# Personal Protective Equipment Provincial Stockpile

January 2021

Ontario

# Provincial Stockpile – Origins

- Created in 2006 following the Severe Acute Respiratory Syndrome (SARS) Commission Report and the abatement of the public health crisis created by SARS:

  > *"In order to address the serious problem of the lack of a sufficient supply of personal protective equipment for health care workers, patients and others that arose at the outbreak of SARS I, the Ministry has begun to stockpile and secure its supplies." - - SARS Interim Final Report*

- Original focus was to prepare for an influenza pandemic – in response to the growing threat, H5N1 (avian flu) and H1N1 (swine flu)

**Document References:** "General Stockpile Review: Desk Analysis Current State Assessment", 2019-11-07; "TB/MBC Submission – Warehousing and Logistic Services Question and Answer Document", 2019-06-18

# Role in Pandemic-Preparedness

- The provincial stockpile of personal protective equipment (PPE) is meant to act as an **emergency supply** that **compliments local stockpiling activities** and provides a **stop-gap** when local stockpiling activities are unable to meet demand (e.g. when there is a sudden surge in demand for PPE/supplies during a pandemic and global competition may not be easily accommodated by suppliers)
- Local health organizations are expected to stockpile sufficiently based on internal assessments of supply risks
- The **Ontario Health Plan for an Influenza Pandemic** (OHPIP) recommends that health organizations develop a **four-week stockpile** of PPE based on the high transmissibility and low clinical severity scenario influenza pandemic
    - Estimates of need should be based on what is used during a seasonal influenza response
        - Outpatient and home care settings should plan for 2 times normal volume
        - Inpatient settings should plan for 8 times normal volume
    - Health sector employers should have supplies of both N95 respirators and surgical masks for their health workers
- Supplies deployed to health organizations through online ordering system with costs covered by Ministry
- All items in the stockpile are shipped on a “first-expired, first-out” basis when possible

**Document References:** Ontario Health Plan for Influenza Pandemic, 2006-09-01; Ontario Health Plan for an Influenza Pandemic, Chapter 1: Introduction, 2013-03-01

# PPE - Legislative References

- There is no requirement for a provincial stockpile in any provincial statutes or regulations
- There is some mention of PPE and infection prevention and control (IPAC) / emergency planning that impacts the LTCH sector in the following legislation:
  - ***Long-term Care Homes Act,* O Reg 79/10** – S. 229 addresses IPAC requirements; and S. 230 addresses emergency plan requirements. While neither section includes any PPE supply/stockpile requirements, LTCHs may decide to ensure such a supply/stockpile as part of their IPAC program and/or emergency plans.
  - ***Occupational Health and Safety Act,* s. 25-26 & O. Reg. 67/93, ss. 2, 8-10** – Set out obligations on employers, including health care providers, regarding equipment, materials and protective devices

# Responsibility & Management of Provincial Stockpile

- Under the *Emergency Management and Civil Protection Act*, the Deputy Minister of the Ministry of Health is responsible for the Emergency Management Program of the Ministry. By Order in Council 1157/2009, the MOH is assigned provincial responsibility for human health, disease and epidemics and health services during an emergency.

  **MOHLTC Emergency Response Plan 2013 -**
  http://www.health.gov.on.ca/en/pro/programs/emb/pan_flu/docs/emerg_resp_plan.pdf

- Health System Emergency Management Branch (HSEMB) in MOH manages the Ministry's emergency management program (which includes the stockpile for the health sector) under the direction of an Assistant Deputy Minister and Deputy Minister. HSEMB has been situated in different offices/areas of the Ministry since 2006.

- Since its creation, HSEMB (then called the Emergency Management Unit) has reported to various ADMs, CMOHs and DMs depending on the organizational structure of the Ministry at the given time

# Health System Emergency Management Branch Reporting Structure

| Dates | Division responsible for Stockpile | Reporting for Division |
|---|---|---|
| **March 2006 – Jan 2008** | Public Health | Executive Director (Ruth Hawkins); reported to Public Health Division ADM/CMOH (Dr. Sheila Basrur) then CMOH (Dr. David Williams) as of Nov 2007; reported to DM (Ron Sapsford) |
| **Jan 2008-Dec 2011** | Public Health | ADM (Allison Stuart) reported to DM (Ron Sapsford) |
| **Dec 2011 – Dec 2014** | Public Health | Executive Director (Roselle Martino) reported to ADM/CMOH (Dr. Arlene King); reported to DM (Saad Rafi) |
| **Dec 2014-Dec 2018** | Population and Public Health | ADM (Roselle Martino) reported to reported to reported to AssocDM Policy and Transformation (Sharon Lee Smith) reported to DM (Bob Bell) |
| **2018- Aug 2020** | Office of the Chief Medical Officer of Health, Public Health | ADM/CMOH (Dr. David Williams) reported to DM (Helen Angus) |
| **Aug 2020 to Current** | Pandemic Response and Public Health Modernization | ADM (Alison Blair) reports to DM (Helen Angus) |

# Metrics & Assumptions to Guide Purchasing in 2006

- All volumes in the development of a stockpile are educated estimates. It is impossible to predict precisely (i) how a pandemic might play out (transmission, infection, outcomes, length etc.) and (ii) how much supply will be needed
- OHPIP sets out the guidelines for the provincial stockpile. It is based on expert advice provided by the OHPIP Equipment and Supply Working Group in 2006:
    - OHPIP was based on projected 35% impact of influenza pandemic to general population and 50% for LTCHs with vulnerable residents [numbers from FluAid and FluSurge software]
    - OHPIP also recommended that health service providers have a 4 week supply and the provincial stockpile have a 4 week supply to cover an 8 week wave of a pandemic. This number came from the Canadian Pandemic Influenza Preparedness (CPIP) which references the World Health Organization (WHO) which says each pandemic wave could last from a few weeks to a few months.
- Assumptions were made for each type of health organization/location of care to determine the expected volume of PPE required. Risk to health care workers in the workplace is considered highest in settings where people first present with symptoms, in settings providing care for vulnerable people, and in settings where staff are performing high risk procedures that create sprays and splashes

