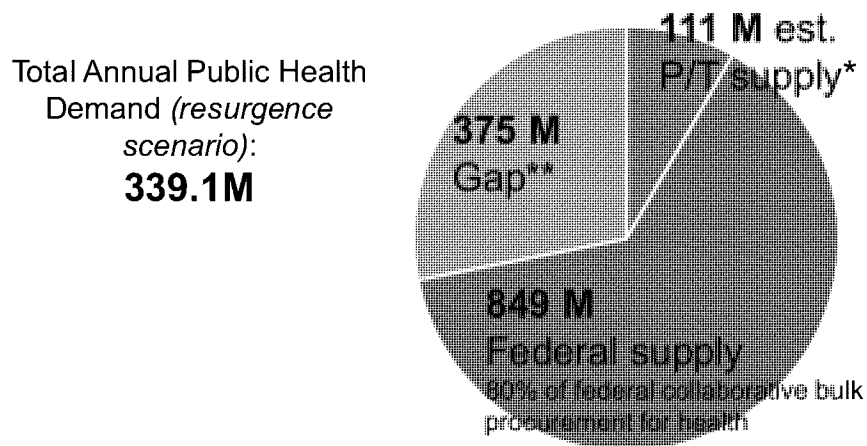
Projected Inventory Over Time: All Orders



Resurgence scenario best estimate as of Aug 12, 2020

Potential supply-demand scenarios: Gowns

Public Health Supply vs Demand



Potential Federal Action:

- Ready to support procurement, complementing PT activities; looking for input on sizes and types from PTs
- Consider how to improve user acceptance of domestically-sourced gowns
- Discuss strategies for re-usable gowns with PTs

Considerations

- Demand for single-use gowns driven predominantly by health sector
- Supply chain on melt-blown and spun bond material components a challenge
- Domestic production of gowns has ramped up; initial quality issues being resolved
- Usable vs disposable gown use strategies an important consideration

*P/T supply is extrapolated based on supply numbers provided by 5 jurisdictions. It takes into account a 2 month (+20% buffer) inventory at the P/T level.

**36M was added to the gap to represent the remaining ordering that would need to occur for P/Ts to reach a 2 month (+20% buffer) inventory

Seeking your Input: *Proposed federal procurement actions*

- Are these commodities the same ones you are focused on? Are there other commodities that are of concern to you?
- How prepared are your health and non-health sectors to adopt domestically-manufactured commodities that are on order?
- Would additional federal procurement of these commodities be helpful to complement your own procurement plans? For what sectors?

Next Steps:

1. Bilateral follow-up to confirm PT procurement plans for items discussed today

2. Improved data and information sharing

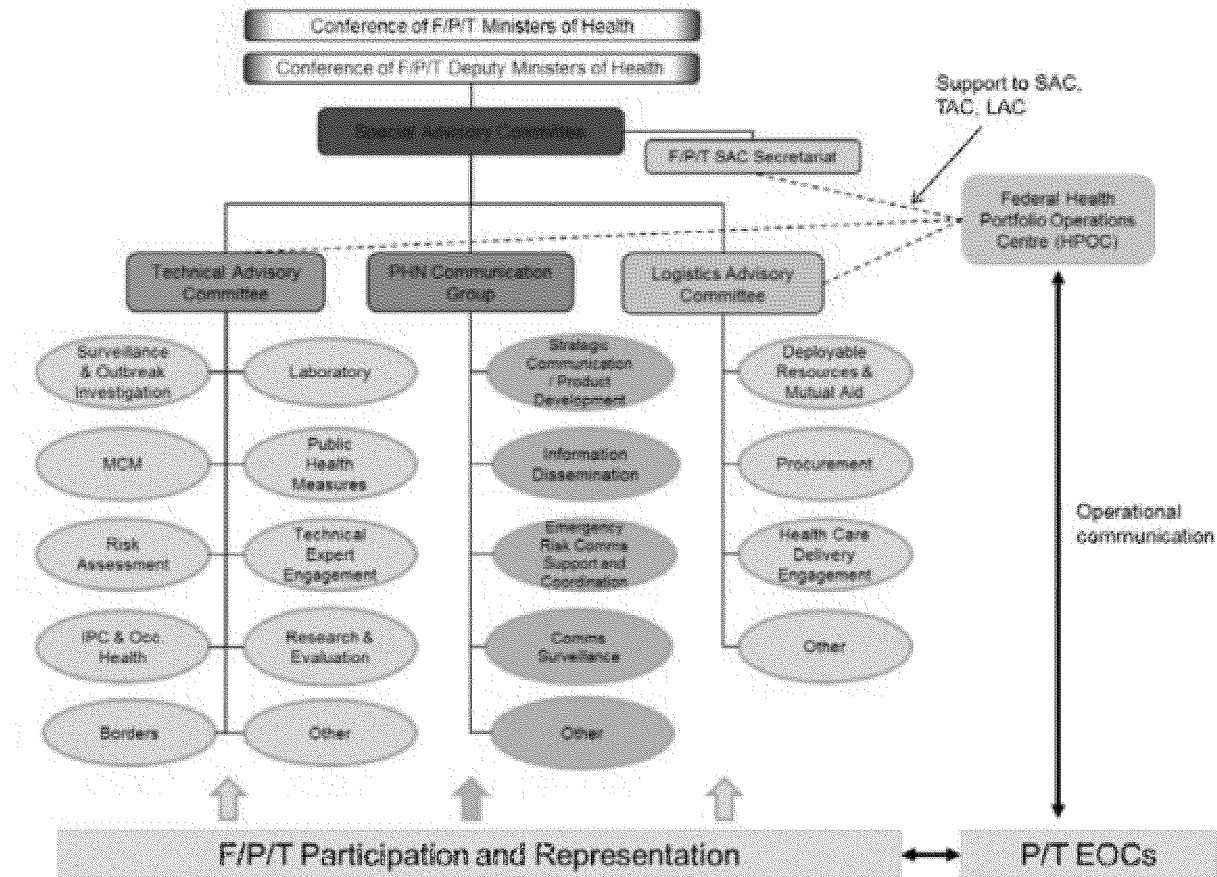
- PTs will be given access to view their own data in the pan-Canadian PPE supply-demand model
- PTs can continue to improve data sharing to refine supply/demand projections for key PPE items
 - Procurement plans for the next year
 - Key sectors being covered
 - Specifics of needed PPE – sizes, types

3. Potential Forward Agenda

- Collaborative approach to logistics and warehousing, stockpiling
- Ventilators, building on previous discussions at the Logistics Advisory Committee (LAC)
- Reuse strategies (e.g., for gowns) or alternative materials (e.g., cloth masks)

Annexes

Annex A: Governance Structure for a Coordinated F/P/T Public Health Response

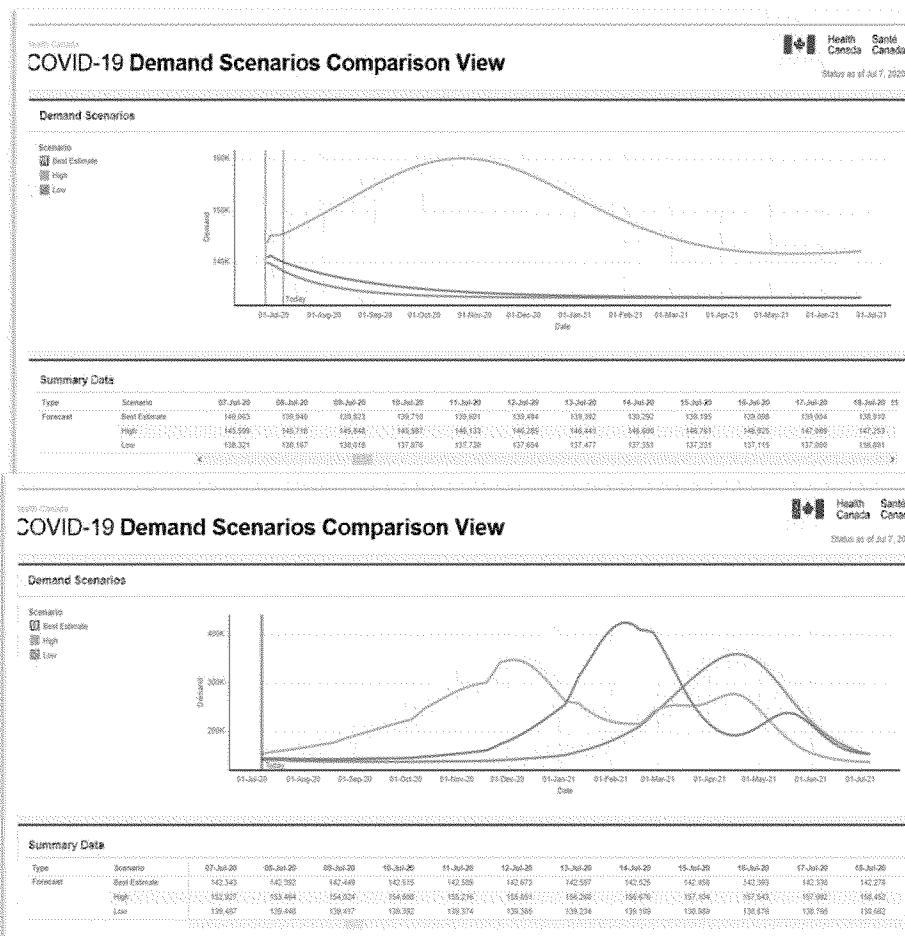


Annex B: Pan-Canadian Supply and Demand Model: Two epidemiological scenarios

Containment

- Assumes the R_t remains on the same trajectory as current state
- 3 lines represent confidence intervals with best estimate in dark grey
- Given N95 use in health care settings, the model shows in a high scenario that demand for this product would increase

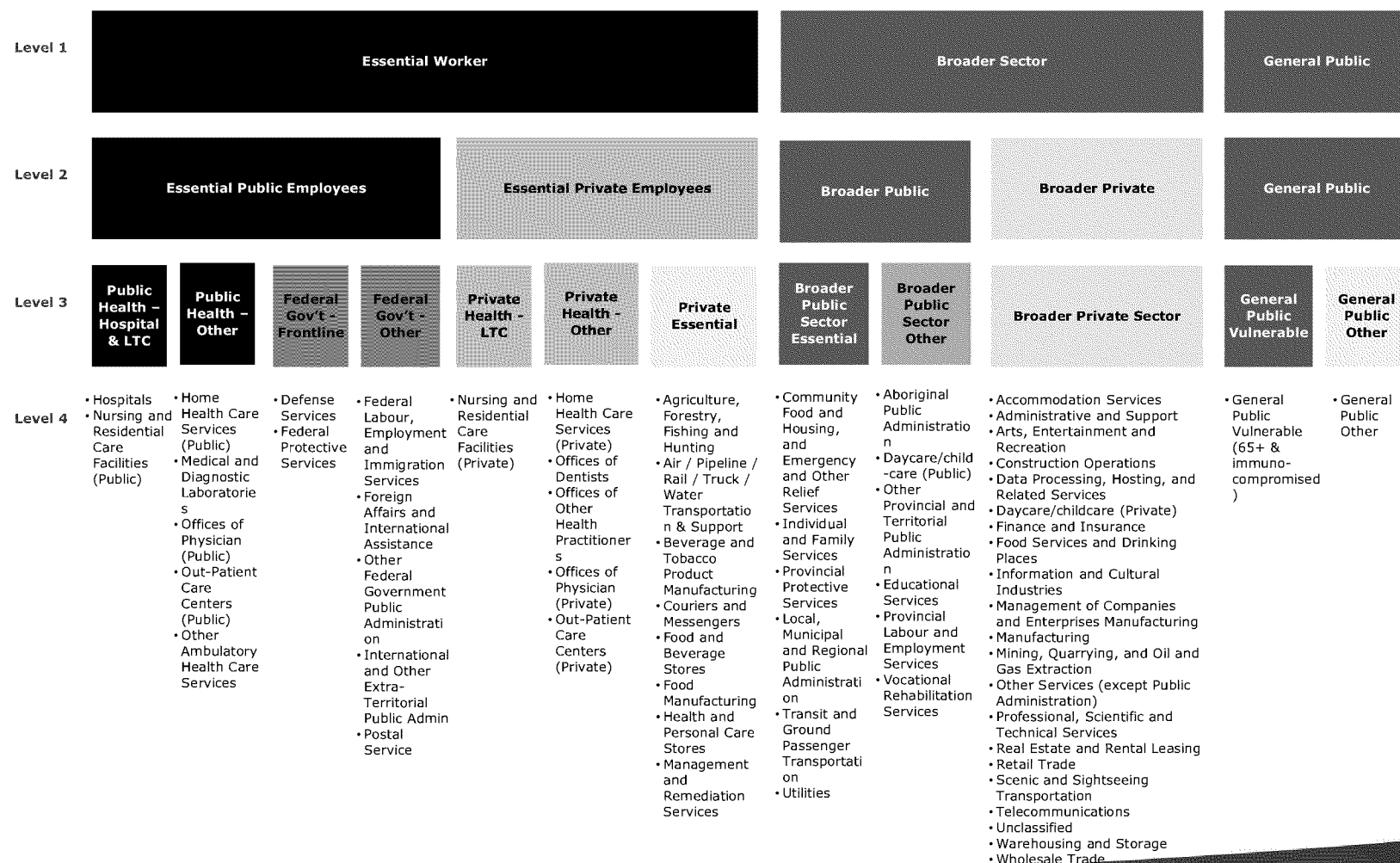
N95 demand for Public Health – Hospitals and LTC



Resurgence

- Linked to P/T economic reopening scenarios, reproduction number R changes over time driven by operating %
- 3 lines represent confidence intervals with best estimate in dark grey

Annex C: Pan-Canadian Supply and Demand Model: Demand sectors



FPT Working Group on PPE / Groupe de Travail FPT sur l'EPI

Record of Decisions

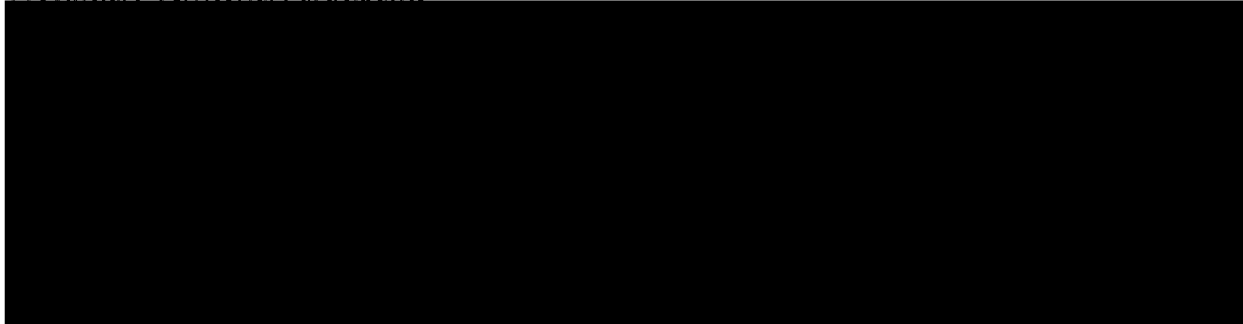
August 13, 1:30am – 2:30pm

Federal Participants

██████████ (Health Canada) and ██████████ (Public Health Agency of Canada)

██████████ (Public Services and Procurement Canada, ██████████, (Innovation, Science and Economic Development Canada), ██████████ (Public Safety Canada)

Provincial / Territorial Participants



ROLL CALL AND WELCOME (HC and PHAC)

- Common objective is to inform future procurement plans and discuss strategic issues as Canada plans for resurgence for health and non-health perspectives, as well as perspectives of different jurisdictions.
- The focus of the initial meeting was to provide an overview of the PPE supply/demand projections based on the Pan-Canadian PPE Supply and Demand model, review four critical commodities (N-95 respirators, surgical masks, medical gowns and nitrile gloves) and set the table for future discussions.

1) SUPPLY AND DEMAND PROJECTIONS ON KEY PPE COMMODITIES (HC)

- HC provided an overview of the Government of Canada current efforts underway to support PPE supply and of the Pan-Canadian PPE supply/demand model, which provides a one year projection of PPE supply and demand based on several epidemiological scenarios.
- The annual projections for N-95 respirators, surgical masks, nitrile gloves and medical gowns were discussed, with a focus on gaps, supply challenges and other considerations unique to those commodities.
- Some jurisdictions noted that the modeling projections seemed higher than their own ██████████, while others noted that it was close to what they have modeled ██████████
- HC noted that the Government of Canada was seeking to validate any projected supply gaps, and understand P/T procurement plans to inform any federal procurement decisions.

ACTIONS:

- HC to provide each jurisdiction with Pan-Canadian and their own modeling data for validation and follow up bilaterally.

- HC to provide access to the Pan-Canadian PPE supply and demand model in the coming weeks.
- HC to organize a bi-lateral discussion with Ontario to validate assumptions.

2) DISCUSSION ON PROCUREMENT PLANS FOR KEY PPE COMMODITIES (All)

- HC moderated a discussion and solicited input on N-95 respirators, surgical masks, medical gowns and nitrile gloves.
- [REDACTED] noted that they rely more heavily on federal procurement for all items.
- **Gloves:** PTs were generally interested in collaborating on with the federal government on procurement of nitrile gloves. P/Ts also noted that there was a desire for 12" gloves. Length of glove intersects with gown choice: shorter gloves (9") require looped gowns. P/Ts expressed an interest in participating in the RFP issued by PSPC for 9" gloves, which closes next week. There was a specific interest in the specs for the RFP and whether gloves would meet standards for chemotherapy treatment.
- **Surgical masks:** Many P/Ts noted they have procurement underway for surgical masks, but some are interested in procurement collaboration on this item. Other noted quality control issues with their own procurement. It was noted that PSPC has an RFP out for non-surgical masks.
- **Gowns:** The discussion focused on the strategy of most PTs to move to re-usable gowns and the challenges associated with novel materials for laundering (laundering infrastructure not designed to support novel materials). P/Ts asked for confirmation of what rating of gown was recommended for COVID. [REDACTED] noted they have an oversupply of disposable gowns they could provide to any interested jurisdictions. One P/T noted challenges with a domestic manufacturer who could not deliver product when needed.
- **N95s:** PTs agreed we were in generally a good position, especially with new domestic manufacturing coming online, but the discussion focused on models, and the burden of fit testing with new models.

ACTIONS:

- HC to follow-up with each jurisdiction on their specific PPE procurement needs related to the discussed commodities.
- PSPC to provide a link to the current nitrile gloves RFP and specifications for the process.
- PSPC to explore an opportunity for a collaborative RFP process for 12 inch nitrile gloves.
- PHAC to follow-up with details on the level of gowns required for COVID-19.
- PHAC to advise on the sizes of N-95 respirators available in the NESS and follow-up directly with jurisdictions.

NEXT STEPS

- Next meeting will be scheduled with focus on other commodities.
- Information will be provided to DMs of health in the coming months.

From: [REDACTED] (HC/SC)
Sent: 2020-08-15 10:42 AM
To: [REDACTED] (HC/SC)
Cc: [REDACTED]
Subject: Re: PPE briefing for the Minister's CoS

Ok - thanks. The team is on it. [REDACTED] and will be checking in periodically

Sent from my iPhone

> On Aug 15, 2020, at 9:38 AM, [REDACTED] > wrote:

>

> Hi - thanks for this. Agree that the deck forms a good base for the discussion with the CoS.

>

> We need to make sure that the supply picture is as complete as possible - 3M, NESS, PT on hand inventory plus fed and PT orders.

>

> The issue of incomplete PT data remains, but our approach should be to work with them to confirm gaps and work to close them. We should have an explicit plan for closing each gap - and if we choose to only close it partially through federal action, then we should be transparent on it. If PT's want our support closing their part of the gap in this scenario, then we should address how we do it (eg, cost sharing, creating new domestic production that they can access, etc).

>

> [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

> Health Canada

>

>> On Aug 14, 2020, at 4:15 PM, [REDACTED] > wrote:

>>

>> [REDACTED] attached is the summary from the FPT meeting we had yesterday, along with the deck that we used to facilitate the discussion.

>>

>> I was thinking that we could build on this kind of deck to support the briefing with Mino next week, which would include the 3M numbers for N95s, and more information about current RFPs that PSPC has out on these items, including for the NESS stockpiles. We can draw a lot of this information from the issue sheets we've been developing for the DM PPE Procurement table in collaboration with PHAC, PSPC and ISED.

>>

>> (Don't be alarmed by the N95 numbers - the projections have gone up with the latest fluctuations in the provincial Rts, but they will be readjusted downwards next week, based on our consultation with CIHI about usage protocols. Of note, [REDACTED] thought our projections were quite high (which is probably better for us to be on the safe side).

>>

>> The numbers showing in the pie charts are 'on order' only, and don't include the inventory on hand, which we assume will be part of building the stockpile. PTs have about 17M N95s on hand and we have another 150K for the health care sector. The 3M numbers are not yet included either given it's not announced, but we could include them for the briefing with Mino. We wanted to be conservative with the showing the gap to the PTs, so we could get a real sense of their own situations.

>>
> [REDACTED]
[REDACTED]
>> Canada's Workforce Health and Safety
>> COVID Task Force, Health Canada
>> [REDACTED]
[REDACTED]
>>
>>
>> -----Original Message-----
>> From: [REDACTED]
>> Sent: 2020-08-14 3:17 PM
>> To: [REDACTED]
>> Cc: [REDACTED]
> [REDACTED]
> [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
>> Subject: Re: PPE briefing for the Minister's CoS
>>
>> Great - thanks [REDACTED] She is looking for that info but also a deep dive session with knowledgeable people about the whole PPE supply and demand landscape and model.
>>
>> [REDACTED]
[REDACTED]
[REDACTED]
> [REDACTED]
>> Health Canada
>>
>>>> On Aug 14, 2020, at 3:12 PM, [REDACTED] wrote:
>>>>
>>>> Yes, she mentioned that on our quick PPE Mino check in today. I gave her a sense of our great FPT meeting yesterday on key PPE commodities and we will send up an updated version of the deck we used for the PMO briefing. The team is also working on getting some info on her questions related to what procurement is underway - we will focus on the key commodities that have already been discussed at the DM committee (N95, surgical masks, gloves, gowns).
>>>>
>>>> Just a flag [REDACTED] but [REDACTED] is acting for me, and [REDACTED] and [REDACTED] are very well versed in the model.
>>>>
>>>> [REDACTED]
[REDACTED]
>>>> Canada's Workforce Health and Safety COVID Task Force, Health Canada
>>>> [REDACTED]
[REDACTED]
>>>>
>>>>
>>>> -----Original Message-----
>>>> From: [REDACTED]
>>>> Sent: 2020-08-14 3:02 PM
>>>> To: [REDACTED]
[REDACTED]

>>> Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

>>> Subject: PPE briefing for the Minister's CoS

>>>

>>> Hi - [REDACTED] would like a detailed briefing of our PPE supply and demand modelling, PT data, areas of concern, etc. We can include a model demo.

>>>

>>> [REDACTED] and my office will set it up with you both.

>>>

>>> [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

>>> Health Canada

>> <FPT PPE WG ROD 2020-08-13.docx>

>> <FPT PPE Presentation Aug 14 2020.pptx>



Public Health
Agency of Canada

Agence de la santé
publique du Canada

COVID 19 – Long Term PPE Fulfillment Operations Program

Transition Plan

July 2020

DRAFT
For Discussion Purposes Only



Table of Contents

Introduction	3
Approach	6
Initial Action Plan	11
Operations Action Plan	16



INTRODUCTION

Context and Objective



CORONAVIRUS OUTBREAK

In March 2020, the World Health Organization (WHO) declared the Coronavirus outbreak to be a public health emergency. This resulted in the requirement for the procurement of Personal Protective Equipment (PPE) and other medical supplies.



PPE

PPE is vital to the safety of frontline health care workers across Canada. There is an immediate need for PPE during this public health emergency and readily-accessible inventory to respond to any potential future public health emergencies.



NATION-WIDE INCREASE IN PPE DEMAND

The Minister of Public Services and Procurement Canada (PSPC) was tasked to procure PPE for the Public Health Agency of Canada (PHAC) in order to address the increase in demand for these products.



GLOBAL SOURCING

The Government of Canada (GoC) is procuring PPE from international and national vendors. Procured PPE is shipped to Canada by various methods of transportation. Once received, PPE is verified and inspected prior to it being released and shipped to provincial health care authorities to address their requirements.



LOGISTICS SOLUTION

PHAC had previously setup a short-term logistics solution in order to address the urgent needs in distributing PPE to provincial health authorities and has now established a longer-term solution to manage GoC-procured PPE.

This document describes the transition plan towards the long-term solution set up to manage GoC-procured PPE



INTRODUCTION

End to End PPE Supply Chain Activities

The focus of this document is on the Domestic Logistics and Distribution of PPE products

Demand & Supply Planning

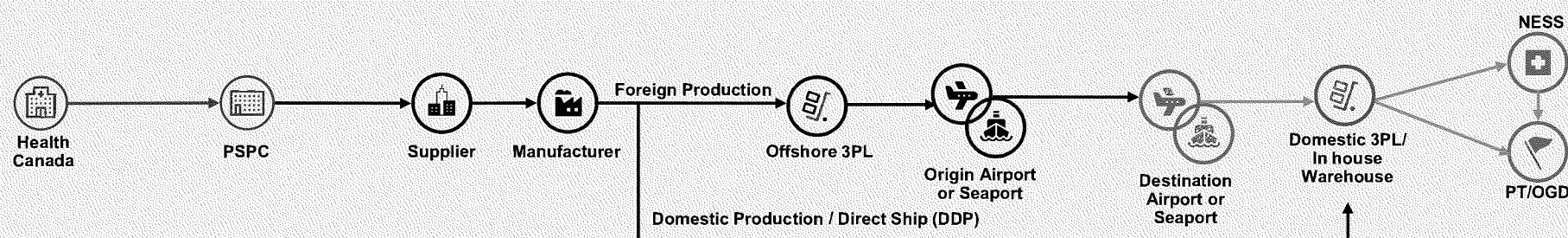
- Monitor demand and supply levels based on various risk scenarios
- Monitor Purchase Requisition balance and new PPE needs

Procurement

- Consolidation point of all requisitions for PPE
- Review market situation across suppliers
- Award contracts to suppliers
- Manage contracts including: updates to delivery dates and units for each delivery line item in Titan, samples processing, and customs management
- Management of offshore 3PL
- Management and decision on inbound transportation mode
- Invoice forwarding

Logistics & Distribution

- Creation of Purchase Requisitions
- Technical Assessment of all incoming PPE
- Allocation Strategy & Execution
- Management of inventory at domestic 3PL and in-house warehouses
- Last mile distribution to PT/OGD through 3rd party courier network
- RFA and NESS fulfillment to PTs/OGD
- Future visibility to PTs/OGDs through LAC
- Validating invoices and sending payment to suppliers





INTRODUCTION

Project Scope

PHAC has contracted for an Inbound, Warehousing, and Distribution Solution (IWDS) to provide a complete supply chain approach that encompasses program management, transportation, inbound receipt, warehouse management, outbound delivery, and reporting.

Key activities

The Contractor must assume full control of supply chain activities for the PPE from Point of Entry to Point of Delivery, including:



- Managing shipments arriving by air or sea in Canada to the Contractor's warehouses or the final destination (including coordination of shipment pickups at various points of arrival and providing transportation from local suppliers)
- Retrieving PPE from local suppliers
- Receiving inbound shipments



- Transporting PPE samples to PHAC's Quality Assurance (QA) sites
- Moving PPE between the Contractor's warehouses
- Relabelling of packaging to meet regulatory requirements
- Picking and packing of PPE for distribution



- Providing Inventory Management and Inventory Control (including storage of products, security, etc.) of PPE at the Contractor warehouses
- Providing reports to PHAC
- Transmission of information to Federal Government systems (e.g. inventory tracking, fulfillment, receipts, order management)



APPROACH

Network Overview

Current State utilizes multiple short-term warehouses in the GTA with overflow into warehouses in the GMA.

Future State would decentralize GTA inventories in the GMA and on the West Coast to bring product closer to their final destination. The Contractor will be responsible of transferring the inventory held in the existing warehouses prior to the start of the regular operations.

Future-state

	Estimated Network (pallets) - as of July 2020	Future Network (pallets)	
Warehouse	Current ¹	Average	Peak
	11K	41K	55K
	12K	-	-
	1K	6K	13K
	4K	-	-
	4K		
	-	6K	12K
Total	32K ²		

Notes:

¹Current short-term warehouses include

²Current inventory of 32K consists of NESS (National Emergency Strategic Stockpile), non-medical supplies and items awaiting allocation

Table values and network descriptions
will change after contract award



APPROACH

Inventory Transfer Approach



There are typically two approaches to consider when relocating inventory from current facilities: Big Bang or Gradual Ramp-up. **A gradual ramp-up approach is advised to relocate inventory from current to future warehouses, given the lower risks associated with this strategy.**

Category	Approach 1: Big Bang	Approach 2: Gradual ramp-up
Description	<p>Operations switch from current to new facility at a single point in time (all product categories and customers).</p> <ul style="list-style-type: none"> Start-up of all processes simultaneously Inventory transfer during a predetermined timeframe (3 to 7 days), during which all operations will be shutdown. <p>Legend Current facility New facility</p>	<p>Operations are shifted in phases from current to new facility</p> <ul style="list-style-type: none"> Gradual transfer of inventory per product category (as required) Transfer of order fulfillment ops at a predetermined date for each product category <p>Legend Current facility New facility</p>
Inventory	<ul style="list-style-type: none"> No inventory build-up, but very hard to manage transition due to high inventory levels High risk of inventory errors due to high number of transactions in short timeframe <p>High Risk</p>	<ul style="list-style-type: none"> Low inventory build-up to manage and support simultaneously Lower risk of inventory discrepancies during transition <p>Low Risk</p>
Processes and labour	<ul style="list-style-type: none"> No stabilization period for IT systems and/or processes Requires all employees to be trained from day 1 <p>High Risk</p>	<ul style="list-style-type: none"> Allows process ramp-up as well as stabilization period for IT systems and/or processes. Allows phased-approach for training as well as labour ramp-up <p>Medium Risk</p>
Outbound	<ul style="list-style-type: none"> No order consolidation will be required between warehouses <p>Medium Risk</p>	<ul style="list-style-type: none"> Order consolidation might be required between warehouses (or shipment splits), as well as temporary set-up of cross-dock operations <p>Medium Risk</p>
Costs	<ul style="list-style-type: none"> High transition costs due to the high number of trucks and resources to mobilize simultaneously in a short timeframe <p>High Risk</p>	<ul style="list-style-type: none"> Lower costs due to the smoothing/reduction of the volume transferred <p>Medium Risk</p>
Other	<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Rigorous tracking of inventory per SKU per site required Higher complexity for ordering due to use of multiple warehouses/vendors <p>Medium Risk</p>



APPROACH

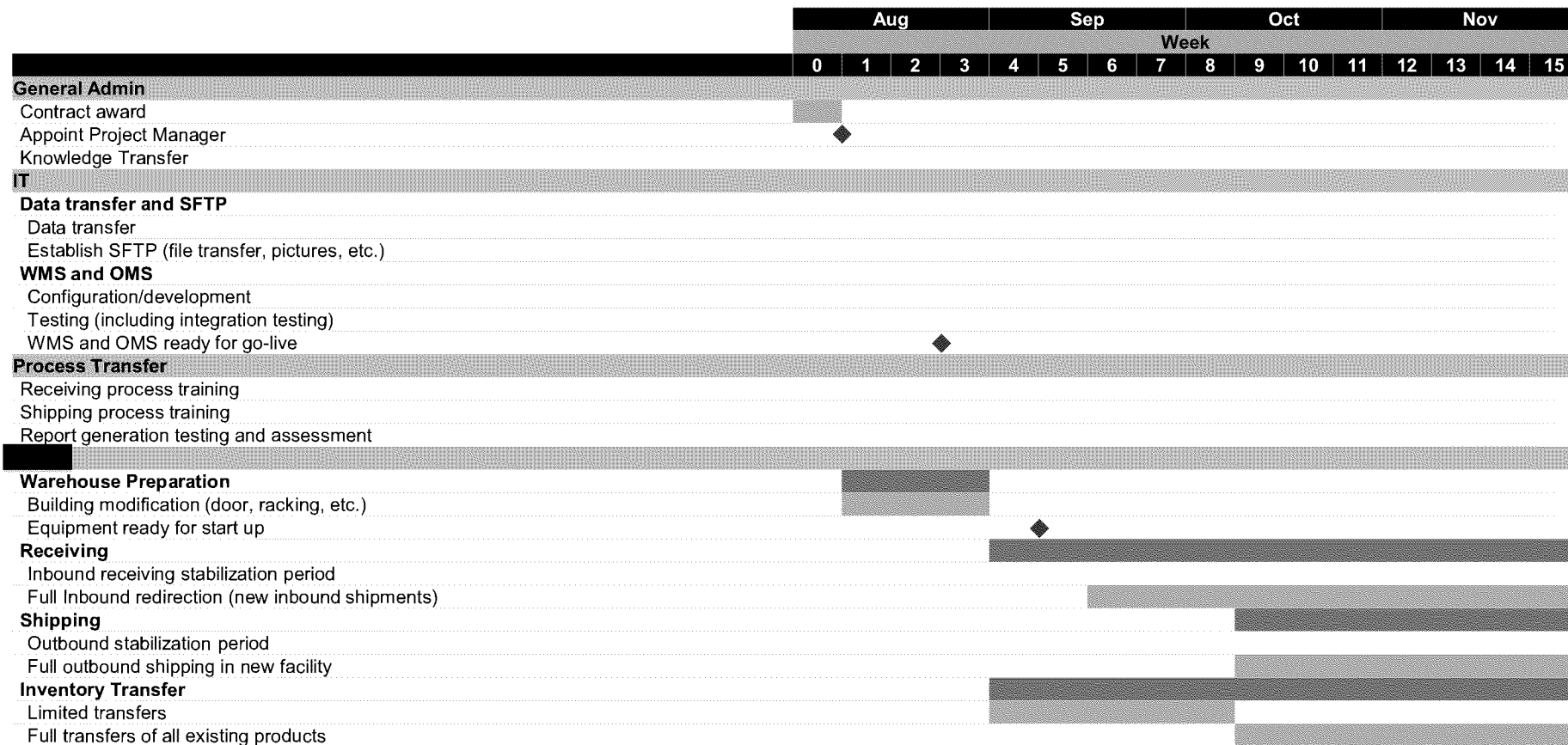
Steps Overview

	Phase 0: 0-2 Weeks after Contract Award	Phase 1: 3-4 Weeks after Contract Award	Phase 2: 5-8 Weeks after Contract Award	Phase 3: 9+ Weeks after Contract Award
General Admin	<ul style="list-style-type: none"> Prepare the warehouse and scale up capacity to 4-weeks requirements Conduct Knowledge transfer 			
Information Technology	<ul style="list-style-type: none"> Setup WMS and SFTP Conduct data transfer 	<ul style="list-style-type: none"> Item master management and inventory management responsibility are shared between Contractor and Groupe Robert 	<ul style="list-style-type: none"> Inventory management is shared between Contractor and Groupe Robert Item master management fully becomes the Contractor's responsibility 	<ul style="list-style-type: none"> Inventory management fully becomes the Contractor's responsibility
Process Transfer	<ul style="list-style-type: none"> Conduct training for receiving, shipping and reporting Test processes with Contractor 			
Receiving		<ul style="list-style-type: none"> Start receiving new inbound shipments (inbound destination is set to Contractor warehouses instead of Groupe Robert) Start coordination with suppliers and customs brokers and transport inbound shipments 	<ul style="list-style-type: none"> All inbound receiving will occur at the Contractor's warehouses No more inbound receiving at the Groupe Robert warehouses 	<ul style="list-style-type: none"> Continue receiving new inbound shipments <ul style="list-style-type: none"> All inbound receiving will occur at the Contractor's warehouses
Shipping	<ul style="list-style-type: none"> No shipping <ul style="list-style-type: none"> Groupe Robert in charge of 100% of outbound shipping 		<ul style="list-style-type: none"> Start outbound shipping for limited orders <ul style="list-style-type: none"> Groupe Robert still in charge of shipping the balance of outbound orders Limited shipping from the Contractor's warehouses 	<ul style="list-style-type: none"> All outbound shipping will occur at the Contractor's warehouses <ul style="list-style-type: none"> No more outbound shipping from the Groupe Robert warehouses (only transfers)
Inventory Transfer		<ul style="list-style-type: none"> Start transportation of inventory between current and Contractor's warehouse Start receiving limited transfers from current warehouses (NESS inventory) 	<ul style="list-style-type: none"> Continue transportation of inventory between current and Contractor's warehouses Continue receiving transfers from current warehouses <ul style="list-style-type: none"> Oversight required by PHAC between inbound and transfer to avoid over capacity at the Contractor's warehouses and fleet Groupe Robert fleet utilized when Contractor's fleet is not sufficient to support the target transfer rate 	<ul style="list-style-type: none"> Continue transportation of inventory between current and Contractor's warehouses Receive final transfers from current warehouses <ul style="list-style-type: none"> Groupe Robert's fleet involvement is minimal to non-existent
Reporting	<ul style="list-style-type: none"> Align on report design and develop reports 	<ul style="list-style-type: none"> Submit reports 		



APPROACH

Timeline

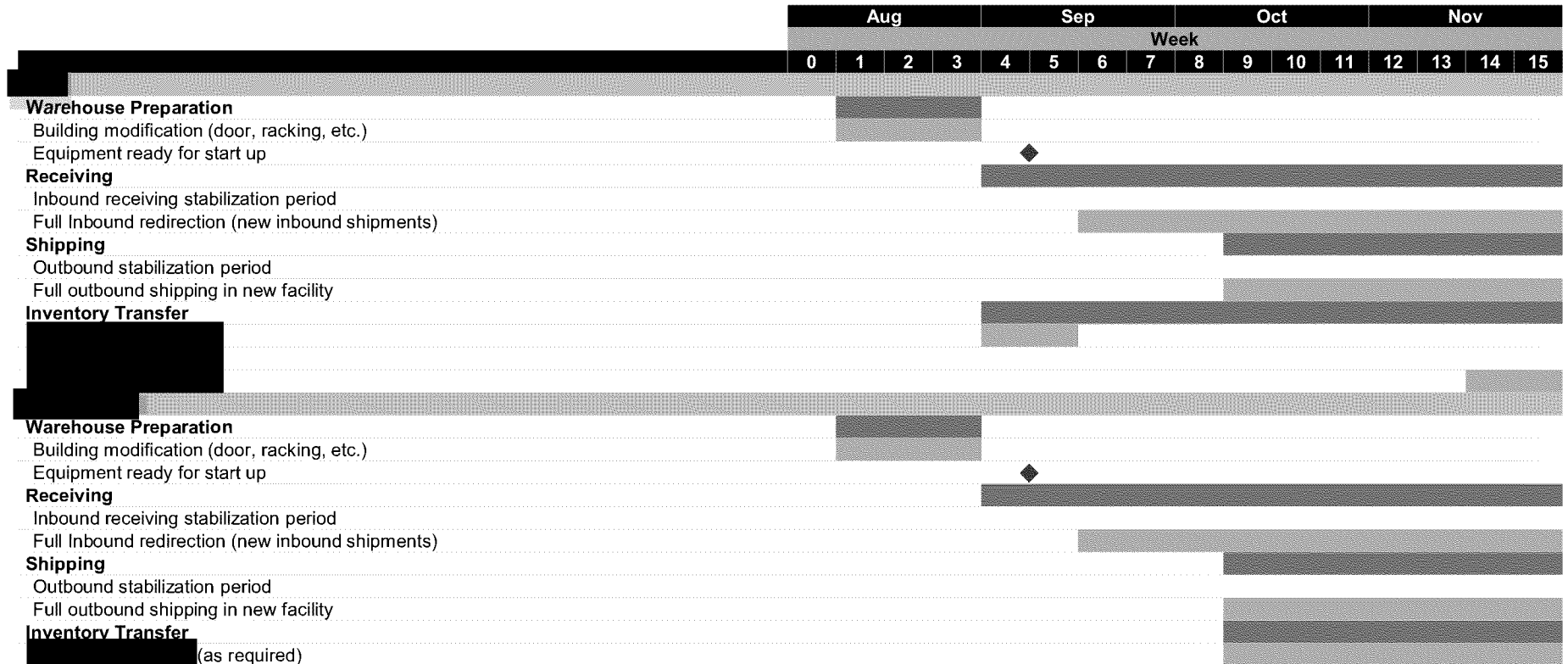


Timeline to be updated after contract award



APPROACH

Timeline

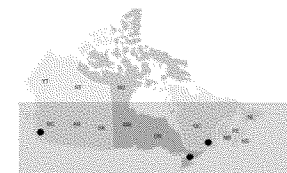


Timeline to be updated after contract award



INITIAL ACTION PLAN

General Admin



Responsible	Date	Action
General		
Contractor		Appoint Project Manager
Contractor		Prepare warehouse for operations (design and configuration)
PHAC		Send onboarding package to Contractor, incl. playbook, transition plan, sample reports, receiving form template
Contractor		Establish transportation network
Knowledge Transfer		
PHAC		Liaise with current 3PL and capture lessons learned
PHAC/Deloitte		Capture and pass on lessons learned to Contractor

All dates will be populated after contract award



Information Technology



Responsible	Date	Action
WMS and OMS Configuration and Development		
Contractor		Configure WMS and OMS fields per SOW requirements
Contractor		Send email to PHAC with screenshot of fields in WMS and OMS to confirm requirement is met
Data Transfer		
PHAC		Request item master from current 3PL
PHAC		Gather customer data
PHAC		Send item master and customer data to Contractor
Contractor		Upload item master data to WMS
PHAC		After Phase 1, request item master with new products that were received since 2 weeks at Groupe Robert's warehouse and send to Contractor
Contractor		Update item master
Establish and Test SFTP		
Contractor		Establish SFTP per SOW requirements
PHAC		Define SFTP architecture and communicate to Contractor
Contractor		Configure SFTP architecture and upload a sample file
PHAC		Confirm file upload success/failure



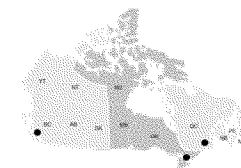
Processes



Responsible	Date	Action
Receiving		
PHAC/Deloitte		Conduct training on receiving processes per the Playbook
PHAC		Provide form for Contractor to complete upon each receipt
PHAC		Provide sample products to the Contractor that capture all scenarios (e.g. language, SKU, etc.)
Contractor		Test receiving processes, incl. SKU generation process
Contractor		Gather all of the data for the sample products, complete the form, and upload to PHAC through SFTP
PHAC		Confirm file upload success/failure as well as confirming that the form was completed correctly
PHAC		Confirm that output of SKU generation complies with requirements



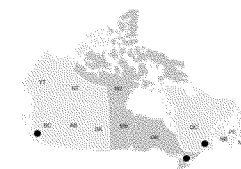
Processes



Responsible	Date	Action
Shipping		
PHAC		Conduct training on shipping processes per the Playbook
PHAC		Provide sample orders to the Contractor that capture all scenarios (e.g. pallets, case, parcel, etc.)
Contractor		Test shipping processes as required per SOW (virtual shipment to PHAC)
Contractor		Provide ASN to PHAC to confirm compliance with requirements
Contractor		Provide Tracking Information to PHAC to confirm compliance with requirements
PHAC		Confirm compliance with requirements
Inventory Transfer		
PHAC		Coordinate inventory transfers



Processes



Responsible	Date	Action
Reporting		
PHAC		Work with Contractor to design the reports (incl. sending current reports for reference)
Contractor		Configure WMS to generate automated reports required per the SOW*
Contractor		Generate sample report for PHAC
PHAC		Confirm compliance with requirements

***Note:**

Reports due 4 weeks after Contract Award:

- Daily Reception Report
- Daily Shipment Delivery Report
- Daily Inventory Status Report

Reports due 2 months after Contract Award:

- Alert Report related to upcoming product expiries (90 days prior to expiry)
- Cycle time (receipt to delivery)
- Order fill rate
- Percentage and number of on-time deliveries
- Inventory turnover rates
- Shelf-life expiry

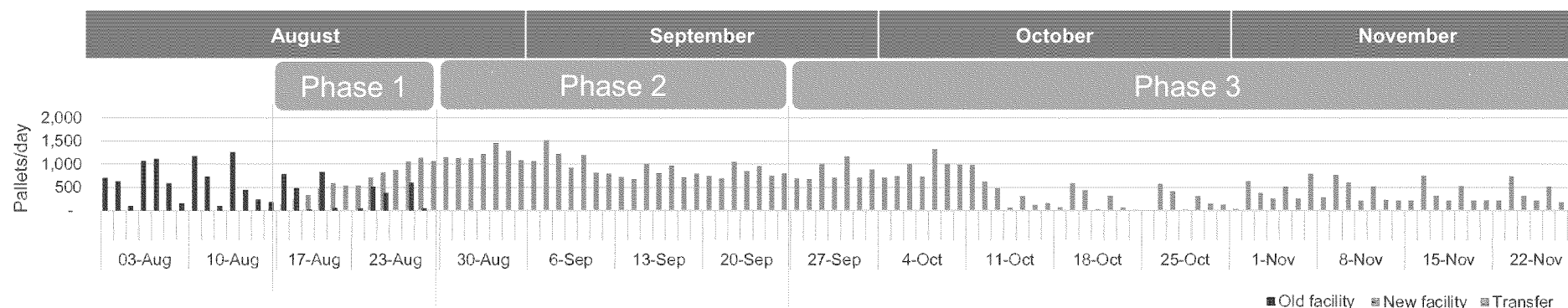


OPERATIONS ACTION PLAN

Receiving

Timeline will change after contract award
based on vendor ramp-up capacity

New facilities would begin receiving product prior to commencement of shipping.
Receiving would be a combination of new inbound product and transfers of existing product from short-term facilities



1

Phase 1: Receiving Ramp-up (2 weeks)

- During the first week, limited inbound receiving of products to assess and adapt receiving procedures for new products, receiving reporting and inventory tracking and reporting capabilities
- Transfer receiving of long-term product from existing facilities will happen during this phase to complement low inbound loads
 - Transferred product has already been identified, entered into the system and labelled, only needs to be entered into inventory and put away
- Total loads received per day should be at a maximum of 27 loads/day (648 pallets)

2

Phase 2: Full Receiving at new facilities (4 weeks)

- All inbound receiving will occur in the new facilities
- Transfers should be added to bring total loads per day to 27 loads/day (648 pallets)

3

Phase 3: Transfer of remaining product

- Inbound loads of new product should be lessened during this period (according to scheduled deliveries)
- This will continue until product in existing facilities is reduced to zero

Transfers from [redacted] may need to wait until full capacity is available in the new [redacted] warehouse(s)

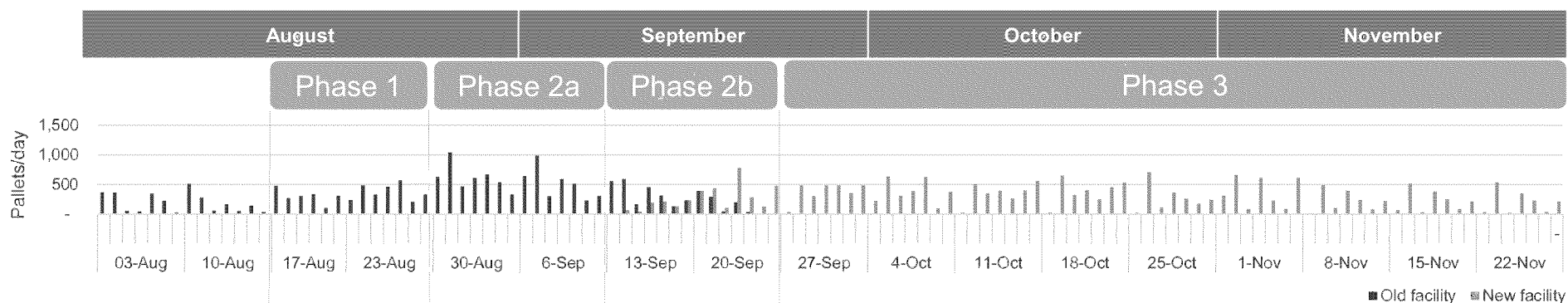


OPERATIONS ACTION PLAN

Shipping

**Timeline will change after contract award
based on vendor ramp-up capacity**

New facilities would only start shipping after the first month of receiving.
This allows the short-term facilities to draw down on their existing inventories, reducing the need for transfers.



1

Phase 1 and 2a: Shipping Remains at Old facilities (4 weeks)

- Old facilities continue to ship outbound orders while new facilities receive inbound product

2a

2b

Phase 2b: Shipping Ramp-up (2 weeks)

- During the first week, limited outbound shipping in the new facility to assess and adapt shipping procedures and reporting capabilities
- Old facilities continue to ship balance of outbound orders

3

Phase 3: Full Shipping at New facilities

- All outbound shipping will occur in the new facilities

Orders will be pulled by PHAC from the desired location.

If the product required to fulfill an RFA only exists in a specific facility, the product will be shipped from that facility. Regardless of the timeline shown above.

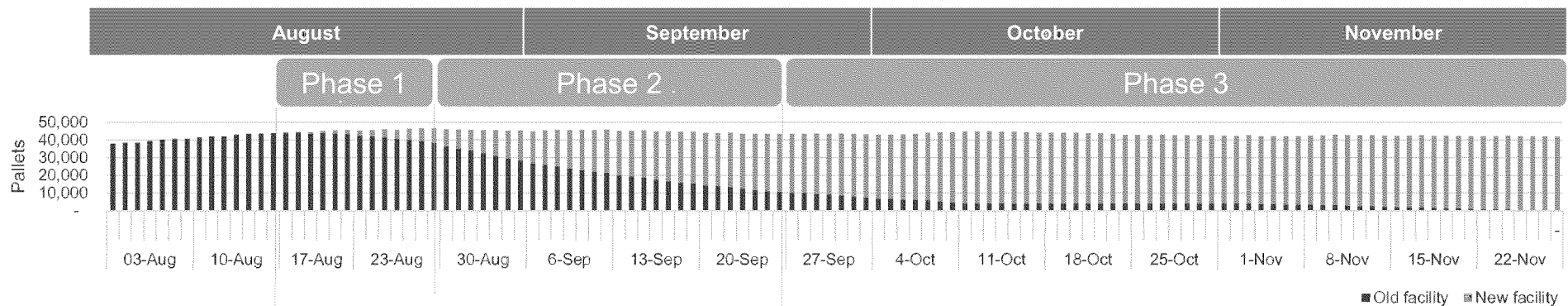


OPERATIONS ACTION PLAN

Inventory Transfer

Timeline will change after contract award
based on vendor ramp-up capacity

Transfers of long-term stock would be carried out during Phases 1 and 2 while operations at the new facilities are coming up to speed. Once all receiving and shipping is occurring at the new facilities, remaining inventories at the old facilities would be transferred.



1

2

3

Phases 1 and 2: Depletion of long-term stock

- First priority: transfer of long-term product (reserved NESS inventory)
- Second priority: products with large amounts of inventory
 - Inventory will last several months
 - Leave 4 weeks of supply behind
- Third priority: Move newest product first for products with multiple receipts
 - **Last In** moves first (within product category)
 - Assume this will be picked/shipped last to respect FIFO

Phase 3: Transfer of remaining product

First priority is products required for upcoming or current RFA requests

- Second priority is **First In** as these will most likely be shipped first to respect FIFO
- Last priority is non-medical product

(committed to end of December) transfers may need to wait until full capacity is available in new facility

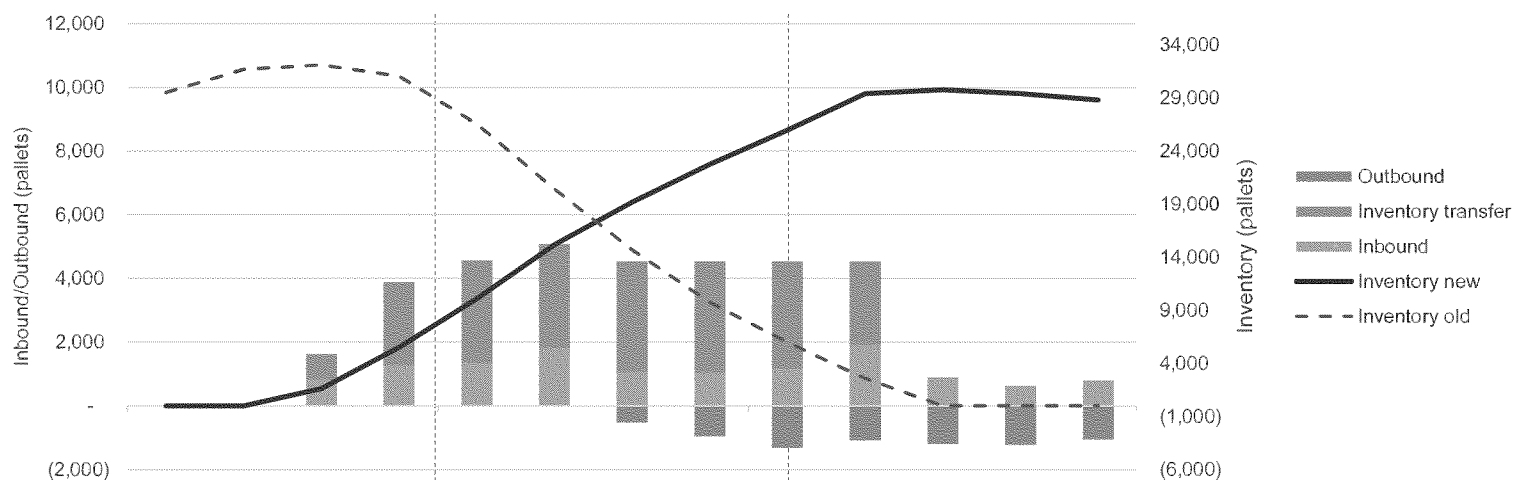
Assume transfer product will be unavailable for 3 days (max):
1 day to pick/ship
1 day for transport & unload
1 day to receive, add to inventory and put away



OPERATIONS ACTION PLAN

Overview and Timeline – [REDACTED]

The aggregate inventory levels in the current and future warehouses as a function of time are shown in this graphical overview below



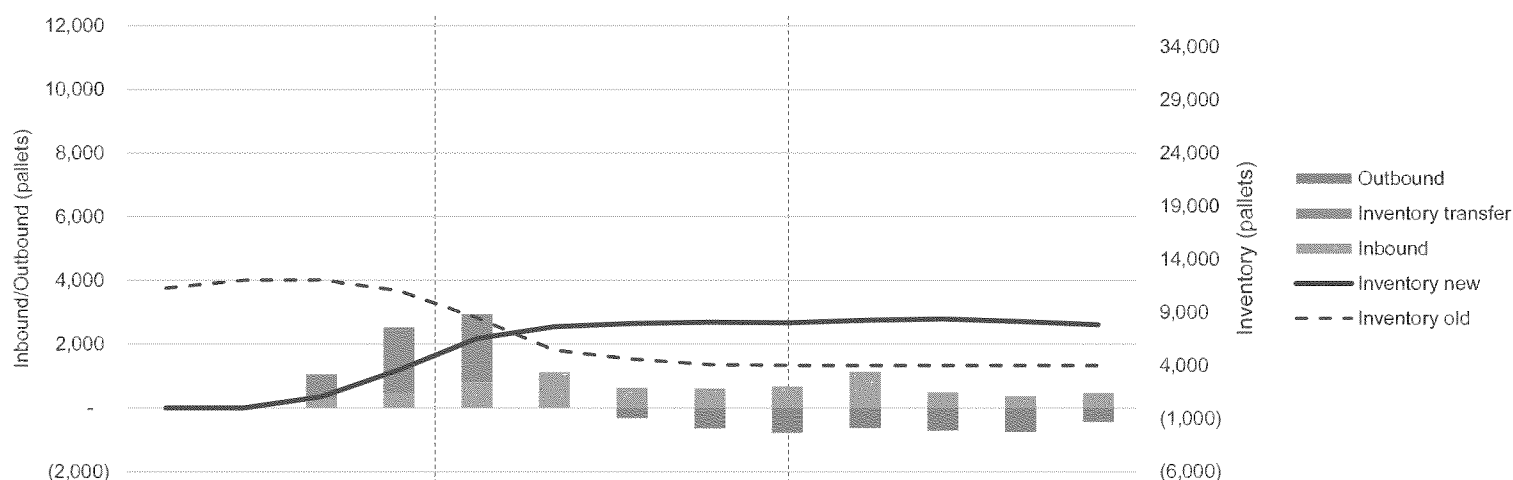
Month	August 2020	September 2020	October 2020
Inventory Transfer	3.4K	14.4K	5.1K
Inbound	2.8K	5.5K	4.3K
Outbound	-	2.3K	4.8K
Inventory Held (pallets)	6.2K	23.9K	29.8K



OPERATIONS ACTION PLAN

Overview and Timeline – [REDACTED]

The aggregate inventory levels in the current and future warehouses as a function of time are shown in this graphical overview below



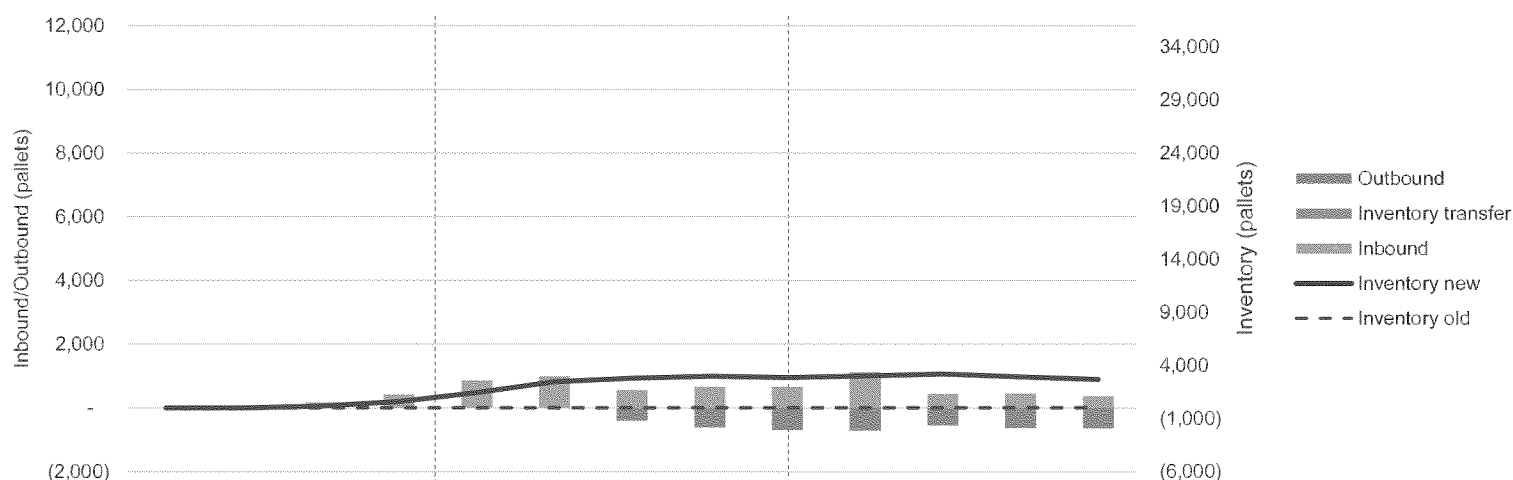
Month	August 2020	September 2020	October 2020
Inventory Transfer	3.2K	1.8K	-
Inbound	0.8K	3.4K	2.7K
Outbound	-	1.2K	3.1K
Inventory Held (pallets)	4.0K	8.1K	8.4K



OPERATIONS ACTION PLAN

Overview and Timeline – [REDACTED]

The aggregate inventory levels in the current and future warehouses as a function of time are shown in this graphical overview below



Month	August 2020	September 2020	October 2020
Inventory Transfer	-	-	-
Inbound	0.6K	3.1K	3.0K
Outbound	-	1.2K	3.1K
Inventory Held (pallets)	0.6K	3.0K	3.2K



OPERATIONS ACTION PLAN

Risk and Mitigation Summary

Situation	Solution
Inaccurate inbound planning	<ul style="list-style-type: none">• May require inter-facility transfers• Establish close relationships with PHAC/PSPC to ensure inbound planning is communicated when known
Contractor's WMS not ready on time	<ul style="list-style-type: none">• Paper-based system with manual data entry• Delay go-live and extend current short-term 3PL
Contractor's fleet is insufficient to handle inbound and outbound demand	<ul style="list-style-type: none">• Subcontract transportation
Breakdown in IT communication/information flow	<ul style="list-style-type: none">• Continue with Excel spreadsheet and email
Insufficient inventory capacity	<ul style="list-style-type: none">• Outsource inventory capacity to another 3PL• Delay inbound shipments• Ask provinces to absorb additional capacity

(PHAC/ASPC)

From: (PHAC/ASPC)
Sent: 2020-08-19 11:33 AM
To: (PHAC/ASPC)
Cc:
Subject: RE: Warehousing and Processing of PPE Containers
Attachments: Transition Document 20200806.pdf

In addition to the previous note, I will refer to the work underway to increase the rigour and structure of the transition to the new long-term warehousing and logistics supplier (assuming that the ongoing procurement effort is successful, in which we have high confidence). This is summarized in the attached deck.

Cheers,

From: (PHAC/ASPC)
Sent: 2020-08-19 11:24 AM

To:
Cc:

Subject: Warehousing and Processing of PPE Containers

In support of our Warehousing and Processing of PPE Containers meeting planned for 1700, and as a contingency should it get moved, I offer the following synopsis and illustrations:

- The first table is a snapshot of our current contractor and space landscape - which has grown considerably since this item was Red on the Workplan before you went on leave.
 - It is most likely that we will take on the OEC space in and we are assessing the need for the 50K space in . A key consideration here is that in order to access the space at all, we need a minimum commitment that would likely exceed our immediate requirement.
 - Overall, we have a sense that this additional space and logistics capacity will accommodate the surge of sea containers.

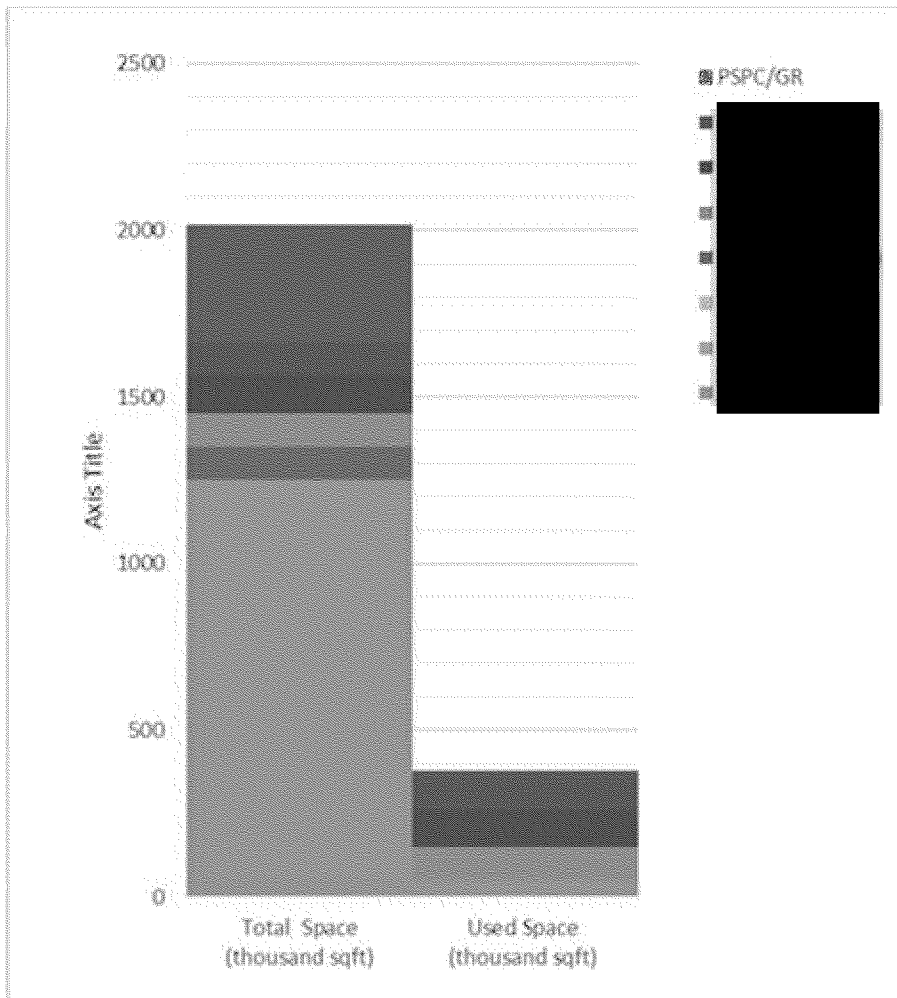
Additional PPE Warehouse and Logistics Capacity (not including our existing NESS Warehouses)

Contractor name	Locations				Predicted Change
-----------------	-----------	--	--	--	------------------

		Total Space (thousand sqft)	Used Space (thousand sqft)	Available Space (thousand sqft)	(thousand sqft)	Description
		1250	50	1200		Primarily Sanitizer
		0	0	0	(+)302	potential addition
		0	0	0	(+)50	potential addition
		100	0	100		
		100	100	0		
		115	115	0		
		100	100	0		
		350	14	336		
		50	50	0		
	Total	2065	429	1636		

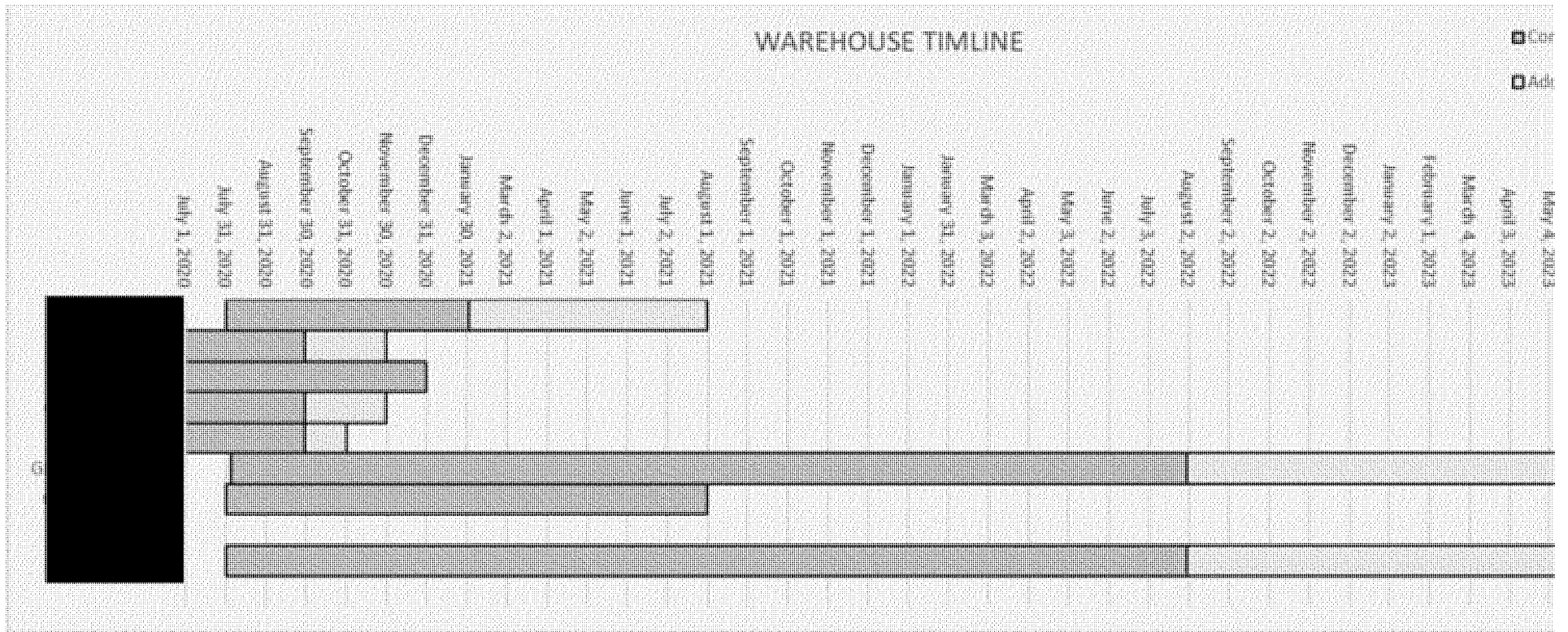
- This graph provides a sense of the growth with deliberations underway as to where to place commodities (e.g. hand sanitizer is a hazardous substance thus requires sprinklers) and this is further depicted in the annotated map at the bottom of this message.

Allocation of Additional Space.



- In the mean time, the winning bidder for the long-term warehouse and logistics contract will be expected to have space available in this order of magnitude, recognizing that we do not have access to all of the space depicted above over the long term
- This is depicted in the graph below.

Timeline of Warehouse and Logistics Contracts.



Customs Considerations

- We have had solid cooperation and support from CBSA and understand that our main customs broker (Livingston) and our freight forwarders (OEC and Groupe Robert) have capacity to accommodate the surge in container deliveries.

A More Detailed Picture (noted above)

WITHHELD / RETENUE

(Are) exempted and/or excluded pursuant to section(s)
st(sont) exemptée(s) et/ou exclus en vertu de(s)(l')article(s)

For your consideration.

Cheers,

[REDACTED]
[REDACTED] | [REDACTED]

Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence

[REDACTED]
Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

[REDACTED]
[REDACTED]

Government of Canada | Gouvernement du Canada

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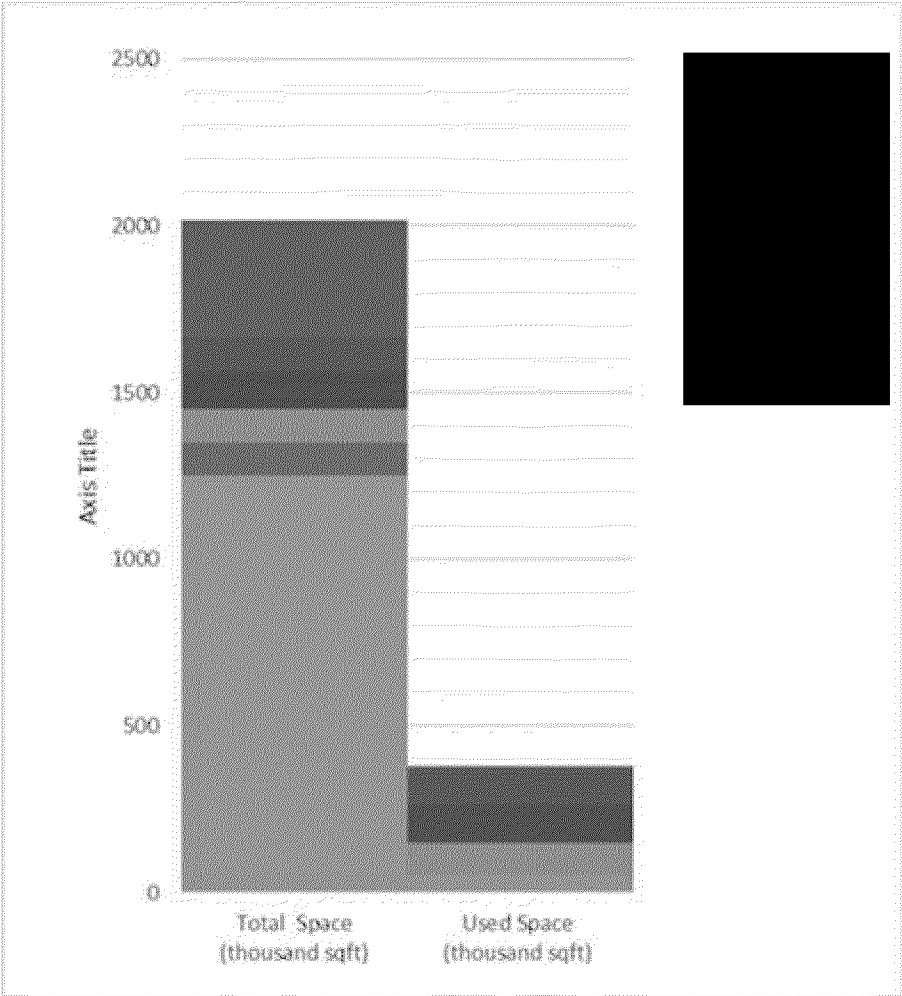
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Contractor name	Locations	Total Space (thousand sqft)	Used Space (thousand sqft)	Available Space (thousand sqft)	Predicted	
					(thousand sqft)	

Total	2065	429	1636	

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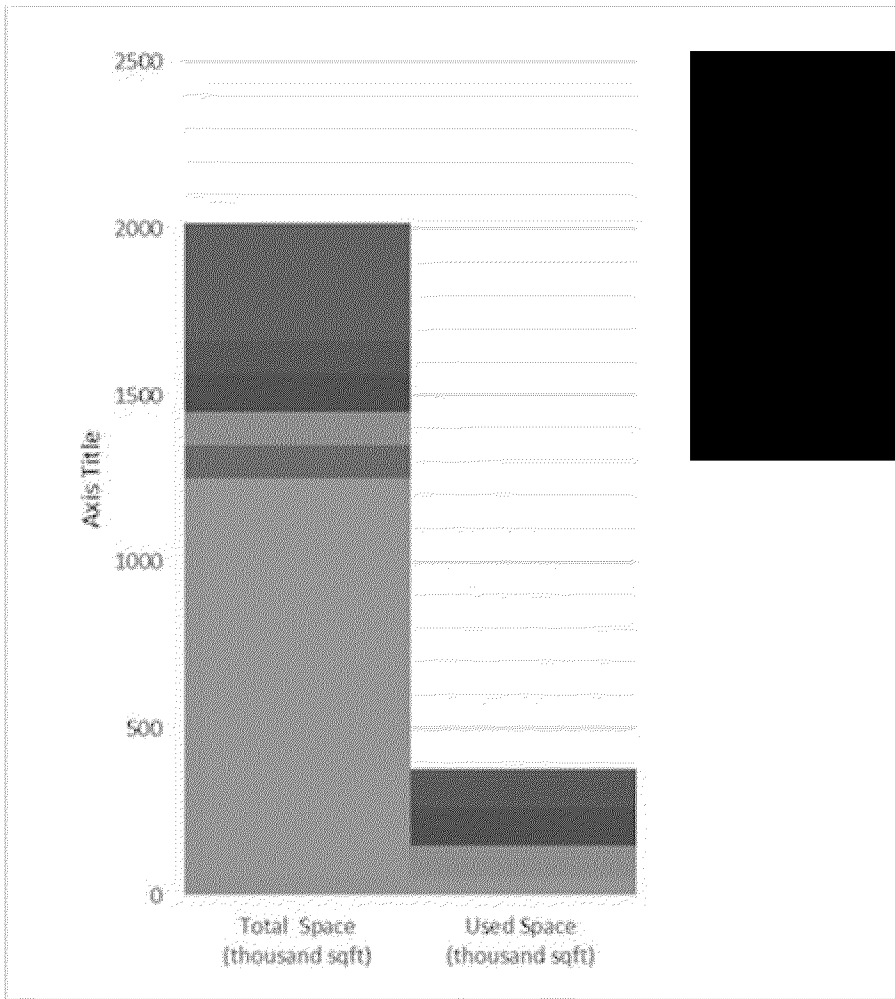
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					(thousand sqft)	
[REDACTED]	[REDACTED]	1250	50	1200		
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		0	0	0	(+)50	
		100	0	100		
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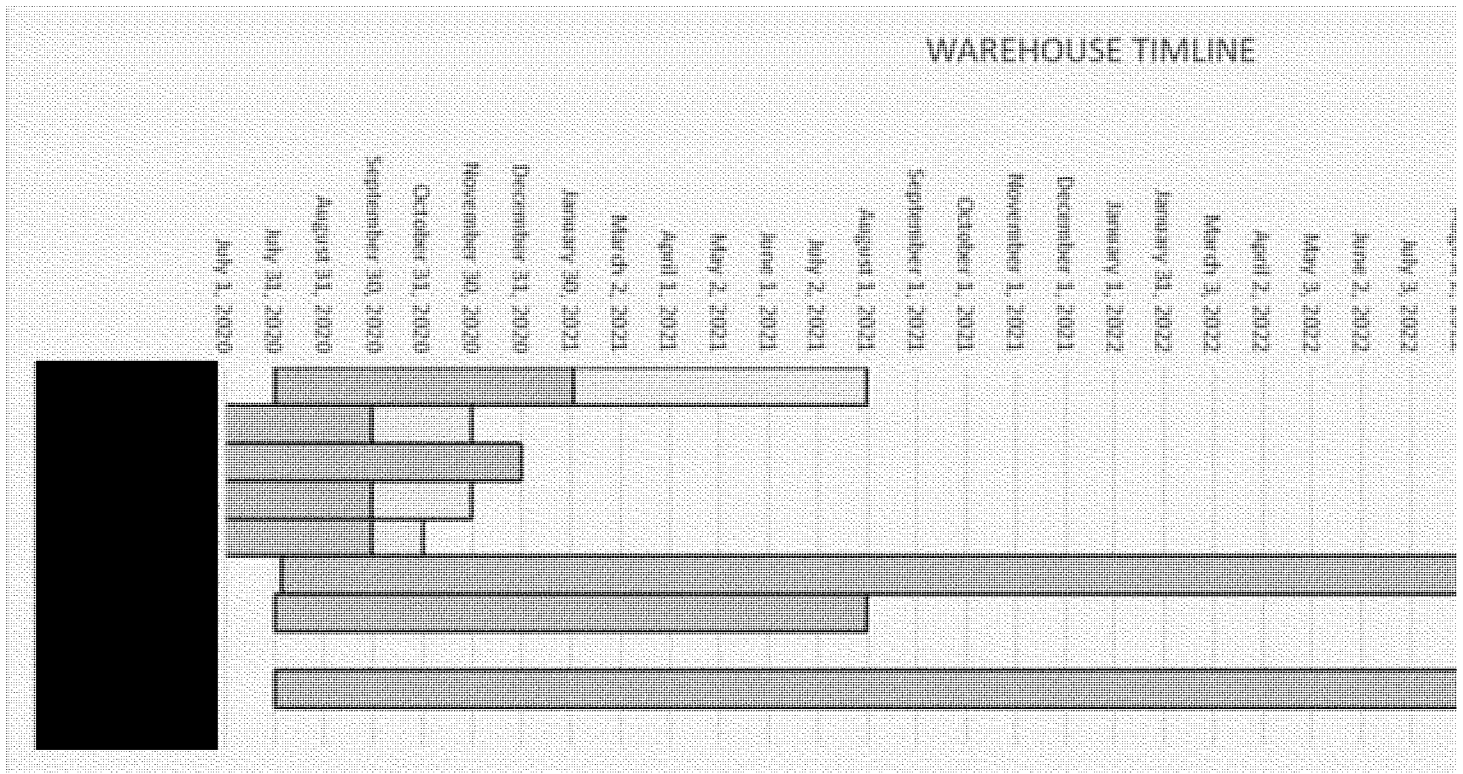
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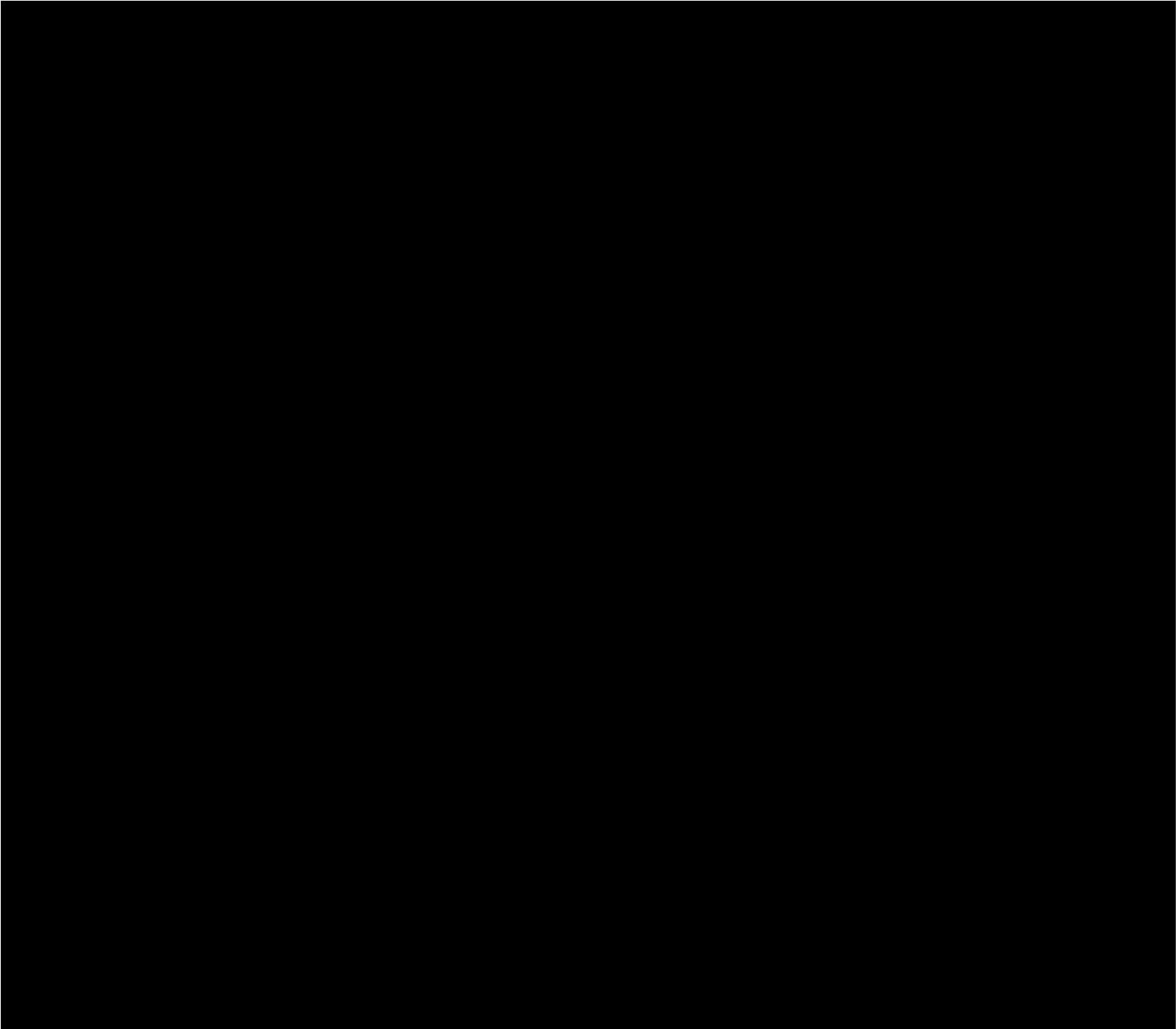
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A More Detailed Picture (noted above)



For your consideration.

Cheers,


 | 
Personal Protective Equipment and National Emergency Strategic Stockpile
Équipement de protection individuelle et Réserve nationale stratégique d'urgence


Public Health Agency of Canada | Agence de la santé publique du Canada
Ottawa, Canada K1A 0K9

FEDERAL/PROVINCIAL/ TERRITORIAL PUBLIC HEALTH RESPONSE PLAN FOR ONGOING MANAGEMENT OF COVID-19

August 19, 2020



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

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Executive Summary

This Federal/Provincial/Territorial plan developed in collaboration with federal, provincial and territorial public health officials, Indigenous partners, and health system partners, for these and other stakeholders, provides a common forward planning approach for ongoing management of COVID-19 in Canada. The plan acknowledges jurisdictional roles and responsibilities, identifies when national approaches are anticipated and when provincial/territorial flexibility and customization are expected.

Key elements of the plan include:

- a goal statement,
- public health response objectives,
- planning assumptions,
- a reasonable worst case scenario, and
- summaries of current and planned response activities for each main component of the public health response (i.e., Surveillance, Laboratory Response Activities, Public Health Measures, Infection Prevention and Control and Clinical Care Guidance, Vaccination, International Border and Travel Health Measures, Health Care System Infrastructure, Risk Communications and Outreach, and Research).

There is also content specifically addressing planning with Indigenous Communities, planning for high-risk settings and populations, and the role of modelling in the response. Much like other technical guidance, this document may require updating as our scientific knowledge of the SARS-CoV-2 pathogen increases, the epidemiological picture evolves in Canada and globally, epidemic control measures change, and new medical countermeasures become available (e.g., a vaccine, effective treatment).

The pandemic response goal is to minimize serious illness and overall deaths while minimizing societal disruption as a result of the COVID-19 pandemic. The COVID-19 response has been unprecedented with the swift implementation and public adoption of public health measures. While these measures have been successful in reducing the incidence of COVID-19 in Canada, the restrictive nature of many of these measures have had some negative health, well-being and societal consequences. Many of these consequences have disproportionately affected specific segments of the Canadian population. The goal statement and objectives reflect the need to respond in a way that achieves a better balance between minimizing the impact on morbidity and mortality with the impact on societal disruption in order to support a long-term, sustainable response.

To facilitate a common approach and appropriate level of preparedness across Canada, the plan includes a list of planning assumptions, a “reasonable worst case scenario”, and a list of capabilities and requirements needed to mitigate this scenario. The scenario is not the most likely scenario, rather, it provides a baseline to guide consideration of key capabilities, capacity issues, and identification of resource needs that will help focus planning activities. It is provided as a “stress-test”, not a prediction, and is intended to stimulate thinking concerning our current response efforts, capacity thresholds and resiliency. The reasonable worst case scenario includes an epidemic curve with a large peak in the fall or winter of 2020 followed by ongoing peaks and valleys for the next 2-3 years, with all peaks in incidence

creating a demand for resources that exceeds system capacity. It does not account for a widespread vaccine program or availability of an effective treatment.

The capabilities needed to mitigate this scenario, and for the ongoing management of COVID-19 in general, include the ability to:

- detect signals indicating a significant surge in cases may occur,
- prevent a large peak in the fall that greatly exceeds Canada's capacity to respond,
- reduce surges in incidence and hospitalizations,
- increase health care and public health capacity,
- monitor demand for health care resources, and
- foster ongoing public vigilance and compliance with measures and recommendations.

This plan, in conjunction with other foundational federal/provincial/territorial response plans, provides public health leaders with a coordinated approach to: address common issues, and to support the provincial/territorial responses to COVID-19 in the Canadian population. It includes information regarding the current focus of the public health response and anticipated needs for the short, mid and long term ongoing management of COVID-19, which will facilitate awareness and coordination both within and beyond the public health sector.

1. Purpose

The purpose of the *Federal/Provincial/Territorial Public Health Response Plan for Ongoing Management of COVID-19*, is to provide federal, provincial and territorial public health officials, Indigenous partners, health system partners and other stakeholders with a common forward planning approach for ongoing management of COVID-19 in Canada. This plan promotes a long-term approach that covers immediate planning imperatives for the fall/winter 2020 period and thereafter until population herd immunity in one form or another is sufficient to bring the pandemic activity in Canada to an end. This is an evergreen document that may require updating as our scientific knowledge of the SARS-CoV-2 pathogen increases, the epidemiological picture evolves in Canada and globally, epidemic control measures change, and new medical countermeasures become available (e.g., a vaccine, effective treatment).

Building on the ongoing public health response, this document identifies federal/provincial/territorial (F/P/T) public health preparations that are needed and already underway for the short, mid and long-term management of COVID-19 in Canada. It provides overarching guidance that is informed by existing intergovernmental pandemic preparedness, public health emergency planning and data, information and resource sharing agreements, arrangements and protocols (see *Appendix 1*) and draws extensively on the *Canadian Pandemic Influenza Preparedness Guidance* (CPIP). The CPIP stipulates that while it is a guidance document for pandemic influenza, much of its guidance is also applicable to other public health emergencies, which has been the case for the COVID-19 response. It is assumed that an ongoing (but appropriately scaled) F/P/T coordinated response structure and activities as outlined in the *F/P/T Public Health Response Plan for Biological Events* (F/P/T PHRPBE), will be needed for the foreseeable future.

To facilitate a common approach and appropriate level of preparedness across Canada, this plan includes a “reasonable worst case scenario.” While this scenario is not necessarily the most likely scenario, it provides a baseline to guide consideration of key capabilities, capacity issues, and identification of resource needs that will help focus planning activities. As with other F/P/T plans, this document outlines overarching goals and objectives, acknowledges jurisdictional roles and responsibilities, identifies when national approaches are anticipated and when provincial/territorial (P/T) flexibility and customization are expected. This document has been developed to facilitate planning for an ongoing COVID-19 response that is not only flexible and adaptive but also sustainable.

2. Context

COVID-19 represents an unprecedented threat to the health, social and economic well-being of Canadians, Canadian society and the global community. On January 30, 2020 the Director General of the World Health Organization (WHO) determined that COVID-19 constituted a Public Health Emergency of International Concern (PHEIC) and declared it a pandemic on March 11, 2020, due to extensive international spread. Mitigating the impact of COVID-19 in Canada requires a comprehensive, integrated and cross-sectoral “whole-of society”, “whole-of-government” strategy that focuses on what is within the span of control of our country while trying to reduce the risk of what is not. The context of our planning, therefore, is primarily Canadian-centric but recognizes that the global situation will have a significant effect on response activities.

Mobilizing Canada's health sector response to COVID-19 remains a critical part of that overall effort. This plan and its more detailed components that are described herein, draws heavily on the experience acquired and the work completed during the response to the introduction and subsequent first wave of COVID-19 in Canada. While Canada's F/P/T public health officials have conducted pandemic planning for years, plans must be customized and supplemented as the pandemic unfolds, as each pandemic is different. Despite the incredible effort and pace of COVID-19 response in Canada to date, we are still operating from a place of significant unknowns and need to continue learning and adapting as we move ahead with planning activities.

While the pandemic has affected Canadians in diverse ways, Canadians have not experienced these impacts equally. Emerging evidence indicates that social determinants of health, including low-income status, adverse physical environments, precarious housing, and race/ethnicity, among others, correlate with increased risk of COVID-19 infection.¹ Data show that compared to men, women in Canada have experienced higher rates of COVID-19-related fatalities, and job losses have been higher for women, with recent recoveries in the workforce disproportionately benefitting men.^{2 3} As a result of the economic downturn triggered by the pandemic, visible minorities have been particularly affected, with a larger share reporting having difficulties meeting their financial obligations or essential needs compared to White workers.⁴ Similarly, Indigenous Peoples, persons living with disabilities, and LGBTQ2IA+ communities, among others, have been disproportionately affected by the pandemic.⁵

Furthermore, some populations have been particularly impacted by the measures implemented to control the pandemic; for example, the unprecedented extent and duration of school closures which may have long-term effects on child development, health and education^{6 7}. As efforts shift towards the next phase of the response, it is imperative that the needs of diverse groups of Canadians are carefully considered in order to mitigate adverse consequences and reduce both known and reasonably anticipated inequities.

3. COVID-19 Response Goal, Objectives and Response to Date

3.1 Goal

Canada's goal for responding to COVID-19 is based on that established for pandemic influenza in the *Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector* document (last updated August 2018). The goal is:

- To minimize serious illness and overall deaths while minimizing societal disruption as a result of the COVID-19 pandemic.

This goal has guided F/P/T actions and has helped reduce the incidence of COVID-19 in Canada (i.e., flattening of the initial epidemic curve) and associated serious illness and deaths. Reducing the health impact of COVID-19 in the absence of a vaccine or effective treatment while minimizing societal disruption has been extremely challenging. The pandemic circumstances, not only in Canada but globally, have led to the extraordinary implementation of broad, restrictive community-based public health measures and the need to offer an unparalleled level of societal support measures (e.g., income support, housing support, and expansion of social services such as mental health and food assistance).

When the original CPIP pandemic goal was developed it was thought that the main cause of societal disruption would be the absence of essential workers (including health care providers) from the workplace due to illness, need to care for ill family members, workplace outbreak control measures and/or refusals to work. The closure of international borders, businesses, schools and restrictions on social gatherings was always acknowledged as a potential source of societal disruption in a severe pandemic. The COVID-19 response has been unprecedented with the swift implementation and public adoption of public health measures (PHM). The restrictive measures that have averted widespread essential service disruption due to illness have, however, had significant broader direct and indirect impacts on health and wellbeing.

3.2 Objectives

As the focus of planning now shifts to a long-term sustainable response it is time to examine how to strike an optimal balance between minimizing both health impacts and societal disruption. The following public health objectives aim to achieve this balance.

Objectives

To mitigate both health and societal impacts of the pandemic by:

- Taking public health action to reduce the incidence, morbidity or mortality of COVID-19 to a locally manageable level;
- Protecting high-risk populations and communities, including Indigenous communities;
- Reducing negative physical and mental health consequences of COVID-19 response actions;
- Taking a risk and evidence based approach to the use of restrictive public health measures;
- Supporting access to health care services (both COVID-19 and non-COVID-19 related services), supplies and treatment options;
- Leveraging Canada's research, surveillance and laboratory systems;
- Working with other sectors to strengthen the social and economic services and policies that protect health and prevent disease (e.g., adequate housing, employment and income supports); and
- Working collaboratively with the international community.

3.3 Response to date

F/P/T response actions to date have been comprehensive and have gone a long way toward achieving these national public health objectives. These actions include but are not limited to:

- rapid case identification, confirmation, and isolation for the period of communicability;
- rapid contact tracing, identification, communication and quarantine of contacts for the duration of the incubation period;
- supporting evidence-informed decision-making by collecting, analyzing and sharing surveillance and other scientific information to inform and target interventions;
- rapid outbreak identification and containment activities;
- preventing the importation of COVID-19 through border and travel restrictions;
- reducing the spread of infection through consistent and frequent communication to the public to promote the importance of individual, family, community and organizational mitigation strategies and PHM;
- promoting modifications to day-to-day activities to reduce transmission of COVID-19 in community settings as much as possible;

- protecting those most at risk of serious illness through the provision of resources, guidance and public messaging;
- protecting those most at risk of serious illness in congregate settings and health-care facilities through targeted communications, guidance and response actions;
- establishing a protective stance through community-level screening, guidance and quarantine measures for Northern/remote/isolated communities, and Indigenous populations;
- supporting community-level health and social interventions aimed at supporting and protecting populations at high risk and mitigating negative impacts of public health interventions;
- providing guidance to public health partners, health care delivery stakeholders, and non-health sectors/settings that facilitates an evidence-informed, risk-based approach;
- facilitating rapid access to health care supplies, equipment and resources, including medical evacuation from remote, isolated and under-served communities;
- supporting the continuity of health care and other essential services;
- providing additional mental health resources and social services; and
- facilitating a gradual, cautious return to community functioning in the context of ongoing COVID-19 activity.

Maintaining the trust and confidence of Canadians through timely and transparent communication of evidence-informed public health decisions; communicating appropriate and timely advice (including changes to this advice) to decision-makers, health professionals and the public; taking into consideration the diverse needs of population groups based on vulnerability, ethnicity/culture, ability status, and other socioeconomic and demographic factors; and supporting a coordinated response by working collaboratively with all orders of government and stakeholders, continue to be essential in this ongoing response. We need to prepare the public for the reality of living with COVID for the foreseeable future and the changes that will come in next 2 to 3 years by which time we hope to have widespread access to vaccines, effective treatment and increasing levels of herd immunity.

In order to achieve the response goal and objectives it is essential that the effectiveness of COVID-19 control measures be assessed against any negative effects of implementation of these measures (including the re-allocation of other public health program resources); with the objective of reducing COVID-19 incidence to a locally manageable level in mind. This is key to a sustainable long-term response.

Public health officials are prepared to respond to the variety of challenges that the management of COVID-19 will involve as the pandemic continues to unfold. Advice, recommended measures and interventions have been made based on these shared pandemic goals and objectives. As our collective knowledge increases, these objectives will be revisited and updated as needed.

4. Forward Planning: Assumptions and Epidemiological Drivers

This plan aims to support consistent but flexible public health planning at all levels of government in order to prepare for short, mid and long-term COVID-19 response activities. Plans should reflect a combination of nationally agreed upon approaches with regionally and locally adaptable actions and be aligned with the pandemic response goals and objectives, taking into account the needs of diverse

groups of Canadians on the basis of health status, age, gender, ethnicity/culture, ability status, and other socio-economic and demographic factors.

Table 1 identifies general planning assumptions that aim to provide a common basis for planning in the Canadian context for the next several months to years. The areas of uncertainty, listed in the table, help identify current unknowns. Given these areas of evolving evidence and knowledge, plans need to include flexible elements or placeholders that can be updated as the pandemic progresses and knowledge and experience increase. Both planning assumptions and areas of uncertainty require validation and/or updating and may be triggers for re-visiting and modifying plans.

Table 1: Summary of planning assumptions and areas of uncertainty

General planning assumptions
<ul style="list-style-type: none"> • Compared to influenza, COVID-19 has higher transmissibility (i.e. it has a higher basic reproductive number or R_0) is highly transmissible prior to symptom onset, and has a higher infection fatality rate. • Transmission by asymptomatic cases is occurring. • The pandemic likely won't be halted by "herd immunity" until $\geq 60\%$ of the population is immune (through natural infection or vaccination). • Immunity (from natural infection or vaccination) may not be strong or long-lasting. • A vaccine will not be widely available in the short term or mid term (i.e., before 2021). • Once a safe and efficacious vaccine is available it will be rolled out in a targeted manner. • There will be a national approach to prioritization/targeting of any limited resource which will be based on an <u>ethics framework</u>. Policy development around prioritizing limited resources will also be informed by other logistical, epidemiological and societal considerations, for example the <u>Declaration of the Rights of Indigenous Peoples</u>. • The national epidemic curve will be a compilation of the epidemic activity in each province and territory, which will be influenced by the locally implemented public health response measures and public adherence to and compliance with these measures. • The risk of imported cases sparking localized outbreaks is ongoing. • International borders will be open over time with corresponding increases in travel (during the period covered by this plan). • Response measures implemented in one jurisdiction could have an impact on neighbouring jurisdictions, even if they themselves do not implement that measure. • The level of response across Canada will vary based on local epidemiology (e.g., could be surging in multiple jurisdictions at same time, different times or lulls could coincide).

- Our health care system and public health system capacity has limits which could be breached during peaks of COVID-19 activity.
- Effects of concurrent circulation of influenza and other respiratory viruses will be additive, on health care (including long-term and other community care) and public health system capacity during the fall-winter period but potentially lower than usual seasonal increases due to the effect of COVID-19 public health and infection prevention and control measures.
- High uptake of an effective (i.e., well matched) seasonal influenza vaccine amongst those at high-risk of influenza complications will mitigate the demand for hospital resources during the influenza season. High vaccine coverage in the general population may also indirectly mitigate demand by reducing transmission of influenza to high-risk individuals.
- Public health capacity to respond to other priorities (e.g., the overdose crisis and higher rates of problematic substance use) needs to be maintained. Capacity to catch-up on interrupted program delivery may also be required.

Areas of uncertainty

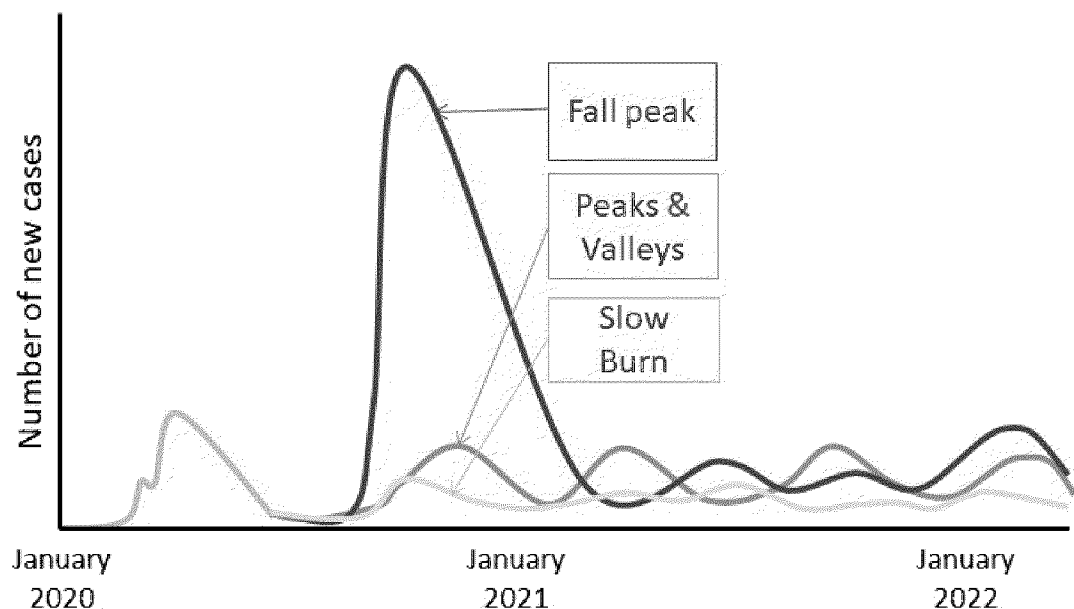
- Whether there will be a change in COVID-19 severity, risk groups, transmission patterns/dynamics in the short, medium or long term (e.g., due to viral mutation).
- Duration of natural immunity (i.e., recovered cases), what constitutes immunity, and whether infection with other coronaviruses provides cross-protection.
- Whether COVID-19 will eventually have a seasonal pattern similar to other respiratory infections.
- Whether restrictive community PHM could successfully be implemented again, to what degree, duration, how consistently and at what level (e.g., P/T vs regionally vs locally).
- How potential variations in risk tolerance over time and in different geographic areas will impact response actions.
- Whether significant rates of co-infection with SARS-CoV-2 and a seasonal influenza virus or other respiratory pathogen will occur and whether co-infection will significantly impact morbidity or mortality cases and subsequently demand on the health care system and resources.
- Whether recommendations for early/lower thresholds for influenza antiviral treatment will significantly reduce influenza-associated hospitalizations.
- Robustness of international COVID-19 data and testing.

Three potential epidemic curve patterns (see *Figure 1*) have been proposed by modellers, epidemiologists and other experts for planning purposes⁸:

1. *Peaks and Valleys*: The initial wave of COVID-19 in spring 2020 is followed by a series of repetitive similar or smaller waves that occur through the summer and then consistently over a 1- to 2-year period, gradually diminishing sometime in 2021.
2. *Fall Peak*: The initial wave of COVID-19 in spring 2020 is followed by a larger wave in the fall or winter of 2020 and one or more smaller subsequent waves in 2021.
3. *Slow Burn*: The initial wave of COVID-19 in spring 2020 is followed by a “slow burn” of ongoing transmission and case occurrence, but without a clear wave pattern.

The slow burn scenario is our aim as it is most likely to keep incidence, morbidity and mortality at a locally manageable level.



Figure 1: Potential Epidemic curve Patterns**Figure 1 – Text Description**

This figure is a graph that has an X-axis (horizontal) with 3 points in time: January 2020, January 2021 and January 2022 and a Y-axis (vertical) that does not have a scale but represents the number of new cases of COVID-19; together these frame a general epidemic curve. The curve starts with an orange line depicting the initial wave of COVID-19 cases in Canada, specifically starting with zero cases at the start of January 2020 followed by a relatively steady increase in new cases over time, peaking in April 2020, then followed by a more gradual decrease to July 2020. The rest of the graph includes 3 lines (in shades of blue) that pick up where the orange line left off (corresponding to July 2020). These 3 lines depict the 3 potential epidemic curve patterns described in the text prior to the figure. In accordance with the text these lines are labelled: “Fall peak”, “Peaks and Valleys” and “Slow Burn”. All 3 potential epidemic curve patterns end just after the X-axis point for January 2022, roughly corresponding to March 2022.

These patterns assume different levels of ongoing or temporarily imposed mitigation measures and does not include a scenario where there is an absence of public health measures. They do not account for a widespread vaccine program with good uptake.

Modelling and capacity assessments facilitate appropriate planning by exploring how possible ranges of parameters relevant to these issues affect the extent and impact of the epidemic. Forecasting models are best suited to inform what may occur in the coming 2-3 months; therefore the role of modelling in long-term planning is focused on providing additional information to decision makers regarding the potential impact of control measures as opposed to the incidence rate itself.

Mathematical modelling supports planning our response to epidemics and outbreaks, and the COVID-19 epidemic has demonstrated the important role and need for the full range of modelling tools required

to support decision-making during a complex public health crisis. This role and the types of models currently in use are described in *Appendix 2: Modelling Support for Forward Planning*.

It is important to recognize that the national epidemic curve will likely be a combination of the epidemic curve patterns from each province and territory, which in turn will be dependent on the effect of the escalation and suppression drivers in each jurisdiction. *Figure 2* identifies epidemiological drivers that will influence the number and timing of new cases and therefore the epidemic curve “wave pattern” we experience in Canada going forward.

Figure 2: Epidemiological Drivers

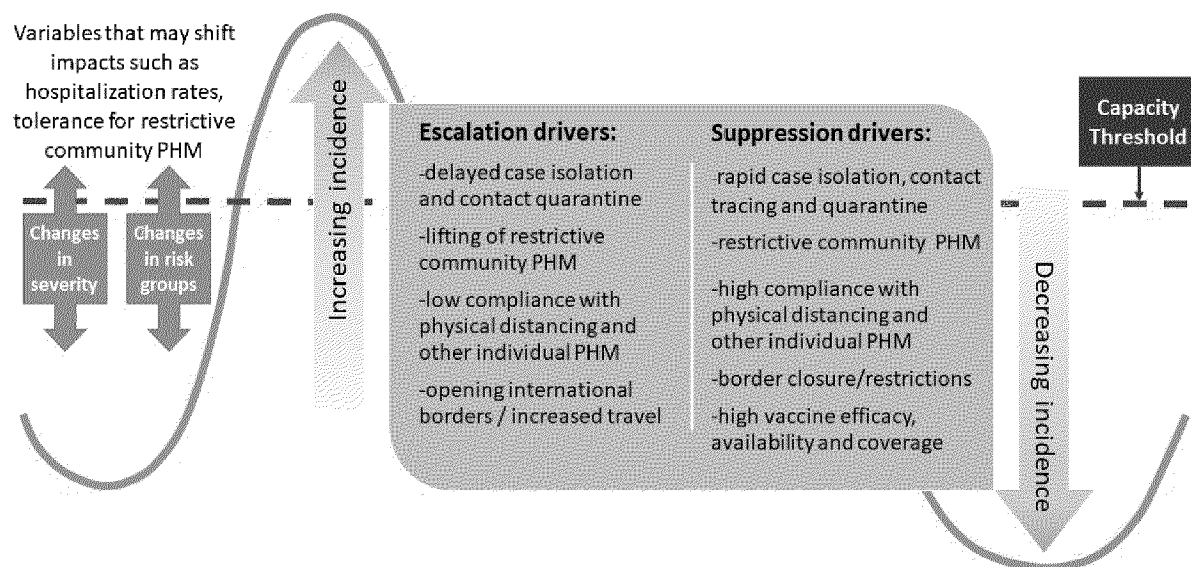


Figure 2 –Text Description

This graphic visually conveys how epidemiological drivers influence incidence of COVID-19 and thereby the epidemic curve pattern (depicted by an orange line that arcs up and then down). The escalation drivers (that would lead to more new cases and depicted by an upward blue arrow that includes the text “Increasing incidence” and points to the upward arc) are listed in a text box as: delayed case isolation and contact quarantine, lifting of restrictive community public health measures, low compliance with physical distancing and other individual public health measures, and the opening of international borders/increased travel. The suppression drivers (that would lead to less new cases and thus depicted by a downward blue arrow that includes the text “Decreasing incidence” and points to the downward arc) are listed as: rapid case isolation and contact tracing and quarantine, restrictive community public health measures, high compliance with physical distancing and other individual public health measures, border closure/restrictions, and high vaccine effectiveness, availability and coverage. Also included in this graphic is the concept of “Capacity Threshold” which conveys the idea of an upper response capacity limit that could be breached by a high number of cases occurring over a short period of time. This is depicted with a horizontal red dashed line that crosses the upward arcing orange line (that suggests an epidemic curve pattern where the number of new cases is peaking). Finally variables that may shift impacts, such as hospitalization rates, tolerance for restrictive community public health measures, are broadly grouped as “changes in severity” and “changes in risk groups” in two text boxes with both up and down arrows coming off of the boxes to highlight that these variables may impact the response capacity threshold.

An epidemic curve pattern is one part of a planning scenario as it reflects the potential changes in the number of new cases occurring over a period of time. To ensure optimal planning it is important to consider not only the number of cases but variables that may shift the health and societal impacts of those new cases (as depicted on the left side of Figure 2) and subsequently possible surges that exceed current health care and public health capacity thresholds. These variables include but are not limited to: changes in severity of illness experienced by the majority of cases, changes in high-risk groups (i.e., both the demographic characteristics of who is getting severely ill and identification of new risk factors for severe illness), availability of an effective treatment and/or vaccine, duration of naturally acquired immunity and concurrent demands on the health and public health system that affect capacity to manage new cases. The manifestation of these variables will also influence public risk perception and therefore, in a somewhat circular manner, epidemiological drivers like compliance with PHM.

5. Reasonable Worst Case Scenario

To facilitate planning in the context of a high degree of uncertainty and the numerous possible scenarios, a “reasonable worst case scenario” has been developed. It is based on a combination of the previously described “Fall peak” and “Peaks and Valleys” epidemic curve patterns. See *Figure 3*. This scenario should not be considered a prediction or even highly likely, but rather a common set of characteristics that will support robust forward planning (see text box).

Figure 3: Epidemic curve for reasonable worst case scenario

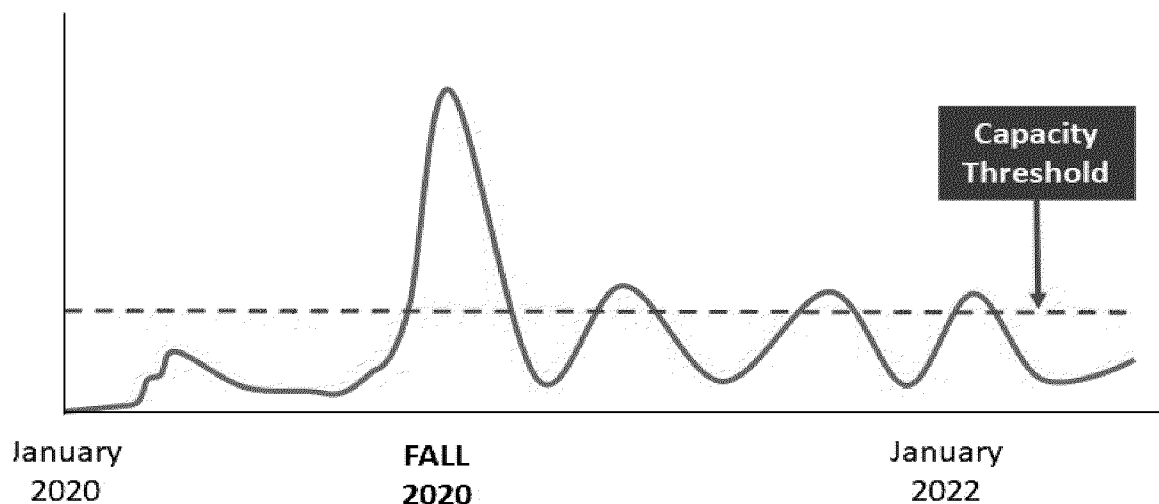


Figure 3 – Text Description

This figure is a graph that has an X-axis (horizontal) with 3 points in time: January 2020, Fall 2020 and January 2022 and a Y-axis (vertical) that does not have a scale but represents the number of new cases of COVID-19; together these frame a general epidemic curve. The epidemic curve pattern for the reasonable worst case scenario (which is a combination of the “Fall Peak” and “Peaks and Valleys” scenarios previously described in the text) is depicted with a blue line that undulates horizontally across the graph. The line depicts the initial wave of COVID-19 cases in Canada, specifically starting with zero cases at the start of January 2020 followed by a relatively steady increase in new cases over time, peaking in April 2020, then followed by a more gradual decrease to July 2020. The line stays relatively flat then heads upwards to form a peak that corresponds with the Fall 2020 time frame and is 2 to 3 times higher than the initial wave. This peak is followed by a relatively sharp decline to complete the image of a large Fall wave. The line then continues in a peak and valley pattern through to its conclusion corresponding to the Spring 2022 time frame. Also included in this graphic is the concept of “Capacity Threshold” which conveys the idea of an upper response capacity limit that could be breached by a high number of cases occurring over a short period of time. This is depicted with a horizontal red dashed line. In this epidemic curve for the reasonable worst case scenario, the peaks in the curve all cross over the capacity threshold line – depicting the situation where the surge in cases results in increased response capacity demands that exceed the capacity threshold.

Reasonable worst case scenario characteristics:

- Epidemic curve with a large fall 2020 peak followed by ongoing peaks and valleys for the next 2-3 years
- Fall/winter peak occurs in 2020 and is 2-3 times higher than the incidence experienced at the peak of the initial wave, with corresponding increases in mortality. (Note: the amplitude of the fall peak at the PT or regional level in this scenario will be influenced by the incidence experienced at the peak of the initial wave.)
- Demand for health care resources (hospitalizations, ICU beds, ventilators, personal protective equipment, Long-term care spaces, etc.) exceeds system capacity (during all peaks)
- Shortage of health care providers (e.g., due to illness, burnout, work refusal, international competition)
- Demands on both laboratory and public health resources exceed capacity (during all peaks)
- COVID-19 peaks occur concurrently with severe influenza/other respiratory pathogens season
- Similar timing of peaks across the country (each jurisdiction experiences peaks at same time)
- Low level of compliance with public health measures
- Permeation of mis/disinformation in Canadian society
- Weak/non-sustained post-infection immunity (recovered cases can become susceptible again)
- No effective widely available treatment
- No effective vaccine available

Nationally the incidence was approximately 31/100,000 population or 11,849 new cases reported during the peak week in the initial wave. There was a high degree of variation between PTs with the most populous PTs having the greatest impact on the national epidemic curve. The reasonable worst case scenario should include planning for a fall or winter peak of 2-3 times the amplitude of the initial wave in PTs or regions that experienced a high peak in incidence during the initial wave and up to 100 times the peak incidence in areas that had lower incidence in the initial wave.

This reasonable worst case scenario can be used to identify any new or outstanding preparedness and response needs or issues that would require, or benefit from, a coordinated F/P/T effort should Canada be faced with this scenario. It is provided as a “stress-test” not a prediction and is intended to stimulate thinking concerning our current response efforts, capacity thresholds and resiliency.

More specifically, the scenario presents a set of potential risks, each requiring mitigation strategies based on an assessment of capacity requirements and our collective capability to manage the risks. *Figure 4* identifies high-level capabilities that need to be in place for this scenario and *Table 2* identifies associated requirements that should be considered at all levels of government.

Figure 4: Capabilities for management of the reasonable worst case scenario

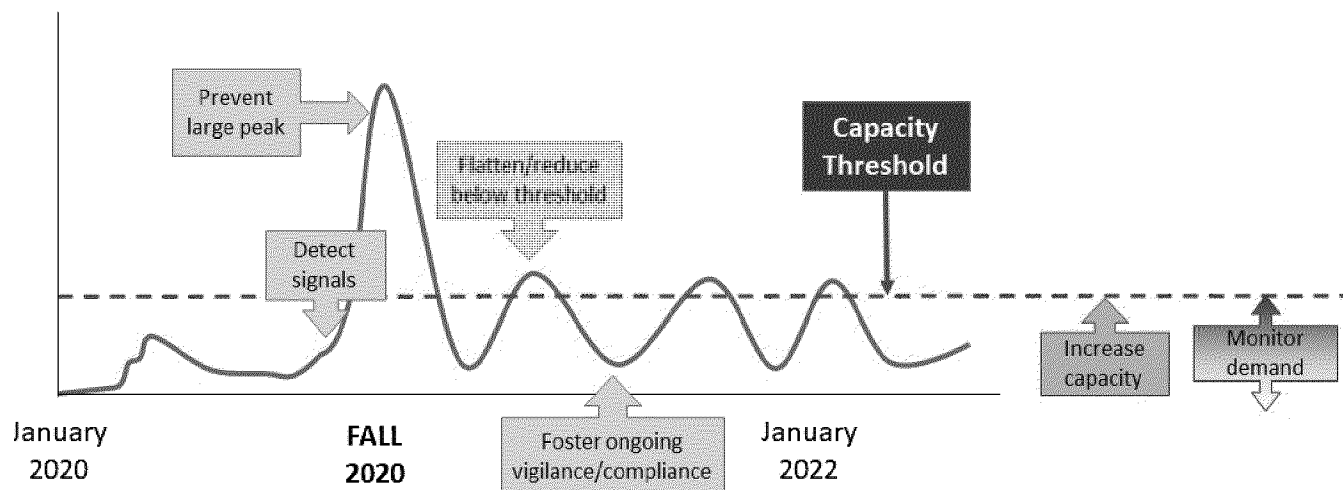


Figure 4 – Text Description

This figure is the same as Figure 3 but includes text boxes that identify capabilities needed for the management of the reasonable worst case scenario. Several of the text boxes have arrows that point to locations on the curve pattern where it is particularly important that the capacity be in place, however the intention is that these capacities are needed on an ongoing basis throughout the response. Also included in this graphic is the concept of “Capacity Threshold” which conveys the idea of an upper response capacity limit that could be breached by a high number of cases occurring over a short period of time. This is depicted with a horizontal red dashed line. In this epidemic curve for the reasonable worst case scenario, the peaks in the curve all cross over the capacity threshold line – depicting the situation where the surge in cases results in increased response capacity demands that exceed the capacity threshold. There are two red shaded text boxes that highlight the need to increase response capacity and to monitor demand. There are four text boxes, that point to the epidemic curve. The first includes the text “Detect signals” and points to the epidemic curve (depicted by a blue line), right before a surge in the number of new cases (depicted by an upswing and peak in curve) corresponding with a large Fall 2020 wave. The next text box includes the text “Prevent large peak” and points to the epidemic curve right where the large Fall 2020 peak is depicted. Where a subsequent peak (smaller in amplitude to the Fall 2020 wave) occurs and crosses the capacity threshold line, a text box indicates the need for capacities aimed at reducing demands caused by the peak in cases with the text “Flatten/reduce below threshold” included in the box. Finally in a “valley” in the peaks and valleys epidemic curve portion of the reasonable worst case scenario epidemic curve, there is a text box indicating the ongoing need to “Foster ongoing vigilance/compliance” particularly when new case numbers seem to be low or decreasing.

Table 2: Reasonable worst case scenario risk management requirements

Capability	Risk Management Requirements
<i>DETECT –signals indicating a significant surge in cases may occur</i>	<ul style="list-style-type: none"> ➤ timely surveillance data (local, P/T, national and international) ➤ laboratory resources to rapidly distinguish between COVID-19 and other respiratory viruses ➤ rapid analysis/investigation to assess risk of large peak (exceeding response capacity), based on precise/granular local level data ➤ early warning for increased demand on resources and response activities ➤ rapid resource allocation to reduce and/or manage impacts ➤ pro-active risk communication ➤ ongoing vigilance/commitment to COVID-19 response
<i>PREVENT –large fall peak that greatly exceeds capacity to respond</i>	<ul style="list-style-type: none"> ➤ resources to ensure ongoing response measures are adequate to control current spread and prevent new cases ➤ public cooperation with surveillance and case and contact management activities (i.e., to facilitate timely identification and isolation/quarantine) ➤ consistent, clear localized triggers for re-implementation of restrictive PHM ➤ rapid deployment of targeted outbreak control/containment resources (including implementation of local “lockdowns”) ➤ gradual, controlled “re-opening” of settings and gradual resumption of activities (with modifications) that are known to be associated with increased transmission risk ➤ high compliance with ongoing modifications/controls put in place as restrictive PHM are lifted ➤ high compliance with personal protective measures ➤ proactive international border control measures ➤ increased messaging and public education regarding personal protective measures as more social interactions move back indoors in the fall season ➤ increased health care system capacity (especially in high-risk settings such as long-term care) and consideration of how to deliver needed health care (e.g., at alternate sites, using retired workers or students or alternate care providers)
<i>REDUCE –surges in incidence and hospitalizations</i>	<ul style="list-style-type: none"> ➤ adequate resources to ensure ongoing response measures to control current spread and prevent new cases, hospitalizations and deaths ➤ focus on rapid detection and isolation of cases, and rapid identification and quarantine of contacts ➤ rapid detection of outbreaks and deployment of outbreak control/containment resources ➤ consideration of how to re-implement restrictive community PHM and which PHM to re-implement based on clear local-level triggers ➤ increased use of/compliance with, personal protective measures ➤ ongoing international border control measures with possible re-introduction of restrictions

INCREASE—health care and public health capacity

- laboratory surge capacity to ensure rapid diagnosis and case notification
- availability of public health resources for surges in case and contact management requirements in the community (including isolation of cases and quarantine of contacts at home/alternative designated sites), development of new guidance products and provision of expert advice based on evolving scientific literature
- resources (i.e., human and equipment/supplies), planning and training for outbreak control activities in high-risk settings, including clear emergency back-up contact points
- surge capacity to ensure availability/access to health care resources including equipment (e.g., ventilators, personal protective equipment) during peaks
- availability of sufficient health care providers to meet surge in demand
- ability to access and distribute effective pharmaceutical treatments
- ongoing monitoring of scientific literature, networks and expert advice to inform best practices for treatment and identification of effective pharmaceuticals that reduce hospitalization requirements and/or duration of hospitalization
- recovery policies and measures (e.g., discharge for recovery at home or alternate site) to avert potential backlogs in the hospital system

MONITOR—demand for health care resources

- surveillance for early indicators that other illnesses that may cause a surge in demand for health care resources (e.g., seasonal influenza, other respiratory pathogens)
- linkages between health care delivery and public health to ensure timely establishment of alternative/over-flow care sites
- enhanced monitoring of global supply chains that could trigger drug shortages and identified alternatives and strategies to prioritize and conserve supply (e.g., critical supply reserve etc.)

FOSTER—ongoing public vigilance and compliance with measures and recommendations

- ongoing public trust in public health authorities
- communication and education products to support continued widespread public adherence to personal protective measures and community-based public health measure
- public knowledge, attitudes and behavior research to inform sustainable effective behavioral changes

6. COVID-19 F/P/T Response Components

Forward planning will also be informed by ongoing reflection regarding what has worked well, what we have learned and what we can be adjusted based on evidence and experience. Using the response components identified in the CPIP, with a focus on those requiring F/P/T public health leadership and consultation, this section provides details on national-level activities planned or already underway that will assist and expedite complementary planning in each federal government department, province and territory.

6.1 Surveillance

The purpose of surveillance and risk assessment activities is to provide decision makers with the timely epidemiological and risk information they need to inform action. Similar to national influenza surveillance (FluWatch), COVID-19 surveillance is a pan-Canadian initiative that integrates numerous data streams including existing surveillance systems with novel, non-traditional data sources.

Current Status/Focus

Currently, the following data sources are facilitating monitoring across the spectrum of disease (i.e., from mild cases in the community based on sentinel surveillance to severe illness based on hospitalization data).

- Case-level data reported by PTs: Revised national dataset including more information on cases, risk factor data, improved occupational data, and the addition of race/ethnicity data is a key priority.
- Aggregate laboratory result data: Provincial public health laboratories and PHAC's National Microbiology Lab report numbers of people tested for SARS-CoV-2.
- Syndromic surveillance data: Canadian residents with influenza-like illness and individuals reporting influenza-like illness to participating sentinel practitioners participating in PHAC's FluWatch.
- Apps: User data from Canada COVID-19 and other symptom tracking applications.
- Mobility data: Partnership with BlueDot Inc., and other sources that may become available, to monitor indicators of population movement as a proxy measure for compliance with PHM, and the levels of inter-P/T movement.
- Special survey: Impact of COVID-19 on specific populations (e.g., health care worker).
- Sentinel Surveillance Networks:
 - Hospital networks - Several hospital-based data streams measure the impact of COVID-19 in Canadian hospitals and collect detailed case information on most severe cases.
 - Canadian Pediatric Surveillance Program - occurrence of Multi Inflammatory System in Children (MIS-C).
 - Community-based systems/ networks - Assess the level of transmission in the community and the epidemiologic characteristics of outpatient cases.
- Publicly available data: supplementary data source to add situational awareness on COVID-19 transmission in jurisdictions.

Preparations/Forward Planning

Preparations are underway to improve the quality, completeness and timeliness of surveillance data in advance of a potential fall resurgence. This includes F/P/T/Indigenous support of First Nations/Inuit/Métis-led data management. In general, the multiple data streams are being configured in order to pick up signals and changes in epidemiology. These preparations and ongoing activities based on the anticipated short, mid or long-term timeframe are identified below.

Short term:

- Work with Surveillance Expert Working Group (SEWG) on the operationalization of a new national dataset.
- Work with the PHAC Health Portfolio Operations Centre (HPOC) to ensure seamless reporting and mapping to existing data.

- Updating/developing data dictionary, case report form, metadata guide (i.e., description of data collection processes in each jurisdiction), and surveillance guidance.
- Implementation of updated database infrastructure.
- Work through the Canadian Public Health Laboratory Network (CPHLN) to determine what demographic data on COVID-19 tests would be available at the national level and to improve laboratory surveillance data stream.
- Continue the work with P/T representatives to increase standardization of outbreak reporting (including establishment of a weekly outbreak dataset) via the Canadian National Public Health Intelligence system.

Medium to Long term:

- Consideration of new cloud-based database for use in HPOC and to support multiple data streams.

Planning Variables or Signals

It is possible that a new syndrome or rare event would require the development of a new, or adjustments to, the surveillance strategy as has occurred for Multisystem Inflammatory Syndrome in Children (MIS-C).

New settings or populations affected by outbreaks could emerge in outbreak surveillance (or via outbreak intelligence gathering) which could precipitate new data needs, additional surveillance activities or new variables to be collected to inform actions. For example, outbreaks among temporary foreign workers have highlighted the need to be prepared to rapidly implement specific surveillance and coordination mechanisms, as well as drawn attention to how social determinants of health (e.g., crowded housing, precarious work, access to medical services) can impact transmission and control of COVID-19.

6.2 Laboratory Response Activities

Laboratory-based surveillance is an integral part of monitoring respiratory virus activity. Because there are numerous respiratory viruses circulating at one time especially during the fall and winter seasons, laboratory testing using validated tests is critical for diagnosing COVID-19. Since the start of the COVID-19 outbreak, Canada's National Microbiology Laboratory (NML) has been providing leadership in regard to testing for COVID-19 and surge capacity for provincial and territorial public health laboratories. The NML has also contributed to domestic and international efforts to better understand COVID-19 virus characteristics that can inform the development of medical countermeasures.

Current Status/Focus

Canada's public health laboratories response activities are currently focused on the following:

- optimizing molecular testing to reduce reagent consumption by exploring the reduction in PCR target genes, pooling of samples, evaluating the optimal types of samples, swabs and transport media, through the Canadian Public Health Laboratory Network (CPHLN);
- working to evaluate serological testing kits as well as developing in-house contingency serological tools such as ELISA, neutralization assays and point of care tests (serological work is in support of the broader Canadian Immunology Task Force);

- supporting work being done by the Canadian COVID Genomics Network (CanCOGeN) to sequence 150,000 genomes;
- working closely with northern, remote and Indigenous communities to enable those communities to have greater access to laboratory diagnostic tools (e.g., diagnostic platforms, reagents, training, supply chain management, and augmentation of Transport of Dangerous Goods (TDG) sample shipping requirements) to meet pandemic challenges in those and all Canadian communities; and
- undertaking (through the NML) animal research that will aid in understanding pathogen characteristics.

Preparations/Forward Planning

The NML together with the CPHLN undertaking the following activities in order to prepare for a potential fall resurgence based on the reasonable worst case scenario but also as part of the laboratory preparedness long-term vision.

Short term:

- Optimizing molecular testing to be able to distinguish COVID from non-COVID respiratory infections during the coming flu season
- Continuing strong communication among Canada's public health partners through CPHLN to ensure aligned and appropriate laboratory response strategies

Mid term:

- Optimizing serological testing to be able to determine whether individuals have been previously infected, especially for healthcare and other service providers such as police, fire, long-term care facilities, etc.
- Streamlining molecular and serological testing, including stewardship of reagents so they are conserved as testing demands increase
- Developing, validating, and enabling greater access to faster diagnostic tools such as Point of Care tests (prioritizing northern, remote, isolated and Indigenous communities)
- Working with manufacturers to enhance the sourcing of critical laboratory supplies that meet appropriate standards
- Working with P/Ts and other stakeholders to inform the use of testing in specialized settings (such as borders)

Planning Variables or Signals

Although the percentage of positivity has been diminishing recently, a change in the inflection of that curve (i.e., switch to increasing trend) is an immediate signal that a second wave has been triggered and therefore may affect timelines, strategy or prioritization of these activities.

6.3 Public Health Measures

PHM are the activities implemented by public health authorities to support individuals and communities to prevent, delay or mitigate infectious disease transmission. These include measures focused on individuals (i.e., personal practices, case and contact tracing, self-monitoring, isolation and quarantine) to protect themselves and others, and community measures such as public education campaigns and general recommendations for non-pharmaceutical interventions (e.g., hand hygiene, physical distancing



and use of non-medical masks) to protect groups and the community at large. The community-based measures should be informed by a risk assessment tailored to each setting. Some measures are referred to as “restrictive” if they include limiting the movement, activities, or access to resources/facilities/institutions, at the community as opposed to individual level (e.g., school closure, cancellation of mass gatherings, access to workplaces, businesses or event venues). Many of these measures have important consequences beyond the context of COVID-19 management which require careful consideration and prioritization in relation to other determinants of health, such as childhood development.

Since the start of the COVID-19 outbreak the F/P/T public health response has involved working closely with multilateral partners, other government departments, First Nations, Inuit and Métis stakeholders to develop, update and disseminate appropriate public health guidance for a range of target audiences on how to detect, report, prevent and manage COVID-19 infection. One example of this is the formation of the Public Health Working Group on Remote, Isolated and Northern Indigenous Communities that is working to adapt public health measures guidance to the unique needs, context and considerations of these communities in the response.

Current Status/Focus

Current FPT PHM include:

- Focusing on isolating all cases, and tracing and quarantine of all contacts in a timely manner;
- Monitoring the evolving domestic and international situation, updating advice and adjusting PHM accordingly (e.g., advice on non-medical mask use);
- Phased lifting of restrictive PHM by PTs while monitoring for signals of concern (e.g., increases in unlinked cases) and protecting high-risk populations;
- Promoting risk based approaches to using PHM based on the setting and consideration of the broad impacts of PHM on health and wellbeing;
- Supporting workplaces/businesses by working with the Canadian Centre for Occupational Health and Safety, to provide guidance for safe and healthy workplaces; and
- Developing and updating national guidance as information becomes available.

Preparations/Forward Planning

In terms of F/P/T preparations, the focus is on building, adjusting and updating existing PHM guidance and resource products as needed, based on new knowledge, experience and contingencies (including planning for the reasonable worst case scenario).

It is important that these ongoing activities continue to be as timely and responsive as possible and take into consideration the specific needs of high-risk populations by social, economic and demographic factors. Community-based PHM are most effective when implemented as early as possible in response to epidemiological triggers of concern. Therefore, preparations include being ready to re-implement restrictive community PHM if required, while modifying them if possible to avoid negative impacts on health, wellbeing and society. Communication activities that continue to build public trust and confidence will be critical to facilitating public understanding and cooperation with respect to recommended PHM.

These preparations and ongoing activities based on the anticipated short, mid or long-term timeframe are identified below.

Short term:

- Ongoing updates to existing national guidance as evidence evolves;
- Completing new guidance (e.g., post secondary guidance);
- Updating public and health professional communication and education products;
- Developing sufficient P/T public health capacity to isolate cases, trace and quarantine contacts in place, including through the use of digital tools;
- Establishing a process for providing comprehensive advice to workplaces/businesses.

Mid term:

- Ongoing situational monitoring of COVID-19 and broader impacts of PHM and recommendations, updating advice and adjusting PHM accordingly;
- Ongoing guidance updates;
- Monitoring public compliance with PHM; adjusting messaging and enforcement as required;
- Re-instituting PHM in jurisdictions, if resurgence occurs;
- Providing considerations for PHM into plans for vaccination clinics (influenza and COVID-19); and
- Re-evaluating F/P/T plans for stockpiling supplies (e.g., hand sanitizer, gloves, masks, disinfectant supplies) in consideration of PHM

Long term:

- Evaluating the long-term strategy for PHM and developing/updating F/P/T plans;
- Providing public education to entrench PHMs as a core practices that will become the new baseline practices based on effectiveness of measures (evidence reviews); and
- Work with other sectors to strengthen the social services to protect health and mitigate risk.

Planning Variables or Signals

Preparations and forward planning will consider adaptations to current activities, recommendations and guidance, e.g., if there are significant changes in diseases activity, high risk groups or public adherence to recommended PHM, and the impact these may have in various population groups.

6.4 Infection Prevention and Control and Clinical Care Guidance

While impacting the F/P/T public health response, the provision of infection prevention and control (IPC) and clinical care guidance and expert advice has predominantly been aimed at informing practising health care professionals. Therefore engagement with stakeholders outside of the public health sector, in particular front line health care workers, is a key part of supporting preparedness.

Current Status/Focus

The current focus of response activities pertaining to IPC and Clinical Care include:

- Ensuring that previously published COVID-19 Infection Prevention and Control documents continue to provide relevant and evidence-informed guidance;
- Updating (based on new information) the interim guidance for the clinical management of patients with moderate to severe COVID-19;
- Providing clinical guidance on the changing presentation, complications, risk factors and outcomes of COVID-19;
- Completing any outstanding guidance products;

- Planning for joint PHAC/Association of Medical Microbiology and Infectious Disease Canada (AMMI) webinars addressing ongoing key clinical issues that will occur once a month starting July 2020, potentially through to March, 2021; and
- Providing key clinical journal articles review and summation to F/P/T public health tables.

Preparations/Forward Planning

All Clinical Care Guidance and Infection Prevention and Control documents are being reviewed on an ongoing basis to ensure they reflect the most up to date information on clinical care and IPC. This includes key clinical findings in the literature, responding to new and/or changing science.

Planning Variables or Signals

If additional clinical or infection prevention and control information emerges, (e.g., a change in mode of transmission or additional or unknown risk groups), there may be a need to revise or develop additional IPC or Clinical care guidance documents. Similarly, the identification and availability of an effective treatment will require updating of Clinical care guidance.

6.5 Vaccination

The World Health Organization (WHO) is providing information on the progress of over 150 COVID-19 vaccine candidates⁹. At this time 21 candidate vaccines are in clinical evaluation and 139 candidate vaccines are in preclinical evaluation. It is necessary to start planning for implementation of a COVID-19 vaccine strategy for Canada now, however, for planning purposes it is assumed that an efficacious vaccine will not be available until 2021 at the earliest.

Reducing hospitalizations due to seasonal influenza and invasive pneumococcal disease through increased vaccine coverage can preserve both public health (e.g., diagnostic/testing, outbreak response) resources and health care (i.e., outpatient visits and inpatient stays) capacity¹⁰. For these reasons it has been identified as a forward planning element.

Current Status/Focus

PHAC is involved in COVID-19 vaccine planning through strategic discussions with the regulator and potential manufacturers. PHAC has also engaged the National Advisory Committee on Immunization (NACI) to develop an equitable, ethical, feasible and accessible framework outlining prioritization principles that will optimize public health benefits from vaccination against COVID-19 during the pandemic. NACI has also published guidance on COVID-19 vaccine research priorities.

Preparations/Forward Planning

Anticipating that it will take time to manufacture a sufficient supply of a new COVID-19 vaccine, and shipments may be staggered, Canadians need to be aware that the vaccine will not be offered to all Canadians at the same time. Furthermore, the traditional influenza pandemic vaccine approach (i.e. to vaccinate everyone immediately) may not be advisable or appropriate for a novel coronavirus vaccine developed where there is limited experience of its safety and effectiveness.

It is expected that PHAC will have an interim framework informed by NACI at the end of summer 2020, following extensive evidence reviews and F/P/T engagement to identify target groups for the first available doses of COVID-19 vaccine and vaccine program strategies. In the absence of a COVID-19

vaccine, general planning (as outlined in the Vaccine Annex of the CPIP) is proceeding, for example, enhanced tracking systems for adverse events following immunization (AEFI), vaccine effectiveness (VE) assessment and uptake; allocation, storage and handling; vaccine delivery strategies, are all being addressed as part of the vaccine strategy for COVID-19 vaccination in Canada. In the event vaccine is sourced from manufacturers that do not have an existing Canadian presence, PHAC may also be involved in contracting for vaccine storage and distribution centres. In addition, the Government of Canada is proactively procuring essential supplies (e.g., needles, syringes, epinephrine, etc.) on behalf of the PTs via the National Emergency Strategic Stockpile to mitigate against potential supply shortages when a COVID vaccine becomes available for use in Canada.

A newly formed Government of Canada COVID-19 Vaccine Task Force will focus on strategic investments in vaccine research, development, and domestic bio-manufacturing to facilitate domestic vaccine supply. In addition, a COVID-19 Vaccine Clinical Trial Discussion Forum is convening academic, government, and industry partners to discuss vaccine clinical trial challenges and optimal designs.

While a COVID-19 vaccine is not anticipated in time to respond to any fall resurgence of COVID-19, the timelines for guidance products is as follows:

Short term:

- Interim NACI guidance (this fall) on COVID-19 vaccine strategies and target groups for early vaccines.

Mid term:

- Adaption of the contents of the CPIP Vaccine Annex for the COVID-19 context.

Longer term:

- Enhancements/preparations for AEFI tracking and analysis;
- NACI final programmatic guidance on the use of authorised COVID-19 vaccine(s); and
- Logistical planning for supply chain, including for transport /storage /use of vaccines in northern, remote, isolated settings and Indigenous communities.

Influenza vaccines and routine programs

F/P/T public health responders are concerned about interruptions to routine immunization programs due to COVID-19 PHM and physical distancing, and are monitoring trends. To this end, PHAC has issued guidance on the importance of immunization program continuity in particular to mitigate the risk of measles and other vaccine-preventable disease outbreaks once international travel resumes.

Also of concern is the potential convergence of COVID-19 and influenza in fall 2020, which could exacerbate pressures to the health system. In response, PHAC is taking action to order a specialty influenza vaccine (Fluzone High Dose) on behalf of the P/Ts for the 2020 influenza season to support the prevention of influenza transmission and outbreaks in long term care (LTC) homes. PHAC has ordered enough vaccine for all adults over 65 years in LTC. The intent is to reduce the burden of influenza on the healthcare system and LTC homes/facilities that will potentially be dealing with concurrent COVID-19 outbreaks.

In anticipation of increased or sustained COVID-19 transmission during the roll-out of influenza vaccination programs (fall, 2020), PHAC is also preparing guidance on the delivery of influenza vaccine in the presence of COVID-19. The guidance will focus on alternative delivery models, clinic set up, changes

to immunization practices and processes, infection prevention and control, and personal protective equipment at influenza vaccine clinics.

Planning Variables or Signals

It is important for planning purposes to recognize that the final vaccine strategy in Canada cannot be designed until more is known about the new COVID-19 vaccine's characteristics (e.g., efficacy, safety, dosing schedule), how well the candidate vaccines work in different populations (e.g., elderly), and the supply situation. Forward planning should include consideration of variations in vaccine acceptability and response to AEFI reports or signals. This will require AEFI surveillance, health promotion and education and risk communication expertise.

6.6 International Border and Travel Health Measures

Since the onset of the pandemic, the Public Health Agency of Canada (PHAC) has significantly shifted its border and travel health programs to focus primarily on mitigating the risk of COVID-19 importation and together with other response measures, protecting the capacity of provinces and territories to offer health services to Canadians. Prior to this pandemic, it was not envisioned that extensive international border closures would be implemented as a pandemic response measure.

Current Status/Focus

Several new and enhanced border and travel health measures critical to the COVID-19 response have been developed and implemented including:

- an increased capacity for PHAC to undertake health-related risk assessments and provide travel advice and other measures to minimize the risk of Canadians' exposure to the disease, including on conveyances (air, marine, land);
- leveraging the provisions of the *Quarantine Act*, together with the creation of a new compliance and enforcement regime, to limit entry of foreign nationals and impose new quarantine and isolation requirements for incoming travellers to Canada;
- the establishment of a stronger public health presence at the border (i.e., public health officers being assigned to 36 high volume points of entry) as well as enhanced PHAC capacity to conduct virtual health assessments for COVID-19 via access to a 24/7 Central Notification System;
- the establishment of temporary federal quarantine facilities across the country and their continued management to support enforcement of public health Orders;
- enhanced partnerships with provincial and territorial health authorities and other key players to support data-sharing, compliance, enforcement of quarantine and awareness on COVID-19 (e.g., through the ArriveCan app); and
- messaging and communication tools for the travelling public.

Preparations/Forward Planning

Moving forward as part of planning for a potential resurgence of the disease, PHAC will continue to maintain a high level of readiness to respond to COVID-19 through a combination of border and travel measures that are calibrated to:

- Evolution of the domestic COVID-19 situation and provincial and territorial considerations;
- Updated modelling and risk analysis of other countries and international experiences to ensure lessons learnt;

- Operational capacity pre-, at- and post-border to handle anticipated increased incoming and outbound travel volumes;
- Consideration of public health/health system capacity to manage potential increase in imported cases (testing, contact tracing and reporting, provincial and territorial health care capacities); and
- Volumes that different classes/sectors or arrival modes bring to Canada.

Planning Variables or Signals

Should the international and/or domestic context shift, signalling a need for Canada to consider border and travel measures anew, there are a variety of possible approaches that could be explored:

- **Global restrictions:** Increase/impose global restrictions for all destinations, control through health-related measures. Possible exclusion of high-risk countries based on country risk assessments.
- **Country-specific restrictions:** Remove global advisory/prohibition of entry, but maintain/impose restrictions for individual destinations by exception, based on risk of importation
- **Sectoral/class restrictions:** Decrease exemptions to travel measures based on a sectoral analysis
- **Reciprocal:** Leave global advisory/prohibition of entry, remove or ease restrictions based on reciprocal arrangements with individual states (or regions e.g., Caribbean) and assessment of respective COVID situations
- **Modal:** Ease measures first for entry by air/sea and later for entry by land

6.7 Health Care System Infrastructure

A peak in pandemic activity greater than the first COVID-19 wave in any jurisdiction can have a substantial impact on health care service capacity and the ability of health care organizations to keep those providing or receiving health care services safe.

Current Status/Focus

The F/P/T public health response in terms of health care system infrastructure has involved linking with those partners responsible for monitoring, anticipating and planning for surges in health care system capacity in order to increase mutual knowledge and situational awareness, and support response activities regarding the delivery of health care to COVID-19 cases in Canada. To support this work:

- the Government of Canada together with the PTs have taken steps to support hospital surge capacity and ensure timely access to critical equipment and supplies;
- funding has been provided for the development, expansion and launch of virtual care and mental health tools to support P/T services;
- modelling has been used to project anticipated demands;
- sharing of hospital-based data (on rates of admission, current capacity and equipment/supplies/resources usage) has been included in surveillance products; and
- the Logistics Advisory Committee (LAC) has been convened to facilitate resource procurement.

Preparations/Forward Planning

In terms of forward planning, the Government of Canada will continue to:

- consult with PTs and use modelling to assess need for additional procurement of personal protective equipment (PPE), essential supplies, and life-saving medical equipment to support P/T health care systems and increase National Emergency Strategic Stockpile (NESS) capacity

- explore opportunities to build domestic production capacity for critical PPE and other essential supplies
- monitor for potential COVID-related drug shortages and work with P/Ts and stakeholders to proactively develop and implement strategies to manage these risks
- provide PPE to First Nations, Inuit and Métis communities to ensure the safety of healthcare workers and others supporting the delivery of health services through the Indigenous Services Canada (ISC) PPE Stockpile and PHAC's National Emergency Strategic Stockpile (NESS)
- facilitate sharing of best practices on alternate care facilities, triage and management of delivery of non-COVID-19 health care services review the latest available scientific evidence to inform guidance for health settings and develop tailored approaches for communities with specific health care needs, such as remote, northern and isolated communities as well as Indigenous peoples in urban settings.

Health care institutions, many of which are already working close to full capacity, need to plan for how they will accommodate potentially large influxes of patients, including establishing ethical frameworks for the allocation of scarce resources such as ICU beds and ventilators. In remote, northern and isolated communities it is also critical to plan for potential supply-chain and medical evacuation interruptions due to weather.

Forward planning must consider the broad health care system impacts and changes that occurred during the initial wave of COVID-19 in Canada. Specifically, the unanticipated reduction in emergency room visits for serious conditions, the shift of primary care to virtual care, and the backlog of surgery, need to be addressed both in terms of the implications for “catchup” and the need to plan for future waves in a way that doesn’t shut down the health care system more than is necessary.

Planning Variables or Signals

In the event health care institutions start to see an increase in the number or change in the characteristics (e.g., demographics, underlying medical conditions) of patients being treated for COVID-19, the Government of Canada will work with PTs to monitor capacity and use of PPE, ventilators, intensive care unit (ICU) beds, and other critical supplies, to enable collaborative and effective management of outbreaks. Surge capacity in terms of health care workers and other human resources is also being examined.

6.8 Risk Communications and Outreach

Communication of information and advice in a public health emergency is a critical public health intervention that helps to protect public health, save lives, and minimize the overall social and economic impacts. Using a risk communications approach, the Public Health Agency of Canada, together with other government departments and P/Ts counterparts, have worked hard to provide health care providers, Canadians and key stakeholders with the timely, trusted, accessible, evidence-informed and complete information they require to protect themselves, their families, their communities and businesses.

Current Status/Focus

The current focus is on communicating clear, concise and concrete messages that will cut through the current fatigue, confusion and fragile compliance, in order to: ensure Canadians have the information they need to protect themselves and others from the virus and to reduce its impacts on personal health,

the healthcare system, social life and the economy as Canadians' transition into the new reality of 'Living with COVID-19'; and to help Canadians make a conscious and informed decision about the activities that they will participate in outside the home and how they can participate in a way that protects them, their families and communities.

Key activities to date include:

- engagement of F/P/T and Indigenous networks to ensure consistency of messaging and to share best practices (and lessons learned) across jurisdictions;
- briefings by Chief Medical Officers of Health and local Medical Officers of Health in the PTs and nationally by the Chief Public Health Officer and Deputy Chief Public Health Officer –including modelling and epi updates;
- targeted communications on enhanced border measures;
- use of all communications levers (advertising, web, social media, regular briefings, national mail outs, partnerships, P/T collaboration, community outreach, etc.) to reach stakeholders (including the Canadian public);
- The implementation of a four-phased COVID-19 Risk Communications Strategy with different foci (e.g., containment and delay, tools and empowerment, mitigation and working together to 'flatten the curve', perseverance and ongoing vigilance in context of disease reduction and re-opening of society); and
- F/P/T and Indigenous community collaboration to share best practices and lessons learned and to ensure future messaging is aligned and consistent (via Public Health Network Communications Network and the Special Advisory Committee).

Challenges and Considerations:

Messages in the earliest phase of the pandemic were clear – stay home; wash your hands – now the environment is much more complex:

- There are different epidemics across the country so different public health measures are in place across jurisdictions. Messages and their delivery must be clear and firm to combat any confusion.
- There is still much uncertainty that impacts how precise and definitive we can be in our messaging. As science evolves and we learn more, advice to Canadians may change, adding to confusion and accusations of flip-flopping from earlier messages.

Communicating is becoming more complex as the economy reopens and Canadians engage in social and economic activities following a prolonged period of disruption to their lives:

- Canadians are being encouraged to participate in the economy as it re-opens in this period of recovery. We need to help people make an informed and conscious decision each time they leave their home to help them protect themselves and others.
- Canadians need to assess their activity, their risk tolerance, their risk to others and the importance of their own behaviour in reducing risk. Our communications efforts must arm them with the information to do so easily and accurately.

The risk perception (and compliance) of Canadians will vary based on their individual experiences and their unique reality.

- We need to maintain the current level of compliance and find ways to continue to encourage and provide positive reinforcement to those who are following public health guidance while tackling low risk perception and compliance among specific groups.

Preparations/Forward Planning

It is now important to shift messaging as we transition Canadians into the reality of ‘Living with COVID’ and transition nationally from an acute response to the loosening of public measures to varying degrees across the country. The lifting and loosening of PHM needs to be balanced with the message that certain measures must remain in place in order to keep the level of transmission at a locally manageable rate. All levels of government need to communicate that Canadians should be prepared for a walk back or tightening of PHM if necessary.

The forward planning communications approach includes:

Provide clear, consistent, concise and concrete messages and advice with relatable examples and tools for Canadians:

- Apply behavioural science to test a variety of public health messages and tools.
- Guidance to help the public minimize risk while venturing out into public spaces.
 - Checklists for when you leave the house
 - Decision making tools

Stop telling and start showing:

- The best way to reinforce the behavior we want from Canadians is to demonstrate it.
- Showcase community members/organizations/spokespersons who are “doing it right.”
- Leverage more storytelling to motivate behavior (youth testimonials, etc.).
- Recognition and celebration of those who have made a difference.

Communicate with empathy and honesty

- The efforts of Canadians through the first phase have very likely saved thousands of lives. Need to acknowledge that and encourage everyone to keep doing that.

This approach will be supported by F/P/T strategies, content and implementation plans that include:

- Sufficient public opinion research (POR) and behavioural insights (re. behaviours, vaccine, public health measures, back to school) to identify all Canadians’ priorities, values and concerns, and capture regional variations;
- Public Education Campaigns
- Vaccine readiness campaigns (seasonal flu and COVID-19);
- Travel readiness campaigns;
- Contact tracing related communication activities;
- F/P/T collaboration to share best practices and lessons learned and to ensure future messaging is aligned and consistent (via PHN Communications Network and SAC).

This will predominantly be achieved through strategic outreach and engagement by the Chief Public Health Officer (CPHO), Deputy Chief Public Health Officer (DCPHO) and P/T spokespersons, public education campaigns, media relations and issues management, social media, and website updates. Significant outreach and engagement with a range of health and non-health stakeholders has been an essential part of the national response to COVID-19. This outreach and engagement has evolved throughout the pandemic from a focus on proactively sharing the latest public health developments and resources to identifying stakeholder information needs and perspectives, to collaborating on guidance development and joint communication messages. A range of stakeholders have been engaged through



regular COVID-19 briefings, teleconferences and webinars including the following: CPHO Health Professionals Forum (national health professional organizations), national allied health organizations, local public health medical officers of health, critical infrastructure stakeholders, agriculture and agri-food stakeholders, business groups, and childcare and education stakeholders.

It has been and continues to be especially important to engage community leaders from Indigenous communities, racialized communities/communities of color, and faith-based organizations to help deliver critical information¹¹.

Planning Variables or Signals

Surges in cases requiring change in or implementation of restrictive community PHM along with any changes in science (e.g., new information about COVID-19 that requires a shift in Canada's public health response or guidance to specific populations), changes to border measures, indicators of vaccine hesitancy and vaccine availability, will all necessitate updating of the current F/P/T communication strategy and products.

6.9 Research

The Government of Canada has mobilized Canada's research and scientific communities in response to the spread of the novel coronavirus (COVID-19). Priority research areas include medical countermeasures (vaccines, therapeutics, and diagnostics), clinical management research, as well as social and policy research.

Current Status/Focus

Currently:

- the Government of Canada has established mechanisms for mobilizing rapid research responses for this type of emergency, which have been activated to accelerate development of medical countermeasures, to support priority research on the transmission and severity of COVID-19, and to understand the potential benefits and potential limitations of medical, social and policy countermeasures;
- Health Canada has established a number of temporary innovative and flexible measures to help prioritize and expedite the regulatory review of COVID-19 health products without compromising Canada's high standards for safety, efficacy and quality (these measures have been put in place to facilitate safe and timely access to products Canadians and health care workers need);
- there are several federal programs available aimed at mobilizing industry, innovation and research to respond to COVID-19;
- capacity at federal research facilities is being leveraged, and federal granting agencies are strategically aligned to support Canadian research capacity;
- the Canadian private sector (R&D, manufacturing) is being engaged to contribute research and development solutions; and
- the Government of Canada is also supporting various strategies to bring significant findings arising from these research efforts to decision-makers in a useful and timely way.

Preparations/Forward Planning

In order to prepare for a fall resurgence based on the reasonable worst case scenario, the following needs have been identified:

- Need to prioritize and pursue a wide array of **Clinical Trials activities** for therapeutics and vaccines.
- Need to strengthen our capacity to deliver on **relevant COVID-19 modelling work**: The COVID-19 epidemic has demonstrated the important role and need for greater and ongoing capacity to implement the full range of modelling tools required to support decision-making during a complex public health crisis. Models help to predict where and when COVID-19 infections may emerge or re-emerge, and they can be used to explore the best combinations of approaches to control disease progression and protect the health of Canadians.
- Need to **pursue research and surveillance studies** aiming at better understanding mechanisms of infections and immunity against the COVID-19 virus. Investigating and tracking the genetic diversity of SARS-CoV-2, the virus that causes COVID-19, across Canada to better respond to its spread; evaluating and establishing blood test (serologic) methods to determine the immune status of Canadian populations; and research and research coordination with partners to develop COVID-19 animal models and medical countermeasures.
- There is a need to invest in and mobilize knowledge relating to social sciences such as sociology, anthropology and psychology. Specifically **behavioural science and ethnic research** can guide future policy and regulatory actions.
- Need to strengthen our capacity to perform **rigorous and rapid evidence review** to generate evidence reviews and answer specific questions to provide the most up-to-date science evidence for optimal decision-making.
- Need to explore the epidemiological value of new, innovative methods to track community spread, such as **testing SARS-CoV-2 from sewage water** to provide early warning ability at the community level (municipality, special settings such as Long-Term Care Facilities, prisons, hospitals and remote communities).

Short to Mid term:

In the short to mid term, the approach to these preparations is to:

- Work collaboratively with National partners, FPT, stakeholders groups (including National Indigenous Organizations; Indigenous researchers and scholars; National Collaborating Centre for Indigenous Health), and the Federal Science Community to support the work of key task groups mandated to support Canada's COVID-19 response (Immunity Task Group, the Vaccine Task Force, the Therapeutic task Group) and Indigenous-led culturally grounded research;
- Work collaboratively with Federal Science Based departments with specific targeted engagement with the CIHR and the Chief Science Advisor of Canada; and
- Continue engagement with the pan-Canadian Public Health Network (via the Technical Advisory Committee and Special Advisory Committee). Activities include sharing research, data and local experience that will inform further planning in alignment with our stated public health pandemic goal and objectives (e.g., quantifying the negative and positive consequences of the PHM that were used in the initial response to be better able to address the inequities that have arisen).

Long term:

In the longer-term, efforts will include seeking investment to strengthening laboratory capacity in the area of genomic innovation and bio-informatics.

Planning Variables or Signals

As with other response component several factors including: evidence of significant increased in the mortality ratio, data from vaccine and therapeutic clinical trials, data on immunological protection of Canadians, new / rigorous knowledge on the impact of COVID-19 specific high-risk groups, a significant shift in genomic pattern of SARS-CoV2 (leading to examine possible shift in virulence or infectivity) and new / rigorous knowledge of the importance of a non-respiratory mode of transmission, would potentially impact preparations for the ongoing COVID-19 response.

7. Planning with Indigenous Communities

Indigenous communities have been supported as they worked to update and activate their community pandemic plans. Over 30 Indigenous organizations have been engaged and collaborating together to support public health response through the Public Health Working Group on Remote, Isolated and Indigenous Communities as part of the SAC structure. Indigenous Services Canada (ISC) together with National Indigenous Organizations (NIOs), have been leading work with PHAC, Statistics Canada and the First Nations Information Governance Centre to address data gaps regarding the impacts of COVID-19 on Indigenous Peoples.

As a result of community supported response efforts, infection rates on-reserve and in the North have remained lower than the rate in the overall Canadian population. However, it is important to note that gaps for urban, Métis, Inuit and off reserve First Nations populations persist and increased linkages are required to support these populations. A summary of the response activities that have been supported to date in addition to the strategy/approach, actions and deliverables for these preparations for the short, mid and long term (i.e., being before September, September to December, and 2021 and beyond, respectively) are included in *Appendix 3: COVID-19 Response Planning with Indigenous Communities*.

8. Planning for High-risk settings and populations

A specific setting may be considered as “high-risk” due to:

- the potential for higher rates of severe disease or death amongst those in the setting compared to that of the general population (because of clustering of people with underlying medical conditions, clustering of those in high-risk age group or both); and/or
- potential for high rates of transmission (because of unavoidable crowding indoors with limited ability to use or inconsistent use of protective measures).

Epidemiologic investigations of outbreaks in these settings are key to improving our understanding of transmission dynamics and setting-specific risks. It can be challenging to significantly mitigate these risks; therefore planning activities need to look at the specific circumstances of each setting and what enhanced measures can be put in place to prevent and manage COVID-19 outbreaks in these highly variable contexts. This should include measures to prevent introduction of the virus into these settings, (e.g., through screening of employees and visitors, restriction of visitation, efforts to prevent work at more than one high-risk location, implementation of a quarantine period for people entering the setting).

As has been observed during the first wave of COVID-19, high-risk settings that would benefit from special planning considerations have included:

- Long-Term Care facilities.
- Worksites necessitating close proximity to others (e.g., meat processing) or with communal housing (e.g., temporary foreign workers living on work farms, remote/fly-in work camps like northern mines).
- Remote populations without ready access to advanced health services (e.g., fly-in only access communities), and with potentially elevated rates of underlying medical conditions or other pre-existing disparities.
- Homeless shelters.
- Prisons.

While guidance has been developed and measures have been put in place aimed at preventing further outbreaks in these settings, planning for the reasonable worst case scenario necessitates that we undertake activities in the short term to shore up capacity to undertake prevention and outbreak response measures, as well as, continuously monitoring these measures and adjusting as necessary. For example:

- If there were to be a high level of pandemic activity in the surrounding geographic areas would the response plans for these settings be applicable and sufficient?
- What are the existing gaps in guidance, measures or resources, and how can these be addressed prior to a potential fall resurgence?
- Are prevention measures that were implemented during the first wave of COVID-19 sustainable and realistic for a fall resurgence and/or the reasonable worst case scenario?
- What impact could these measures have on high-risk populations?

This collaborative work to plan and support high risk settings and populations will continue at all levels of government and across multiple sectors and stakeholders from public health, health care, education, agriculture/agri-food, immigration, economic development, corrections, social services/housing, science/research and labour.

As work continues, it is important to take into consideration the impact that these measures may have on the various sociodemographic groups most likely to be affected. Considerations for low-income workers, seniors, migrant workers, persons living in overcrowded housing, persons experiencing homelessness, and prisoners, among others, will need to remain a cornerstone of all response plans.

9. Assessment and Evaluation

Assessing and evaluating pandemic response efforts during periods of relatively lower response tempo will help identify areas of improvement and prioritize future planning efforts. It is also vital, on an ongoing basis, to determine whether response activities have been effective and implemented efficiently so as to achieve the intended results and whether areas of uncertainty (see Section 4) can or have been addressed. The F/P/T COVID-19 response governance structure (see Appendix 1), which includes the Special Advisory Committee (SAC), Technical Advisory Committee (TAC) and Logistics Advisory Committee (LAC), provides multiple forums for these discussions and opportunities for sharing of experience, lessons learned and identified best practices. More structured processes for assessment



and evaluation, including in-action and after-action reviews should be considered at all levels of government to inform forward planning and future pandemic preparations.

Now that the initial wave of COVID-19 is subsiding and our collective knowledge about this disease and its impact has increased, the broader direct and indirect consequences of the COVID-19 response in terms of other physical and mental health outcomes as well as societal and economic impacts must be acknowledged and assessed so that reduction of negative impacts can be accounted for in comprehensive forward planning efforts.

This should involve consideration of the impact response measures may have on individuals' physical, social, mental and emotional health and wellbeing, including how this may affect the adoption of control measures. The broader impact of restrictive community PHM in terms of health, wellbeing, child development and welfare needs to be assessed and plans implemented to prevent other immediate health harms and to prevent increasing health inequities for higher risk populations. These could be in the area of other direct impacts to health including; risks of delaying health procedures, domestic violence, child welfare/neglect, reducing access to harm reduction services or safe drug supply and mental health services. It could also involve addressing indirect COVID-19 associated health and wellbeing risks such as congregate housing, low employment standards, lack of access to educational supports for high need students, and risk of visitor restriction policies (e.g., family caregivers in long-term care homes).

Resources and guidance to support mental health is in development, however the need for other resources needs to be considered. Furthermore, improving the conditions (such as housing and employment conditions) that increase the risks associated with COVID-19, could also help reduce the health and societal impacts of future pandemics.

Appendix 1: Canada's Public Health Emergency Response System and Inventory of Resources, Guidelines and Agreements to inform COVID-19 Preparedness and Response

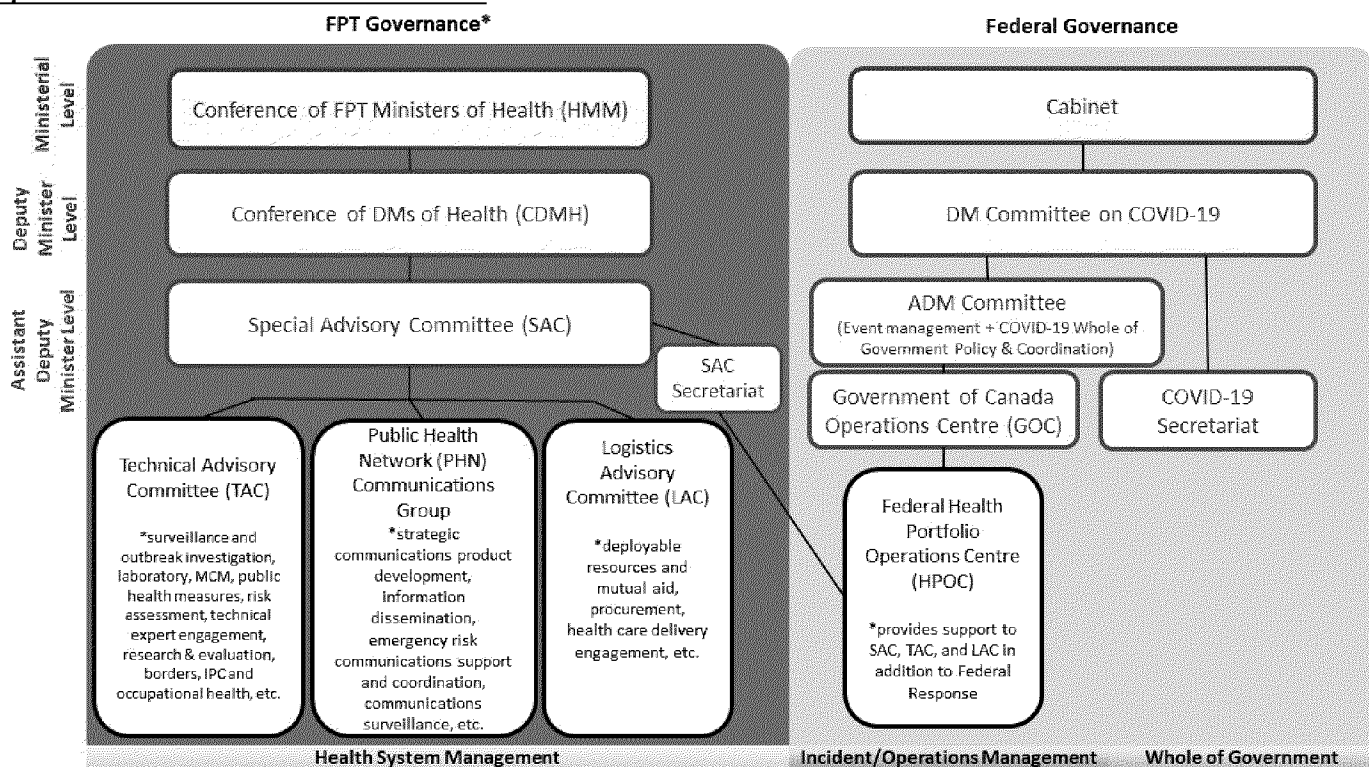
Canada's public health emergency response "system" comprises a series of complementary, mutually reinforcing plans, arrangements, protocols and networks that incorporate lessons-learned from previous outbreaks like SARS, 2009 H1N1 pandemic and Ebola which are regularly updated to reflect the latest evidence and scientific advance. Taken together, they span the local, provincial, territorial, pan-Canadian, North American and international levels and provide a strong and proven framework for Canada's response to COVID-19.

As public health in Canada is an area of shared jurisdiction, federal, provincial and territorial health officials and experts are working together through the *Special Advisory Committee (SAC) on COVID-19* and its various expert committees and working groups to ensure a coordinated and effective response to the COVID-19 outbreak in accordance with the *F/P/T Public Health Response Plan for Biological Events*. The Plan, which includes a summary of F/P/T roles and responsibilities in a public health emergency, can be found at <https://www.canada.ca/en/public-health/services/emergency-preparedness/public-health-response-plan-biological-events.html>

The SAC draws on the pan-Canadian Public Health Network (PHN) structure. Established in 2005, the PHN reflects lessons-learned from the Severe Acute Respiratory Syndrome (SARS) outbreak, which highlighted the imperative for a proactive and collaborative approach to public health emergency planning and response in Canada. PHN has since proven its value and effectiveness as a vehicle for collaborative leadership during the 2009 H1N1 pandemic, Middle Eastern Respiratory Syndrome (MERS-CoV) and Zika outbreaks.

SAC comprises members of the PHN Council and the Council of Chief Medical Officers of Health (CCMOH). Three expert groups comprising senior F/P/T officials and public health experts from across the country support SAC:

- Technical Advisory Committee (TAC): monitors COVID-19 epidemiology, shares information and advises on technical issues through the development of recommendations, guidelines and protocols.
- Logistics Advisory Committee (LAC): supports logistics (e.g., supplies, joint procurement, scarce resources), shares information and advises on logistical issues through the development of recommendations, guidelines and protocols.
- Public Health Network Communications Group: supports consistent and coordinated public communications and messages on COVID-19 across jurisdictions.
- Public Health Working Group on Remote and Isolated Communities supports Indigenous public health response in remote and isolated Indigenous communities.

Graphic 1: COVID-19 Governance Structure

*Does not depict standing general and emergency management FPT governance

Graphic 1 – Text Description

This graphic depicts two main hierarchical governance structures and linkages between the two particularly at the working level. The structure on the left side of the graphic on the teal background shows the Federal/Provincial/Territorial Governance structure that has been activated for the COVID-19 response as per the Federal/Provincial/Territorial (F/P/T) Public Health Response Plan for Biological Events. There is an asterisk linked to text to remind the viewer that this does not depict standing general and emergency management F/P/T governance. At the top of this structure is the Conference of FPT Ministers of Health (HMM) which operates at the Ministerial level. Directly below the HMM is the Conference of Deputy Ministers of Health (CDMH) which operates at the Deputy Minister level. Directly below the CDMH is the Special Advisory Committee (SAC) which is considered to operate at the Assistant Deputy Minister Level. Below the SAC are 3 committees/groups and a brief description of the types of response issues they lead on from a F/P/T public health response perspective. The Technical Advisory Committee (TAC) reports up to the SAC and leads on: surveillance and outbreak investigation, laboratory, medical countermeasures (MCM), public health measures, risk assessment, technical expert engagement, research & evaluation, borders, infection prevention and control, and occupational health, etc. The Public Health Network (PHN) Communications Group, also reports to SAC and leads on: strategic communications product development, information dissemination, emergency risk communications support and coordination, communications surveillance, etc. The Logistic Advisory Committee (LAC) is the third main group that reports to SAC and leads on: deployable resources and mutual aid, procurement, health care delivery engagement etc. This entire FPT governance structure has a health system management perspective/focus, as is indicated in a yellow bar spanning the bottom of this side of the graphic.

On the right side of the graphic on a grey background is the Federal Governance structure which has more of an incident/operations management and whole of (federal) government focus. At the top of this structure is the Cabinet which like the HMM on the left (FPT side) operates at the Ministerial Level. Reporting up to Cabinet is during this response is the Deputy Ministers Committee on COVID-19, which operates at the Deputy Minister Level and is directly supported by an Associate Deputy Ministers Committee (that oversees federal event management

and the COVID-19 whole of government policy and coordination) and the COVID-19 Secretariat. These two groups along with the Government of Canada Operations Centre (GOC), operate at the Assistant Deputy Minister Level. The Federal Health Portfolio Operations Centre (HPOC), which is linked to the GOC, provides support to the SAC, TAC and LAC in addition to the federal response. The HPOC formally links to the SAC via the SAC secretariat which functions as is a key linkage point between these two governance structures. At the working level the HPOC Incident Management Structure (IMS) includes groups that develop F/P/T response products and support the TAC, LAC PHN Communications Group and SAC.

The Government of Canada has also established a Cabinet Committee on the federal response to COVID-19 that meets regularly to ensure whole-of-government leadership, coordination, and preparedness for a response to the health and economic impacts of the virus.

FPT Collaborative Agreements: Mutual Aid, Information Sharing and Emergency Supplies

Federal/Provincial/Territorial Public Health Response Plan for Biological Events: is a federal, provincial, and territorial (F/P/T) guidance document that provides an overarching governance framework to ensure a coordinated intergovernmental health sector response to public health events that are biological in nature and of a severity, scope or significance to require a high level, coordinated F/P/T response.

Canadian Pandemic Influenza Preparedness: Planning Guidance for the Health Sector (CPIP): is an F/P/T guidance document that outlines how jurisdictions will work together to ensure a coordinated and consistent health-sector approach to pandemic preparedness and response. While CPIP is specific to pandemic influenza, much of its guidance is also applicable to other public health emergencies. CPIP consists of a main body, which outlines overarching principles, concepts, and shared objectives, as well as a series of technical annexes that provide operational advice and technical guidance, along with tools and checklists on specific elements of pandemic planning. CPIP is regularly updated to reflect new evidence and best practices.

Operational Framework for Mutual Aid Surge Requests for Health Care Professionals: is a guidance document that provides for a consistent and timely pan-Canadian approach to inter-jurisdictional health care professional mutual aid during health emergencies. The framework identifies roles and responsibilities and provides standard processes to guide jurisdictions making requests for, and offers of, mutual aid and the mobilization/demobilization of health care professionals. It also informs a complementary Memorandum of Understanding (MOU) on the Provision of Mutual Aid in Relation to Health Resources During an Emergency Affecting the Health of the Public.

Multilateral Information Sharing Agreement (MLISA): is a legal agreement that establishes standards on sharing, usage, disclosure and protection of public health information for infectious diseases and public health emergencies of international concern. The MLISA sets out what public health information is to be shared and how it will be used. It allows for trends and/or urgent public health events to be identified more rapidly and to reduce duplication of information requests. MLISA also informs an FPT MOU on the Sharing of Information during a Public Health Emergency. The Memorandum of Understanding (MOU) provides a framework for the sharing of information between and among its signatories during public health emergencies.

National Emergency Strategic Stockpile (NESS): contains supplies that provinces and territories can request in emergencies, such as infectious disease outbreaks, natural disasters and other public health events, when their own resources are not enough. These include a variety of items such as medical equipment and supplies, pharmaceuticals and social service supplies, such as beds and blankets.

Public Health Ethics Framework: A Guide for Use in Response to the COVID-19 Pandemic in Canada: is a framework is intended for use by policy makers and public health professionals making public health decisions in the context of COVID-19. Section 1 articulates ethical principles and values for public health authorities to consider, and Section 2 sets out a framework to help clarify issues, analyse and weigh relevant considerations, and assess options, in order to support decision making in real situations.

Federal Emergency Response Plans

The Federal Emergency Response Plan (FERP): is the Government of Canada's all-hazards response plan. The FERP outlines the processes and mechanisms required to facilitate a whole-of-government response to an emergency. The FERP is designed to harmonize federal emergency response efforts with the efforts of PT governments, non-governmental organizations (NGO) and the private sector.

The Federal Policy on Emergency Management (FPPEM): promotes an integrated and resilient whole-of-government approach to emergency management planning, which includes better prevention/mitigation of, preparedness for, response to, and recovery from emergencies. It provides direction to federal institutions on mandate-specific all-hazards risk identification and management within a federal institutions area of responsibility.

International Response Plans and Protocols

North American Plan for Animal and Pandemic Influenza (NAPAPI): outlines how Canada, the United States and Mexico intend to strengthen their emergency response capacities, as well as trilateral and cross-sectoral collaborations and capabilities, in order to assist each other and ensure a faster and more coordinated response to outbreaks of animal influenza or an influenza pandemic. The NAPAPI complements national emergency management plans in each of the three countries.

Global Health Security Initiative (GHSI): is an informal, international partnership among like-minded countries and organizations to exchange information and coordinate practices within the health sector to strengthen public health preparedness and response globally, including pandemic influenza.

International Health Regulations (IHR): represent an international agreement between all World Health Organization (WHO) Member States to build capacity to detect, prevent, assess, notify and response to public health events. Canada has a legal obligation to meet the core public health capacities set out by the IHR.

World Health Organization (WHO) Strategic Response Plan: outlines the public health measures that the international community stands ready to provide to support all countries to prepare for and respond to COVID-19. The document (published February 3, 2020 and updated on April 14, 2020) takes what has been learned so far about the SARS-CoV-2 virus and translates that knowledge into strategic action that can guide the efforts of all national and international partners when developing context-specific national and regional operational plans.

Appendix 2: Modelling Support for Forward Planning

Modelling recreates the essential components of pathogen transmission cycles from our understanding of the biology of the pathogens and their interactions with their hosts. Models help to predict where and when infectious diseases may emerge or re-emerge, and they can be used to explore the best methods or combinations of methods to control disease outbreaks or epidemics and protect the health of Canadians. For response to COVID-19, there are three broad types of model being used:

1. **Deterministic compartment models.** These are Susceptible-Exposed-Infectious-Recovered (SEIR) type dynamic models in which the population is divided into “susceptible”, “exposed”, “infectious” and “recovered” classes. After encountering infection, individuals in a population move from one state to the next. This basic structure includes elements to model SARS-CoV-2 and impacts of public health measures, with more realism. These elements include compartments for isolated cases and quarantined “exposed” contacts from which onward transmission to susceptible people is limited or absent, compartments for asymptomatic cases that may or may not be detected by surveillance, as well as flows to “isolation” and “quarantine” compartments that allow variation according to different levels of public health effort. These models are used to inform broad policies at a national level, including i) estimating numbers of cases, hospitalisations and deaths; ii) estimating the effects of non-pharmaceutical interventions (NPIs), (physical distancing, case detection and isolation, and contact tracing and quarantine), iii) design of vaccination programs; and iv) the design of programs to enhance “herd immunity” via use of antivirals/therapies if vaccines prove ineffective.
2. **Agent-based models.** These are also SEIR models, and they can also be used to inform development of national strategies. However, because they can simulate disease transmission with some detail in and amongst homes, work places leisure spaces etc., they are particularly useful for decision-making at an individual community level regarding needs for NPIs, and strategies for relaxing restrictive closures.
3. **Branching models.** These are a more recent addition to the types of models used for COVID-19. They simply assess what factors cause single chains of transmission to expand or become extinct. They are being used to assess the needs for controlling transmission in work places and institutions.

The PHAC has developed models that can be shared, and are constantly undertaking modelling to support decisions. The PHAC External COVID-19 Modelling Expert Group was formed in February 2020, and currently comprises 33 members from 21 universities across Canada, as well as 43 members from other Federal departments/organisations provincial/territorial public health organisations. The group comprises the majority of infectious disease modelling group leads in Canadian universities, and is capable of supporting modelling needs for decision-making.

Appendix 3: COVID-19 Response Planning with Indigenous Communities

A summary of response activities for Indigenous Communities, including the work of SAC's FPTI Public Health Working Group on Remote and Isolated Communities, that have been supported by Indigenous Services Canada (ISC) and the F/P/T response partners to date include:

- **Preparedness:** Resources to support pandemic planning updates/activation; access to medical supplies and PPE; training; and, guidelines.
- **Health Human Resources:** Resources to support surge capacity for health human resources, including nursing, medical and paramedical supports; as well as, charter services to get health human resources into communities with reduction to commercial airline service.
- **Infrastructure:** Resources to procure temporary shelter solutions and to support communities in efforts to re-tool existing spaces to offer safe assessment and overflow space; and, additional surge supports for food, water and other supply chain components.
- **Infection prevention and control (IPC):** Shared information (i.e., public health measures and promoting personal health measures for individuals and health providers), training and increasing capacity to support community response, including public service announcements in Indigenous languages. Provided training of community workers and health providers on IPC. Funded communities and service providers to increase their capacity for infection prevention and control, including First Nations-run schools, boarding homes, family violence shelters and friendship centres.
- **Medical transportation:** Supported medical transportation or adapting its policies (i.e., to use private modes of transportation where possible for those with higher risk factors) to minimize transmission; and, offered IPC support for service providers such as boarding homes.
- **Governance:** Worked with Indigenous partners, the Public Health Agency of Canada (PHAC), Health Canada, Public Safety's Government Operations Centre, and other departments, as well as their provincial and territorial counterparts for a coordinated and consistent Canadian approach to COVID-19 to protect the health and safety of First Nations, Inuit and Métis communities.
- **Communications and Surveillance:** Developed and broadly disseminated communication messaging through Department's COVID-19 Single Window to networks with Public Service Announcements in multiple Indigenous languages. Used digital media to further reach stakeholders with communications such as public health measures. Multilateral calls with partners at the national and regional levels.
- **Monitoring:** Adapted the Department's flu surveillance tool to track COVID-19 across First Nations communities; and developed a tracking tool to develop dashboards on key indicators of COVID-19.

Based on knowledge and feedback learned to date, ongoing preparations needed to support Indigenous populations to respond to a possible fall resurgence include continued planning and logistics that support food security; and, also medical supplies, including PPE, needs of communities and off-reserve Indigenous organizations providing essential services. Continued access to timely testing supplies, P/T labs for processing, and results, including point of care testing for northern, remote and isolated communities. There is also a need to plan for reduced flight schedules, which can create supply chain challenges for food, medical supplies, and health human resources reaching communities; and for communities to send swab tests taken for processing at PT labs.

Additional refresher training in infection prevention control is required to support health professionals and communities, for example in donning and doffing PPE and environmental cleaning practices to



reduce the spread of COVID-19. In addition to supporting training for health human resources working in communities, increased funding for telemedicine and virtual health care providers is required to support ongoing health service delivery, and to avoid a potential backlog in appointments following the pandemic or worsening health conditions.

Access to care to treat more severe symptoms of COVID-19 in remote and isolated communities also requires that ongoing arrangements, or new ones, are in place to ensure an adequate number of beds in hospitals south of 60, to support the treatment of Indigenous peoples living in northern, remote and/or isolated communities without this type of service. In communities where there are long-term care facilities, or Elders residences, it is important to have access to adequate resources to support their planning in keeping Elders safe and healthy – this includes funding to take basic infection prevention control measures (i.e. PPE, high dose flu vaccine, cleaning supplies, etc.), to engineered and more administrative public health measures.

A distinctions-based approach has been adopted by the Federal Government to ensure that the unique rights, interests and circumstances of the First Nations, the Métis Nation and Inuit are acknowledged, affirmed, and implemented. In this context, it takes into account the cultural and socio-economic particularities of each of the Indigenous Nations involved. Distinctions-based, Indigenous-led analysis of this information is necessary to advancing culturally appropriate and science-based approaches, for First Nations, Inuit and Métis Nation communities. Learning from H1N1, we know that long standing public health gaps and health disparities between First Nations and non-Indigenous Canadians increase the likelihood and potential severity of a coronavirus disease outbreak in Indigenous communities. These disparities are often exacerbated in remote or fly-in communities, where access to necessary supplies and health care services is limited as compared to non-Indigenous communities. We also know that in H1N1 data for First Nations/Inuit/Métis populations were not captured in a consistent way, or a way that supported communities in their preparedness and response efforts.

Surveillance activities are critical to informing public health responses to a pandemic. They support the early detection and description of potential health threats present in Canada, including on-reserve First Nations communities. In order to be able to make informed decisions, decision makers and leaders throughout the system need reliable public health data. Existing data quality and gaps for First Nations, Inuit and Métis populations living both on and off reserve are critical to effectively responding to future waves of COVID-19 among this population, protecting their health and safety by getting them the access to care required.

The strategy/approach, actions and deliverables for these preparations for the short, mid and long-term (i.e., being before September, September to December, and 2021 and beyond, respectively) include:

Short term: In the short term, ongoing work to continue to secure medical supplies & PPE are necessary, both to support future waves of COVID-19; and, to support the return of services in communities (i.e. immunization, water monitoring, treatment for substance use, etc.). Access to point of care testing is vital to supporting the safe reopening of northern, remote and/or isolated communities and continued work to advocate for access to test cartridges available on GeneXpert machines, and for new point of care technologies when approved will continue. Flu and pneumococcal vaccine planning, from securing vaccines, working with PTs on vaccine strategies, mobile clinics, etc. as well as planning for flu vaccine mass immunization strategies in light of COVID-19, and potential space limitations in communities, leading to prolonged clinics to allow for appropriate physical distancing, regular disinfection of spaces,

etc. Ongoing monitoring of forest fires for possible evacuations and planning in light of COVID-19 over the summer and fall months.

Medium term: Ongoing access to funding to support food security, working with Transport Canada and Agriculture and Agri-Food Canada essential. Access to required PPE for Inuit, Métis and off reserve First Nations organizations providing new services as an interim measure to respond to COVID-19 and links with local public health authorities and the Public Health Agency of Canada required to support these services and population. Access to care and planning for the availability of hospital beds required to support possible influx of Indigenous patients requiring care for more severe symptoms of COVID-19. Resources needed to bolster long-term care in communities and mental wellness supports to address impacts associated with pandemic and isolation; as well as, ongoing substance use (i.e. opioid, crystal meth, etc.). COVID vaccine prioritization and deployment strategy planning for First Nations, Inuit and Métis populations.

Longer term: Resources to support Indigenous-led data collection/governance/infrastructure to support data optimization for the longer term in Canada is essential. Resources to bolster community-led public health supports and work are required, as well as training to support these functions. To support access to patient care, as well as the work of community based workers and nurses in northern, remote and/or isolated communities increased funding for telemedicine and virtual health care providers is necessary. This will avoid a backlog of medical or specialist appointments after COVID-19, and support access to timely care supporting better health outcomes.

High level signals that would necessitate a change in timelines or strategy/approach and sub-sequent actions and deliverables, include:

- ongoing and prolonged active cases – either slow, or in an outbreak scenario on reserve
- signals and risks of community spread, where communities may be at a higher risk due to geographic location
- access to health care to treat more severe symptoms
- strain on system for medivacs should there be a greater need in PTs
- shifts in hospitalization rate, ICU admission rate, case fatality rate
- reproductive rate
- Long-term care (LTC) outbreaks
- shift in age/sex distribution of cases

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<https://doi.org/10.7326/M20-2223>

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-25 10:08 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: RE: Can you give me

H [REDACTED]

There is no straightforward definitive answer just yet as there are two components 1) the NESS share of bulk procurement and 2) the additional 2 month orders for NESS.

[REDACTED] and team are working to validate the rate at which the NESS stockpile will grow based on existing bulk procurement. We should have this analysis for you later this week.

The latter is dependent on delivery timelines which will be determined as a result of the various requests for proposals (RFPs) for key commodities. Delivery schedules will be dependent on industry capacity. However, the RFPs will provide maximum flexibility to diversify contracts to the extent necessary (e.g. including range of suppliers, country of origin, product preferences, delivery timelines).

Some key points:

- Our previous bulk procurement efforts will significantly contribute to PPE supply through a resurgence scenario. We ordered over 2B units of PPE and other supplies and have received less than 25% of orders to date. Significant quantities of product continue to arrive every day or are in transit.
- Unlike at the beginning of COVID, for our top 5 commodities, there are now sources of domestic supply for 4 commodities: N95 respirators, face shields, gowns, and surgical masks.
- There is no domestic capacity for gloves. As such we proactively ordered 750M pairs to build a [REDACTED] and as part of additional proactive procurement. The RFP is complete and we will work with PSPC on NESS contracts to be awarded further to this process. On a FPT procurement call chaired by [REDACTED] today, PTs confirmed that gloves were a residual key area of concern and so there was a commitment to review gloves in detail with them at the next meeting.
- Additional RFPs for an additional 8 week NESS stockpile for the other key commodities are in various stages. These will also include flexibility to enable PTs to leverage our procurement efforts by enabling them to use the results of the RFP to procure their own supplies above and beyond the NESS quantities. Delivery dates TBC based on results of the RFP.
- We leveraged the existing NESS stockpile to proactively pre-position 3 months of PPE supplies for each territory.

-----Original Message-----

From: [REDACTED]
Sent: 2020-08-25 9:20 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Can you give me

Quick note by 10 am. Re our two month NESS stockpile. What have we ordered, when do we think we will receive by category. Thanks [REDACTED]

(PHAC/ASPC)

From: (PHAC/ASPC)
Sent: 2020-08-26 6:56 AM
To: (PHAC/ASPC)
Cc: (PHAC/ASPC)
Subject: FW: documents for meeting tomorrow DM PPE
Attachments: PHAC ANNOTATED - DM PPE Procurement - Agenda (Aug 26 2020).docx

Importance: High

Hi ,

In addition to bullets on overview analysis on key commodities, FYI, we are also trying to work through some underlying data challenges with HC and PSPC that impact the supply and demand model.

In addition to the data gaps on PT orders, we have concerns about the treatment of 'past due' shipments in the model (e.g. excluded completely although may be in Canada or in transit), the presentation of inventory that is in federal possession, and the potential impact of assumptions that are embedded in the model and whether they are still reasonable. We are collectively working through some of these aspects as they potentially have a significant impact on the results.

I will also add that any notion of continued bulk procurement needs more discussion and if done needs to be extremely targeted. Bulk procurement creates significant logistical challenges for PTs as well as us, most PTs clearly have capability to secure supply on their own, PTs have not submitted any recent bulk procurement orders, new sources of domestic capacity continue to emerge and we are in a very different situation than the spring in terms of FPT stockpiles and options for PTs to secure their own supply.

Thanks,

-

From: >
Sent: 2020-08-25 7:39 PM
To:
Cc:
Subject: FW: documents for meeting tomorrow DM PPE
Importance: High

Hello

As approved by attached is 's annotated agenda for tomorrow's meeting.

Cheers.

From: [REDACTED]
Sent: 2020-08-25 7:15 PM
To: [REDACTED]
[REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: RE: documents for meeting tomorrow DM PPE

Thank you. Please go ahead and send to [REDACTED]

From: [REDACTED]
Sent: 2020-08-25 6:59 PM
To: [REDACTED]
[REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: RE: documents for meeting tomorrow DM PPE
Importance: High

Hello [REDACTED]

Attached is the annotated agenda as reviewed by [REDACTED]

Note that DM PPE Procurement is tomorrow at 10:15am, so if you are good with this, we can send it over to [REDACTED] ASAP

Cheers.

From: [REDACTED]
Sent: 2020-08-25 10:18 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: documents for meeting tomorrow DM PPE

Can you draft up any notes for this discussion.

From: [REDACTED]
Sent: 2020-08-25 10:11 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: documents for meeting tomorrow DM PPE

Good morning,

Kindly advise if there's any intel/considerations for [REDACTED]

Thanks



Public Health Agency of Canada | Agence de la santé publique du Canada



[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-26 3:13 PM
To: [REDACTED]
Subject: FW: MO Request - 2 Month picture
Attachments: MO Request-2MonthSDPicture Aug26.docx

FYI. Follow up from MINO call last week.

From: [REDACTED]
Sent: 2020-08-26 3:02 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: MO Request - 2 Month picture

Hi [REDACTED], please find attached the follow up piece requested by [REDACTED] at the Minister's Office briefing on PPE last week. She asked for the "2-month" picture. We have developed this 2-pager in collaboration with PHAC ([REDACTED] is copied). For [REDACTED] approval before routing up to Mino.

[REDACTED]

[REDACTED]
[REDACTED]
Canada's Workforce Health and Safety
COVID Task Force, Health Canada
[REDACTED]
[REDACTED]

MINISTER'S OFFICE REQUEST**REQUEST:**

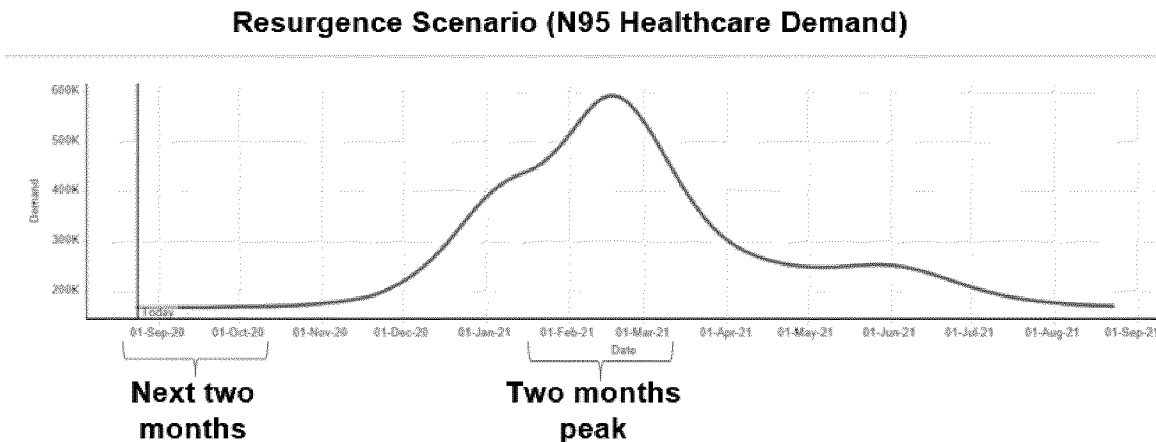
Provide data from the Pan-Canadian PPE Supply-Demand Model related to demand and federal supply over the next two months for key PPE commodities.

RESPONSE:**2-Month Federal Supply and Demand Comparison for Key Commodities**

Product	Next 2-Month Public Health Demand (Aug 20 to Oct 18, 2020)	Total Federal Supply over next 2 months (Sum of current NESS and federal bulk procurement expected to arrive and be allocated to NESS or PTs over next 2 months)	Supply gap to meet demand forecasted over the next 2 months	Ongoing actions to address potential supply gaps
N95 Masks	10M	14M	Surplus of 4M	Domestic manufacturing capacity to come online with Medicom (August 2020) and 3M (2021).
Nitrile Gloves ²	390M	170M	219M	PHAC has done additional procurement via sole source contracts and currently has an active Request for Proposal on the PSPC Buy and Sell website.
Disposable Gowns	51M	51M	0.5M	PHAC is working with PSPC to post a Request for Proposal on the PSPC Buy and Sell website.
Surgical Masks	139M	204M	Surplus of 65M	Domestic manufacturing capacity coming online with Medicom (August 2020). PHAC is also working with PSPC to post a Request for Proposal on the PSPC Buy and Sell website.

- All demand numbers are for a resurgence epidemiological scenario in the model.
 - There are currently 2 epidemiological scenarios in the model:
 - Resurgence, which represents a realistic, worst case scenario if Canada were to have another significant period of COVID cases; and,

- Containment, which represents a scenario where we continue to keep COVID spread minimal.
- The above chart shows the next two months of demand (August 20-October 19, 2020) based on the resurgence scenario in the PPE model. **Note:** the model does not currently predict the peak resurgence to occur until 2021, so next 2-months demand is flat. For comparison, two months of peak demand is shown and the end of this response.



- Table analysis does not include Provincial or Territorial (PT) inventories or PT on-order supply. This is considerable in some cases.
- Past due items are not included in supply picture until a new delivery schedule is confirmed. Currently the following supply is past due: 15.8M N95s, 118.3M nitrile gloves, 24.6M disposable gowns and 4.6M surgical masks. These could arrive and be allocated within the next two months, and would then show up in the model, but it is safest to leave them out of the supply count until we can confirm they will arrive.
- N95 supply numbers do not include 3M orders as the first 3M interim supply shipment (approximately 750K) is not expected until October (specific date TBC so could fall outside of 2-month window). 3M will be authorized for direct shipment to PTs.
- Given that peak demand is not anticipated in the supply-demand model until winter 2021, the below chart shows two months of peak demand according to the PPE model. Demand is expected to be similar for most products if peak were to occur sooner (e.g. fall 2020). The projected inventory over time suggests that, including PT supply, there is sufficient supply nationally to manage this peak.
- For some items (e.g. surgical masks and nitrile gloves) a significant increase in demand due to COVID resurgence is not anticipated as these items are used

prophylactically in a health care setting regardless of the number of COVID cases. As such, demand forecasts over the next two months and demand forecasts over two months of peak resurgence are close to the same.

Product	Next 2-Month Public Health Demand (Aug 20 to Oct 18, 2020)	Estimated 2-Month Peak Demand ²
		<i>Peak Demand is currently not forecasted in PPE Model until 2021, however this provides a theoretical picture of demand if the peak were to hit earlier than anticipated (e.g. fall 2020)</i>
N95 Masks	9,929,825	30,630,589
Nitrile Gloves ²	390,086,520	398,798,770
Disposable Gowns	51,393,771	66,793,008
Surgical Masks	138,816,950	139,623,025

¹All nitrile glove numbers are in pairs

²The two month peak demand for N95 masks is anticipated between January 19-March 19, 2021; Nitrile gloves January 22-March 22, 2021; Gowns January 22-March 22, 2021; Surgical masks January 23 - March 23, 2020

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-26 9:06 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: Issue Note - GSK AS03 Adjuvant
Attachments: ISSUE NOTE - AS03 Allocation Aug 26 (final).docx

Please see attached final issue Note.

ISSUE NOTE

Supply of GSK Proprietary AS03 Adjuvant for Use in COVID-19 Vaccines

ISSUE:

GSK has agreed (subject to completion of an Advance Purchase Agreement (APA) to supply Canada 52 million doses of its proprietary AS03 adjuvant for use at Canada's discretion in COVID-19 vaccine production. [REDACTED]

[REDACTED]

CONSIDERATIONS:

- The Vaccine Task Force (VTF) recommended that the bulk of GSK's AS-03 adjuvant supply be made available to Sanofi [REDACTED]. Once acquired, the intention would be to supply and distribute on the basis of [REDACTED] Sanofi production readiness. Specific allocation decisions will be further elaborated in the coming weeks as the APAs with these companies are finalized.
- [REDACTED]
- [REDACTED]
- [REDACTED]
- This approach does not affect Canada's Pandemic Influenza Vaccine (PIV) supply, given the timing of AS-03 adjuvant replenishment occurs post PIV contract expiry. PHAC is working in collaboration with PSPC to mitigate Canada's pandemic influenza risks during the period in which GSK is unable to supply PIV (i.e. current contract expiry date to date upon which a new contract (still to be negotiated) will come into effect). Risk mitigation efforts will include seeking to increase access to PIV produced offshore.

.../2

-2-

RECOMMENDATION:

Allocate the **68.5 million doses of AS03** adjuvant available in 2021 as follows:

- [REDACTED]
- **48.5 million doses to Sanofi:** This allocation is consistent with VTF advice that the Sanofi traditional vaccine be prioritised for AS03 adjuvant allocation.
- **Continue to negotiate with GSK on additional supply:** Work towards increasing Canada's allocation of AS-03 beyond the 68.5M doses currently on offer [REDACTED] and an additional 23.5M for Sanofi.

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-26 9:38 AM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: RE: Can you give me

Hi [REDACTED]

Here is the 3 month stockpile for each territory the key commodities. There might be some slight variations based on final efforts to deliver.

This is mostly based on what they requested and so in most cases may exceed an actual / estimated 3 month requirement.

NWT:

[REDACTED]

Nunavut:

[REDACTED]

Yukon:

[REDACTED]

-----Original Message-----

From: [REDACTED] >
Sent: 2020-08-25 10:52 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: Can you give me

Can you give me breakdown of the 3 month pt stockpile refd at end of memo. Re our two months worth of stock looking forward to analysis this week. [REDACTED]

Sent from my iPhone

> On Aug 25, 2020, at 10:07 PM, [REDACTED] > wrote:

>

> Hi [REDACTED]

>

> There is no straightforward definitive answer just yet as there are two components 1) the NESS share of bulk procurement and 2) the additional 2 month orders for NESS.

>

> [REDACTED] and team are working to validate the rate at which the NESS stockpile will grow based on existing bulk procurement. We should have this analysis for you later this week.

>

> The latter is dependent on delivery timelines which will be determined as a result of the various requests for proposals (RFPs) for key commodities. Delivery schedules will be dependent on industry capacity. However, the RFPs will provide maximum flexibility to diversify contracts to the extent necessary (e.g. including range of suppliers, country of origin, product preferences, delivery timelines).

>

> Some key points:

>

> - Our previous bulk procurement efforts will significantly contribute to PPE supply through a resurgence scenario. We ordered over 2B units of PPE and other supplies and have received less than 25% of orders to date. Significant quantities of product continue to arrive every day or are in transit.

> - Unlike at the beginning of COVID, for our top 5 commodities, there are now sources of domestic supply for 4 commodities: N95 respirators, face shields, gowns, and surgical masks.

> - There is no domestic capacity for gloves. As such we proactively ordered 750M pairs to [REDACTED] and as part of additional proactive procurement. The RFP is complete and we will work with PSPC on NESS contracts to be awarded further to this process. On a FPT procurement call chaired by [REDACTED] today, PTs confirmed that gloves were a residual key area of concern and so there was a commitment to review gloves in detail with them at the next meeting.

> - Additional RFPs for an additional 8 week NESS stockpile for the other key commodities are in various stages. These will also include flexibility to enable PTs to leverage our procurement efforts by enabling them to use the results of the RFP to procure their own supplies above and beyond the NESS quantities. Delivery dates TBC based on results of the RFP.

> - We leveraged the existing NESS stockpile to proactively pre-position 3 months of PPE supplies for each territory.

>

>

>

> -----Original Message-----

> From: [REDACTED]

> Sent: 2020-08-25 9:20 PM

> To: [REDACTED]

> Cc: [REDACTED]

> Subject: Can you give me

>

> Quick note by 10 am. Re our two month NESS stockpile. What have we ordered, when do we think we will receive by category. Thanks [REDACTED]

>

> Sent from my iPhone

[REDACTED] (PHAC/ASPC)

From: [REDACTED] >
Sent: 2020-08-26 10:30 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED] (PHAC/ASPC)
Subject: Re: Issue Note - GSK AS03 Adjuvant

It is very helpful to have confirmed that the As3 stockpile doesn't have to be made available until after PIV contract expiry.

Raises the other challenge, as you note, about the period between contract expiry and the next contract, which is well noted.

Next step makes sense, but I'll let [REDACTED] comment.

Sent from my iPhone

On Aug 26, 2020, at 9:29 PM, [REDACTED] wrote:

Given clarity in what we can get from GSK when re their adjuvant, am proposing to share updated note attached for tomorrow night's Dm vaccine discussion. Given clarity on GSK position we can decouple the pandemic influenza vaccine (PIV) contract considerations from tomorrow's discussion. That said, we need to pursue a strategy now re what we need to do to be ready when existing contract comes to a close

[REDACTED] Maybe we can ask our adms to come up with some options that we can discuss in the short term which we could then discuss.

Let me know if you've any comments on enclosed. And do you agree re first step re next PIV contract?

[REDACTED]
Sent from my iPhone

Begin forwarded message:

From: [REDACTED] >
Date: August 26, 2020 at 9:05:40 PM EDT
To: "[REDACTED]"
Cc: "[REDACTED]"
[REDACTED]
[REDACTED]
Subject: Issue Note - GSK AS03 Adjuvant

Please see attached final issue Note.

[REDACTED]
<ISSUE NOTE - AS03 Allocation Aug 26 (final).docx>

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (HC/SC)
Sent: 2020-08-27 2:06 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: Re: Adding NESS data to the PPE Reporting Dashboard

We will set up a call to land this.

[REDACTED]
[REDACTED]
Health Canada

On Aug 27, 2020, at 1:36 PM, [REDACTED] > wrote:

We should discuss. There are a few important considerations not reflected below:

Sent from my iPhone

On Aug 27, 2020, at 12:39 PM, [REDACTED] wrote:

Hi [REDACTED]

I'm writing to you to confirm that you agree we should include NESS data on PPE in the PPE Reporting Dashboard. The Dashboard pulls data from PHAC, PSPC and ISED to provide daily updates to federal and PT governments on federal procurement and deployment to PTs. PTs have full access to the Dashboard, which provides an incentive for them to regularly share inventory and burn rate data with us. We have built on this good will and data from PTs to feed the PPE supply and demand model as you know.

The PPE Reporting Dashboard currently does not include NESS data, because of some concerns initially that this information was too sensitive to share with PTs – though I understand now the concern is really more about MCMs, rather than PPE.

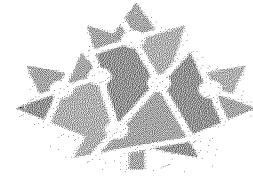
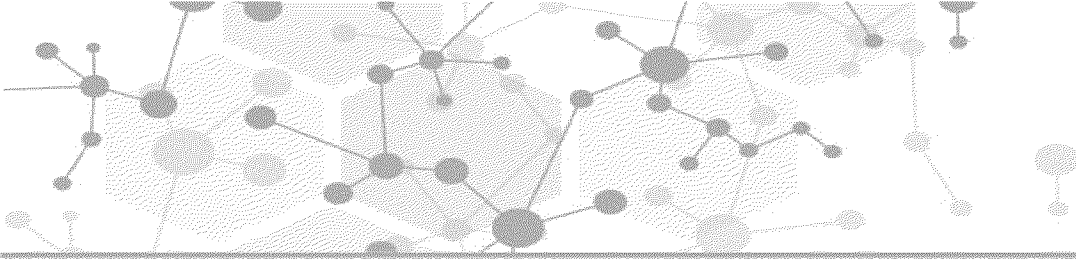
I think transparency with the PTs has served us well so far on the PPE file and would significantly help us with collective planning with PTs on procurement and stockpiling - as we discussed at the DM PPE Procurement meeting this morning. The success of our work on this file depends largely on PTs' willingness to share additional PPE data, including their own procurement activities. Reciprocity in sharing data back to PTs will be an important factor in enlisting their support. This would also provide a more complete picture for PCO in their daily reporting, and help us streamline the daily PPE reporting.

On that basis, I propose that we share this less-sensitive NESS PPE data with PTs through the PPE Dashboard (it's already in the PPE Supply and Demand model). [REDACTED]

discussed this a few weeks ago and there was general agreement that transparency with PTs would be beneficial. If you agree, ■ can work with your team and StatCan to get this implemented.

Thanks,

■



Strategic Planning Priorities: F/P/T Public Health Response to the Ongoing Management of COVID-19

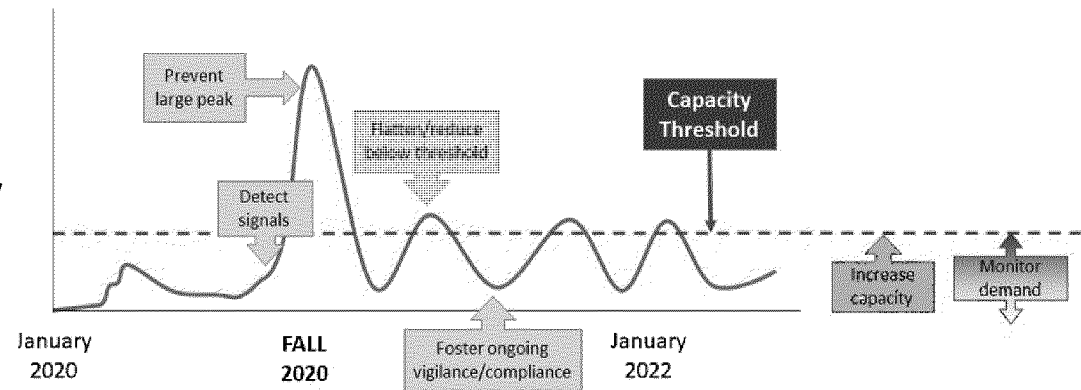
F/P/T SAC on COVID-19 - August 27, 2020

Context

- F/P/T Public Health Response Plan for Ongoing Management of COVID-19 lays includes:
 - Objectives for the ongoing management of COVID-19
 - Capabilities needed to manage the risk of a reasonable worst case scenario
 - Current status and planned activities by response component
- Now need to consider:
 - What requires coordinated F/P/T action
 - New actions/activities
 - Any capability gaps and/or areas that need immediate improvement
 - Where national consistency is needed/desirable
 - What are the priorities
- Purpose of today – provide feedback to inform focus of FPT coordinated response actions for the reasonable worst case scenario

Capabilities required for reasonable worst case scenario risk management

- DETECT—signals indicating a significant surge in cases may occur
- PREVENT—large fall peak that greatly exceeds capacity to respond
- REDUCE —surges in incidence and hospitalizations
- INCREASE—health care and public health capacity
- MONITOR—demand for health care resources
- FOSTER—ongoing public vigilance and compliance with measures and recommendations
- MINIMIZE - non-COVID negative health impacts and impacts on determinants of health



What requires a F/P/T Coordinated F/P/T action?

Excerpt from the F/P/T Public Health Response Plan for Biological Events:

If one or more of the following needs are identified during the initial assessment, a **coordinated F/P/T response** may be recommended.

- **Federal surge capacity or centralized planning** because multiple jurisdictions are affected or have been put at risk by the public health event (e.g., a vaccine supply issue, an event requiring rapid advanced planning/preparedness) and requirements for coordination exceed routine/existing capacities
- **New or revised guidance documents, recommendations or activities** for the public health response (e.g., if an outbreak due to an unknown or new pathogen with high potential for human to human transmission occurs, and/ or a disease is new to Canada and no established program currently exists)
- **Collated Canadian incidence data** on daily/urgent basis (e.g., for IHR reporting requirements)
- **Analysis of epidemiological data from multiple jurisdictions** to inform the response
- **Bulk purchasing** of medical countermeasures (MCM) or equipment
- **Consistent use across multiple jurisdictions of limited resources** (e.g., MCM)
- **Consistent approach to border screening, contact identification and follow-up, and/or public and professional communications** (e.g., due to a Public Health Emergency of International Concern (PHEIC) occurring outside of Canada)

Where/when is national consistency is needed/desirable?

- High level public messaging
- Epidemiological parameters
- Public health guidance concepts
- Approach to prioritized resources (e.g., vaccine target groups)
- Strategic planning assumptions and approach

Priority setting for (reasonable worst case scenario) risk management needs

- What?
 - requires new action
 - needs improvement or adaption
- When?
 - timeline to requirement (short – before any fall surge, mid – during a surge, long – for ongoing response, for optimal public health system)
 - time to expected resource availability (e.g., vaccine)
 - modelling data suggests change/alteration to response
 - new research/evidence necessitating shift in response
- Other considerations:
 - Funding availability
 - Political priorities

Reasonable Worst Case Scenario Risk Management Requirements

Capability	Risk Management Requirements
<p>DETECT – Signals indicating a significant surge in cases may occur</p> <p>1.1 – 1.7</p>	<ul style="list-style-type: none"> ➤ timely surveillance data (local, P/T, national and international) ➤ laboratory resources to rapidly distinguish between COVID-19 and other respiratory viruses ➤ rapid analysis/investigation to assess risk of large peak (exceeding response capacity), based on precise/granular local level data ➤ early warning for increased demand on resources and response activities ➤ rapid resource allocation to reduce and/or manage impacts ➤ pro-active risk communication ➤ ongoing vigilance/commitment to COVID-19 response
<p>PREVENT – Large fall peak that greatly exceeds capacity to respond</p> <p>2.1 – 2.10</p>	<ul style="list-style-type: none"> ➤ resources to ensure ongoing response measures are adequate to control current spread and prevent new cases ➤ public cooperation with surveillance and case and contact management activities (i.e., to facilitate timely identification and isolation/quarantine) ➤ consistent, clear localized triggers for re-implementation of restrictive PHM ➤ rapid deployment of targeted outbreak control/containment resources (including implementation of local “lockdowns”) ➤ gradual, controlled “re-opening” of settings and gradual resumption of activities (with modifications) that are known to be associated with increased transmission risk ➤ high compliance with ongoing modifications/controls put in place as restrictive PHM are lifted ➤ high compliance with personal protective measures ➤ proactive international border control measures ➤ increased messaging and public education regarding personal protective measures as more social interactions move back indoors in the fall season ➤ increased health care system capacity (especially in high-risk settings such as long-term care) and consideration of how to deliver needed health care (e.g., at alternate sites, using retired workers or students or alternate care providers)
<p>REDUCE – Surges in incidence and hospitalizations</p> <p>3.1 – 3.6</p>	<ul style="list-style-type: none"> ➤ adequate resources to ensure ongoing response measures to control current spread and prevent new cases, hospitalizations and deaths ➤ focus on rapid detection and isolation of cases, and rapid identification and quarantine of contacts ➤ rapid detection of outbreaks and deployment of outbreak control/containment resources ➤ consideration of how to re-implement restrictive community PHM and which PHM to re-implement based on clear local-level triggers ➤ increased use of/compliance with, personal protective measures ➤ ongoing international border control measures with possible re-introduction of restrictions

Reasonable Worst Case Scenario Risk Management Requirements (cont'd)

Capability	Risk Management Requirements
<p>INCREASE— Health care and public health capacity</p> <p>4.1 – 4.8</p>	<ul style="list-style-type: none"> ➤ laboratory surge capacity to ensure rapid diagnosis and case notification ➤ availability of public health resources for surges in case and contact management requirements in the community (including isolation of cases and quarantine of contacts at home/alternative designated sites), development of new guidance products and provision of expert advice based on evolving scientific literature ➤ resources (i.e., human and equipment/supplies), planning and training for outbreak control activities in high-risk settings, including clear emergency back-up contact points ➤ surge capacity to ensure availability/access to health care resources including equipment (e.g., ventilators, personal protective equipment) during peaks ➤ availability of sufficient health care providers to meet surge in demand ➤ ability to access and distribute effective pharmaceutical treatments ➤ ongoing monitoring of scientific literature, networks and expert advice to inform best practices for treatment and identification of effective pharmaceuticals that reduce hospitalization requirements and/or duration of hospitalization ➤ recovery policies and measures (e.g., discharge for recovery at home or alternate site) to avert potential backlogs in the hospital system
<p>MONITOR—Demand for health care resources</p> <p>5.1 – 5.3</p>	<ul style="list-style-type: none"> ➤ surveillance for early indicators that other illnesses that may cause a surge in demand for health care resources (e.g., seasonal influenza, other respiratory pathogens) ➤ linkages between health care delivery and public health to ensure timely establishment of alternative/over-flow care sites ➤ enhanced monitoring of global supply chains that could trigger drug shortages and identified alternatives and strategies to prioritize and conserve supply (e.g., critical supply reserve etc.
<p>FOSTER – Ongoing public vigilance and compliance with measures and recommendations</p> <p>6.1 – 6.3</p>	<ul style="list-style-type: none"> ➤ ongoing public trust in public health authorities ➤ communication and education products to support continued widespread public adherence to personal protective measures and community-based public health measure ➤ public knowledge, attitudes and behavior research to inform sustainable effective behavioral changes

Risk Management Requirements Needing Coordinated F/P/T action

Risk Management Requirements:		Requires NEW or IMPROVED coordinated F/P/T action?	National consistency is needed /desirable?	F/P/T Priority?
SURVEILLANCE THEMED				
1.1	•timely surveillance data (local, P/T, national and international)	Improve – work underway to improve case data and other surveillance data streams	Yes	High – particularly for specific data elements
1.2	•laboratory resources to rapidly distinguish between COVID-19 and other respiratory viruses	New - multiplex testing platforms to optimize testing	Yes	Medium – underway but need more consideration of human resources and testing targets
1.4	•early warning for increased demand on resources and response activities	New - FPT collaboration required as component of Safe Restart Agreements	Yes	High - This collaboration will contribute to modelling and inform future procurement of critical PPE, medical supplies, and equipment
5.1	•surveillance for early indicators that other illnesses that may cause a surge in demand for health care resources (e.g., seasonal influenza, other respiratory pathogens)	Improve – coordination, and capacity to ensure timely reporting	Yes	Medium - work is underway to understand the impact of COVID-19 on influenza surveillance

Risk Management Requirements Needing Coordinated F/P/T action

Risk Management Requirements: OUTBREAK MANAGEMENT THEMED		Requires NEW or IMPROVED coordinated F/P/T action?	National consistency is needed /desirable?	F/P/T Priority?
3.3	•rapid detection of outbreaks and deployment of outbreak control/containment resources	Improved - value in overlaying genomics with epi data	Yes	High – need to determine role of genomics in outbreaks
4.3	•resources (i.e., human and equipment/supplies), planning and training for outbreak control activities in high-risk settings, including clear emergency back-up contact points	New – outbreak investigation guidance, RRT resource, information sharing	Yes	High – window of opportunity with re-openings to analyse outbreak data to further inform actions and epidemiology

Risk Management Requirements Needing Coordinated F/P/T action

Risk Management Requirements: COMMUNICATION THEMED		Requires NEW or IMPROVED coordinated F/P/T action?	National consistency is needed /desirable?	F/P/T Priority?
1.6	•pro-active risk communication	New/Improved -PHN Communications Working Group	Yes	High -but need to “re-set the message” to acknowledge action on unintended consequences and long term response
6.2	•communication and education products to support continued widespread public adherence to personal protective measures and community-based public health measures (similar to 2.7 and 3.5)	New -refresh	Yes	Medium – need ongoing “refreshing” ideally evidence-informed, need to think about promoting vaccine acceptance once a COVID-19 vaccine is available
6.3	•public knowledge, attitudes and behavior research to inform sustainable effective behavioral changes	New –to ensure broad applicability	No –information sharing to facilitate custom messaging	Medium –Low – need evidence base for messaging, and to identify (and target) any hesitations/barriers Canadians have to getting the COVID-19 vaccine.

Risk Management Requirements Needing Coordinated F/P/T action

Risk Management Requirements: SURGE/SUPPLY THEMED		Requires NEW or IMPROVED coordinated F/P/T action?	National consistency is needed /desirable?	F/P/T Priority?
4.4	•surge capacity to ensure availability/access to health care resources including equipment (e.g., ventilators, personal protective equipment) during peaks	Improved –NESS resources, mobility of resources, sharing of supplies	Yes	High – ensure availability for worst case scenario
5.3	•enhanced monitoring of global supply chains that could trigger drug shortages and identified alternatives and strategies to prioritize and conserve supply (e.g., critical supply reserve etc.)	Improved – coordination with HC and other partners	Yes	High – particularly for potential COVID-19 treatments

Common themes/issues:

- Reasonable worst case scenario mitigation:
 - SURVEILLANCE
 - OUTBREAK MANAGEMENT
 - COMMUNICATION
 - SURGE/SUPPLIES
- From the rest of the Plan:
 - Target restrictive public health measures as much as possible – avoid broad re-implementation.
 - Recognition and more action to rectify/prevent the disproportionate negative health impact of COVID-19 and of restrictive response measures on sub-populations/groups.
- Other capacity related issues?

Next steps:

- PT review of reasonable worst case scenario risk management requirements
 - Verify current list
 - Identify any others that require or would benefit from F/P/T coordinated action or F/P/T consistency
 - Identify other risk management requirements not in the plan
- Approach to rectify/prevent the disproportionate negative health impact of COVID-19 and of restrictive response measures on sub-populations/groups.
 - E.g., NEW - Capability: To minimize non-COVID negative health impacts and impacts on determinants of health
 - Identify, assess for F/P/T action, and Prioritize risk management requirements:
 - analysis of impact of COVID-19 control measures on (local) population including identification of sub-groups that are disproportionately affected
 - timely analysis/identification of a surge (above non-COVID-19 baseline) in negative health impacts is occurring (e.g., overdose deaths)
 - allocate sufficient human and other resources to programs/activities aimed at both preventing and reducing negative health impacts
 - assess potentially risks of COVID-19 control measures and identify/plan for mitigation measures

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-30 3:46 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED] (PHAC/ASPC)
Subject: Re: We are expected to be ready to do a deep dive with minister on NESS this week - possibly before Wednesday. Believe

Got it.

Cheers

[REDACTED]
Sent from my iPhone

> On Aug 30, 2020, at 3:38 PM, [REDACTED] wrote:

>

> K. Just want to ensure that HC isn't doing one of their own. This one I think should be definitely our own. [REDACTED]

>

> Sent from my iPhone

>

>> On Aug 30, 2020, at 3:35 PM, [REDACTED] wrote:

>>

>> [REDACTED] Our teams are meeting in the AM to do a further scrub of the deck. It is a default position that we are engaged with [REDACTED] and her team.

>>

>> Cheers

>>

>> [REDACTED]

>>

>> Sent from my iPhone

>>

>>>> On Aug 30, 2020, at 3:24 PM, [REDACTED] wrote:

>>>>

>>>> Great. It would be good to engage with [REDACTED] to make sure we aren't working at cross purposes.

>>>>

>>>> Sent from my iPhone

>>>>

>>>>> On Aug 30, 2020, at 3:18 PM, [REDACTED] > wrote:

>>>>>

>>>>> [REDACTED] A deck is underway and I will have a draft to you tomorrow morning.

>>>>>

>>>>> Cheers

>>>>>

>>>>> [REDACTED]

>>>>>

>>>>> Sent from my iPhone

>>>>>

>>>>> On Aug 30, 2020, at 11:23 AM, [REDACTED] > wrote:

>>>>>

>>>>> Your team was tasked to produce a deck. Will need to see proposed product ASAP. You can chat to [REDACTED] as well. The level of detail being requested is really in our wheel house.

>>>>>

>>>>> Sent from my iPhone

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-30 4:10 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile
Attachments: PPE Supply and Stockpile Status_Aug 2020-v2-kw.docx

Hi [REDACTED] and [REDACTED]

We continue to work with Health Canada on the full deck related to state of PPE preparedness for the fall leveraging data from the HC supply and demand model.

However, further to previous questions, here is a high level analysis of the current state of the NESS PPE stockpile and target 8 week stockpile.

Note that there continues to be data cleanup and various assumptions which may impact figures in both cases.

Thanks,

- [REDACTED]

Personal Protective Equipment (PPE) Supply - Current Status (August 2020)

- Of the 2.3B units of PPE and medical devices ordered through federally led bulk procurement efforts, approximately 32% has been received to date and PHAC is now receiving consistent and significant volume of supply.
- In July the Minister approved the acquisition of an additional 8 week supply of key PPE commodities for the National Emergency Strategic Stockpile (NESS).
- The current stock on hand (in millions) is as follows:

	Target stockpile	Current stock on hand	Estimated NESS share of current stock on hand	Estimated PT share of current stock on hand
Gowns		26.0		
Surgical mask		121.0		
N95 respirators		9.4		
Gloves (pairs)		67.9		
Face shields		29.6		

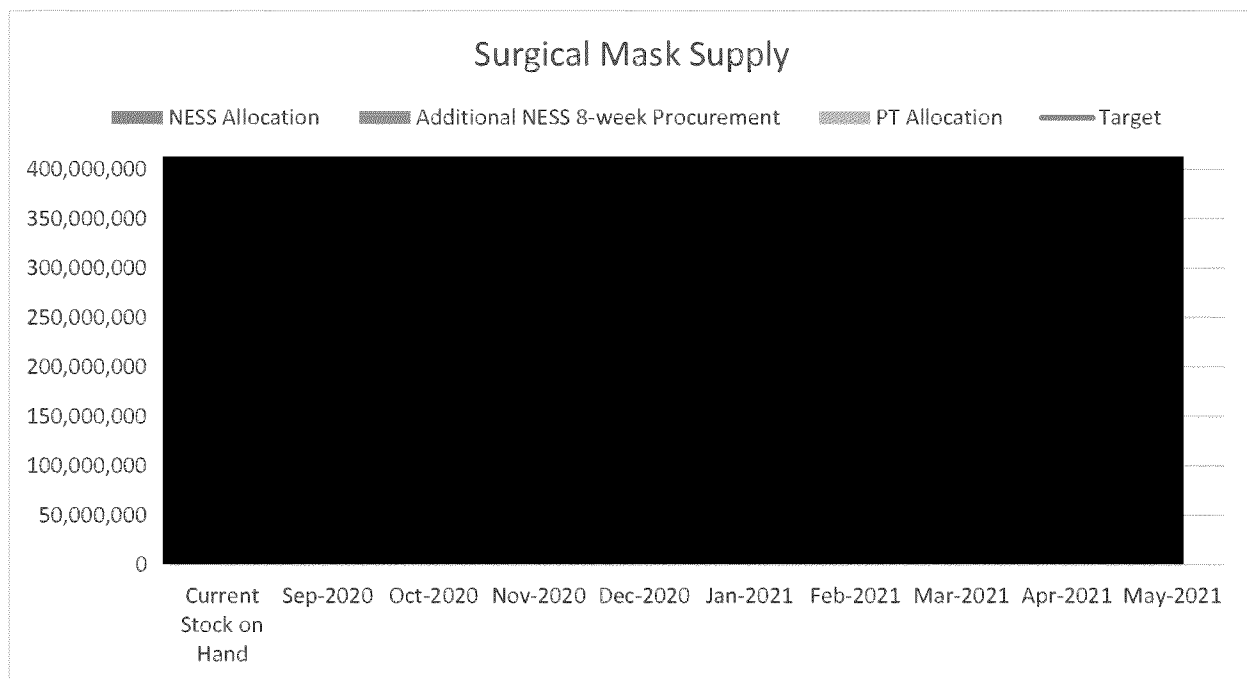
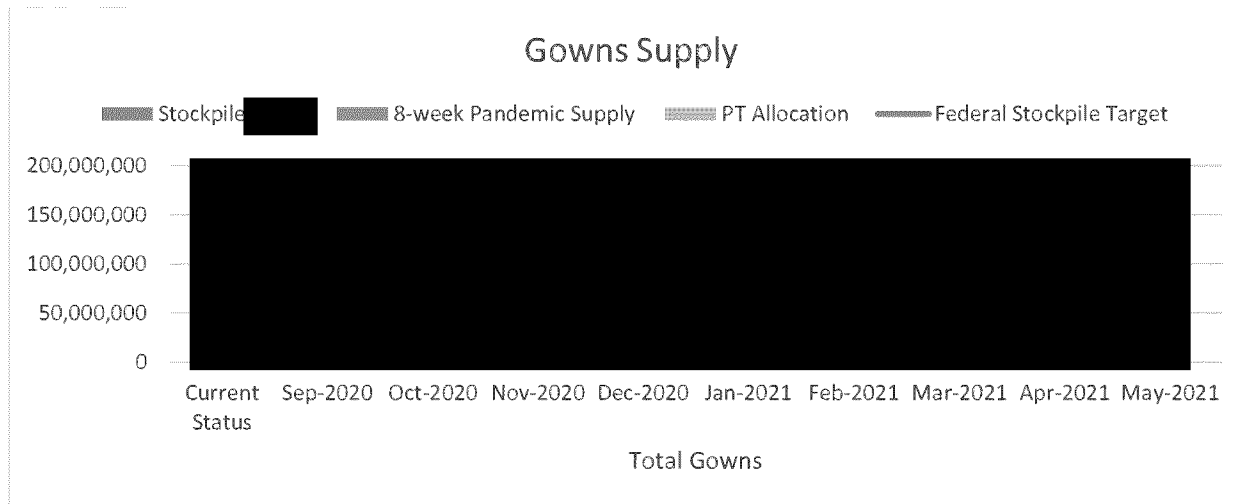
- Based on additional incoming supplies from existing bulk procurement and planned orders for an 8 week supply, the estimated dates to achieve a full 8 week stockpile in the NESS is as follows:
 - Gowns, February 2021
 - Surgical masks, February 2021
 - N95 respirators, December 2020
 - Gloves, December 2020
 - Face shields, December 2020
- The enclosed charts provide a detailed overview of current and anticipated federal supply of PPE as well as estimated time to reach the 8-week pandemic supply targets approved by the Minister.

Considerations:

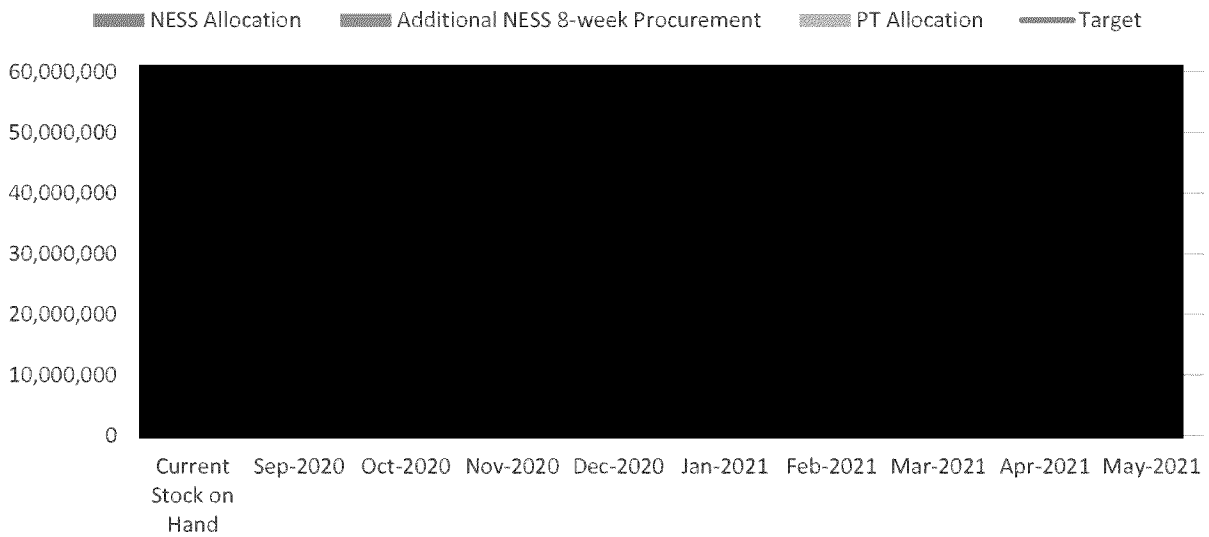
- This does not consider existing PPE stockpiles in PTs or orders that PTs have made on their own.
- The delivery schedules associated with existing orders are based on best estimates provided by suppliers but are subject to change.
- The delivery schedule for the additional 8-week pandemic supply for NESS is estimated based on equal monthly deliveries between October and March. Actual deliveries are dependent on the outcomes of the Requests for Proposals (RFPs) and industry capacity to manufacture and deliver products. The RFPs will provide maximum flexibility to diversify contracts to the extent necessary (e.g. including range of suppliers, country of origin, product preferences, delivery timelines).
- Estimated allocations to PTs and NESS are based on the 80/20 allocation formula.

- PHAC has ramped up logistics and warehousing capacity to manage the significant volumes of PPE now arriving. However, the ability to deploy to PTs is constrained due to PT ability to receive or interest in receiving certain products. As a result, the NESS may increase at a faster rate than indicated due to stop orders from PTs. For example:
 - [REDACTED] has requested stop shipment for all PPE with the exception of gloves and three specific N95 respirators and as such, its [REDACTED] percent allocation will be absorbed into NESS.
- Despite challenges noted on PT logistics and warehousing capacity, all inventory in PHAC possession can be triaged for rapid deployment as necessary.
- For gowns, both disposable and reusable have been included and a very conservative multiplier of 5x for the reusable gowns has been applied to account for the re-use.
- Domestic sources of supply now exists for N95 respirators, surgical masks, face shields and gowns. New sources of domestic supply continue to be developed.

Annex A



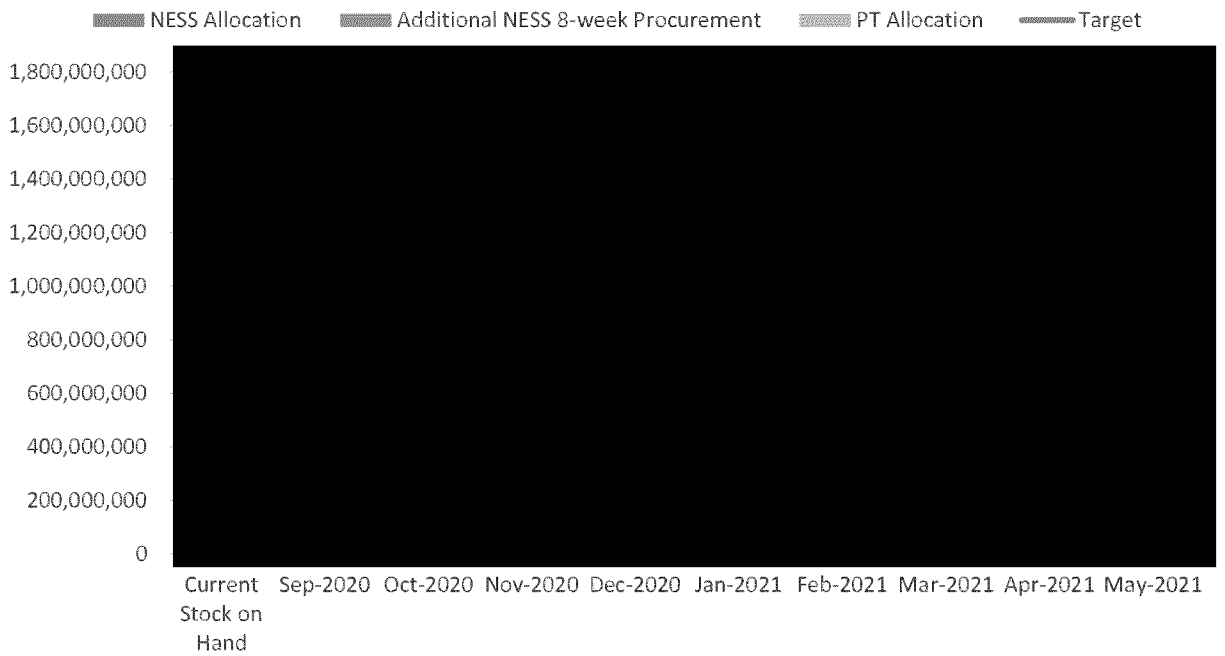
Face Shields Supply



N95 Supply



Glove Supply



[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-31 2:18 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED] (PHAC/ASPC)
Subject: here's a note to file on the thornhill ventilator that should be added to our records - sorry
meant to put this in play earlier but it got lost in the shuffle
Attachments: Ventilator overview - April 9 2020t (003)t.docx

Ventilator overview – COVID-19 – note to file April 9, 2020

Current NESS stockpile

Before the start of COVID-19, NESS held [REDACTED] ventilators including [REDACTED]
[REDACTED]

[REDACTED]

Orders

Prior to the public announcement on acquiring 1900 ventilators from Thornhill, PHAC had already placed an initial order for 550 ventilators. Based on this requisition, PSPC established contracts for the following 550 ventilators:

- 200 Zoll ventilators (transport) – with the first 50 ventilators to be made available the first week of April and subsequent weeks thereafter
- 200 Evita V500 ventilators
- 15 Babylog VN500 ventilators
- 85 Medronic PB980 ventilators
- 50 Hamilton C6 ventilators

Following the Government's announcement on the acquisition of ventilators from Thornhill, on March 22, 2020, PSPC awarded an initial contract for [REDACTED] Thornhill MOVES SLC units – essentially whatever units available in stock [REDACTED]

PHAC gave email instruction to proceed with ordering 1,900 ventilators from Thornhill. As contract discussions took place and capacity of the company was taken into account to produce product on an expedited timeframe, on March 26, 2020, PHAC issued a requisition to acquire an initial [REDACTED] Thornhill

units. This order was subsequently amended to add an additional [REDACTED], which an option to procure more.

Of note, staff within PHAC expressed concern in writing to ISED on March 19, with acquiring the Thornhill ventilator given a concern as to whether it would be able to meet the need for COVID-19 ventilation and the cost of the product. Prior to contract award, the PHAC technical assessment team shared information with the PHAC responsible [REDACTED], ISED and PSPC, questioning the Thornhill product's utility in an ICU and its ability to do long-term ventilation. The [REDACTED] (email of March 19 refers), expressed concern with not moving forward with the acquisition given acquisition by US and questioned whether PHAC specifications were "too fussy". In discussion between [REDACTED] and [REDACTED], both agreed with moving forward given the limited number of ventilators within the NESS, difficulty in procuring ventilators, Thornhill's commitment to ramp up domestic capacity, the potential need for a significant number of ventilators, and that it was better to have the Thornhill product than no product. It was also recognized that the Thornhill product could also be used to ventilate non-COVID-19 patients as a way to free up other ICU ventilators for those individuals who may require longer-term ventilation. Notwithstanding, PHAC staff raised concerns about whether the Thornhill vents could be used in a hospital setting including during interdepartmental discussions. On March 21, the [REDACTED] confirmed that the ventilators had been used in a variety of military hospitals. PHAC staff also noted that there were other suppliers that could potentially be contracted. [REDACTED] instructed PWGSC to proceed on March 21 with placing an order, given earlier discussion at the [REDACTED] level. On 21 March, PHAC's technical team shared the detailed assessment with the [REDACTED] who asked whether there might be flexibility to ask for modifications on the Thornhill product. As a result of this discussion, [REDACTED] held a discussion with Thornhill executives. The Company indicated it had no real flexibility to modify its product. Coming out of this discussion, Thornhill agreed to a facilitated engagement with representatives of the Critical Care Society of Canada to solicit third party feedback on the Thornhill product. Feedback was offered on March 22, which confirmed that the Thornhill product "seems like a good option for patients being cared for in uncommon locations – either in a hospital or out of a traditional ICU/hospital setting.. [REDACTED] So good option..." Of note, in addition to the federal acquisition of Thornhill ventilators, [REDACTED] The Thornhill order was placed prior to any other orders being placed with domestic manufacturers.

On March 24, 2020, PHAC also ordered [REDACTED] GE CARESCAPE R860 ventilators.

On March 26, 2020, PHAC issued a requisition for an additional 1,300 ventilators. PSPC continues to pursue options for acquisition.

On April 2, 2020, PHAC submitted a requisition for 300 VG70 ventilators from China. PSPC received direction to proceed with an additional 2,000. This order was subsequently cancelled due to concerns about the legitimacy of the supplier.

PHAC submitted requisitions for 30,000 'Made in Canada' ventilators.

Deployment of ventilators in NESS

As of April 7, 2020, PHAC had deployed 214 out of [REDACTED] ventilators in response to requests for assistance from P/Ts and to proactively pre-position ventilators in P/Ts as follows:

Jurisdiction	PB840	HT50	Total
British Columbia	6	55	61
Alberta	6		6
Saskatchewan			0
Manitoba	6	10	16
Ontario	7	55	62
Quebec	7	56	63
New Brunswick			0
Nova Scotia			0
Newfoundland and Labrador			0
Prince Edward Island			0
Yukon			0
Northwest Territories	6		6
Nunavut			0
NESS			0
	38	176	214

On April 8, 2020, the approach for deployment of an additional 235 ventilators [REDACTED] was approved by the [REDACTED]. [REDACTED] to address immediate urgent requirements of P/Ts.

As at April 9, 2020, shipments of the following allocation of ventilators are in progress:

Jurisdiction	PB840	HT50	Total	Delivery Status
British Columbia	0	0	0	
Alberta	0	50	50	Shipping April 11
Saskatchewan	5	25	30	Shipping April 11
Manitoba	0	18	18	Shipping April 11
Ontario	0	38	38	Shipped & Received April 8
Quebec	0	5	5	Shipped April 9
New Brunswick	1	21	22	Shipping April 11
Nova Scotia	2	22	24	Shipping April 11
Newfoundland and Labrador	2	16	18	Shipping April 11
Prince Edward Island	1	9	10	Shipping April 11
Yukon	1	5	6	Shipping April 11
Northwest Territories	0	0	0	
Nunavut	0	4	4	Shipping April 11
Total P/Ts	12	213	225	

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-31 12:59 PM
To: [REDACTED] (PHAC/ASPC)
Cc: [REDACTED]
Subject: RE: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

Agreed.

From: [REDACTED] >
Sent: 2020-08-31 12:57 PM
To: [REDACTED]
Cc: [REDACTED] >
Subject: Re: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

When we spoke certainly we talked about preparation for the fall. February is not the fall.

Sent from my iPhone

On Aug 31, 2020, at 12:55 PM, [REDACTED] wrote:

[REDACTED]: The BN that was signed by the Minister did not specify when we would have the stockpile in hand so this is the first time that we have such a clear forecast. We will work on some what-if scenarios to consider an earlier in-hand supply.

Note that it is gowns and surgical masks that are out to Feb 2021, whereas N95, gloves and face shields are out to Dec 2020.

Cheers,

[REDACTED]

From: [REDACTED]
Sent: 2020-08-31 12:49 PM
To: [REDACTED]
Cc: [REDACTED]
[REDACTED]
Subject: Re: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

So without looking at doc my gut says no. It wouldn't be acceptable to wait that long at all.

Sent from my iPhone

On Aug 31, 2020, at 12:46 PM, [REDACTED]
[REDACTED] wrote:

Thanks [REDACTED]. This provides some important answers, in particular the timing regarding the 8-week supply. This would help inform a sufficiency question as to whether or not it would be acceptable to wait until February 2021 to have all of the 8-week stockpile in hand.

Cheers,

[REDACTED]

From: [REDACTED]
Sent: 2020-08-30 4:10 PM
To: [REDACTED]
[REDACTED] >
Cc: [REDACTED]
Subject: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

Hi [REDACTED] and [REDACTED]

We continue to work with Health Canada on the full deck related to state of PPE preparedness for the fall leveraging data from the HC supply and demand model.

However, further to previous questions, here is a high level analysis of the current state of the NESS PPE stockpile and target 8 week stockpile.

Note that there continues to be data cleanup and various assumptions which may impact figures in both cases.

Thanks,

- [REDACTED]

[REDACTED] (PHAC/ASPC)

From: [REDACTED] (PHAC/ASPC)
Sent: 2020-08-31 1:00 PM
To: [REDACTED] PHAC/ASPC
Cc: [REDACTED] (PHAC/ASPC)
Subject: RE: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

You need to look at continued overall supply and not just the stockpile as massive quantities of incoming products are being pushed out to PTs in parallel.

This is a conservative view on an assumption we continue to allocate all bulk procurement 80/20 (e.g. does not consider stop shipments).

From: [REDACTED]
Sent: 2020-08-31 12:56 PM
To: [REDACTED] >
Cc: [REDACTED]
Subject: RE: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

[REDACTED] The BN that was signed by the Minister did not specify when we would have the stockpile in hand so this is the first time that we have such a clear forecast. We will work on some what-if scenarios to consider an earlier in-hand supply.

Note that it is gowns and surgical masks that are out to Feb 2021, whereas N95, gloves and face shields are out to Dec 2020.

Cheers,

[REDACTED]

From: [REDACTED]
Sent: 2020-08-31 12:49 PM
To: [REDACTED] >
Cc: [REDACTED]
Subject: Re: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

So without looking at doc my gut says no. It wouldn't be acceptable to wait that long at all.

Sent from my iPhone

On Aug 31, 2020, at 12:46 PM, [REDACTED] wrote:

Thanks [REDACTED] This provides some important answers, in particular the timing regarding the 8-week supply. This would help inform a sufficiency question as to whether or not it would be acceptable to wait until February 2021 to have all of the 8-week stockpile in hand.

Cheers,

[REDACTED]

From: [REDACTED]

Sent: 2020-08-30 4:10 PM

To: [REDACTED]

[REDACTED]

Cc: [REDACTED]

Subject: Current stockpile and incoming supply from bulk procurement plus 8 week stockpile

Hi [REDACTED] and [REDACTED]

We continue to work with Health Canada on the full deck related to state of PPE preparedness for the fall leveraging data from the HC supply and demand model.

However, further to previous questions, here is a high level analysis of the current state of the NESS PPE stockpile and target 8 week stockpile.

Note that there continues to be data cleanup and various assumptions which may impact figures in both cases.

Thanks,

- [REDACTED]