**Document Reference:** Appendix 6: Priority Supplies and Equipment for the Healthcare Sector to Respond to Influenza Pandemic, 2006-01-04



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# Metrics & Assumptions to Guide Purchasing in 2006, Cont'd

- The following guided the determination of volume of PPE needed for LTCHs:
  - Numbers are based on projected number of beds for 2006
  - Total encounter number is 25 patient interactions a day; this includes direct clinical staff and other staff who may be in close proximity to or contact with patients, e.g. housekeeping etc.
  - Up to 50% of the population will be an Influenza-Like Illness (ILI) patient
  - Specific item estimates:
    - **Masks**: one each for one staff for 100% of ILI encounters.
    - **Gloves**: 1 pair each for one staff for 50% of ILI encounters
    - **Gowns**: 1 each for one staff for 33% of ILI encounters
    - **Eyewear**: 1 piece of eyewear for 25% of 35% of the total encounters; 35% rather than 50% of encounters is used as, due to the massive volume of this sector, it was not seen as workable to provide and store eyewear in the amounts necessary for 50% of the population, and the institutional nature of the setting and re-usable nature of eyewear allows a lesser percentage to be provided, as cleaning facilities will be more accessible than in home care settings.
    - **Hand sanitizer**: 3ml per use for the provider before and after 100% of ILI encounters
    - **Disinfectant wipes**: 2 per one staff per 100% of ILI encounters provided
- Purchases were made between 2006 and 2011 to align with these assumptions

# Stockpile Purchases

- Given the significant cost and high volume of supplies and equipment required for the stockpile, Treasury Board approval and procurement protocols were required (above $2M) when purchases were made.
- Between 2006 and 2010 purchase approvals:
  - 2006-08: Approval for broad PPE purchase of approximately $84 million in supplies and equipment (include N95s) and supplies for physician emergency infection control kits, mass immunization supplies and equipment
  - 2008-09: Purchase of 55 million N95s (totalling approximately $5 million)
  - 2009-2010: Additional purchases of PPE (including N95s) for H1N1 response totalling approximately $15 million ($11.9 million for PPE and $3.9 million for N95s)
- As of 2010, a basic PPE stockpile had developed. After 2009/2010, smaller purchases were also made to add specific supplies to the stockpile based on changes in health recommendations (e.g.: safety engineered needles instead of conventional needles)
- Throughout the stockpile's existence, smaller purchases volumes were made at various points in time after 2006 as needed. Specific supplies for Ebola planning were also purchased in 2015/2016.

**Document Reference:** Management Board of Cabinet Submission: Influenza Pandemic Preparedness, 2016-01-12; Questions and Answers for TB/MBC – Pandemic Stockpile Initiative: Proposed Direction for 07/08 for the procurement of N95 respirators, 2007-06-17; SCLC and TB/MBC Submission for Warehousing and Logistic Services – MCOH Briefing, 2012-10-12

# Stockpile Modernization – Initiated

- Original assumptions, criteria and framework of stockpile had not been reviewed or changed since first created in 2006
- Stockpile modernization/review first started near the end of 2016 with goals to:
  - Ensure the health system has rapid access to supplies, equipment and pharmaceuticals during an emergency
  - Ensure the effective management of the stockpile inventory
  - Develop a sustainable program through dedicated funding and ongoing destruction and supplies replenishment
- Review and modernization work was paused following OAGO's 2017 value-for-money audit which noted that the Ministry was paying to store expired products. At the time, approximately 80% of the stockpile was expired
- In response to the OAGO's observations, the direction given at the time was to proceed with destruction of the stockpile that had expired. Between 2017 and 2020, approximately $733,000 was spent on destruction services
- Items were not replenished as they were destroyed

**Document Reference:** Warehousing and Logistics Services for Ministry of Health Care Emergency Stockpile Treasury Board/Management Board Submission, 2019-06-18

# Stockpile Modernization – Reinitiated

- 2016 stockpile review and modernization work/goals were re-initiated at the beginning of 2019 to:
  - Evaluate current model of the ministry's emergency stockpile against best practices
  - Align stockpile strategy with government's modernized supply chain strategy
  - Develop new policy framework for modernized emergency stockpile strategy
- Focus of the review included the Ministry's stockpile management practices, followed by a review of the stockpiling recommendations/requirements within the health system and stockpile composition
- Completed assessment of current state, best practices and needs (in part)
- Questions to be answered in review include stockpile management (criteria, procurement, life cycle management, storage requirements) and composition (volume, regular-use versus rare items, focus)

**Document References:** Update on Stockpile Review: Current Status and Next Steps, 2019-12; General Stockpile Review: Desk Analysis Current State Assessment, 2019-11-07; Emergency Stockpile Review for a Modernized Stockpile Policy, 2019-03-07



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# Stockpile Modernization – Reinitiated, Cont'd

- Challenges identified with current stockpile:
  - criteria to guide purchases (reactive purchasing for products that may only be useful for one-time events)
  - product wastage (products expire instead of being rotated into the system or replaced)
  - increased costs (payments for storage of expired products and destruction activities)
- Best practices review found:
  - Limited detailed information was available because of security concerns
  - Some jurisdictions have criteria for what to include
  - Only three jurisdictions have processes for product rotation, destruction and replacement
- Review paused in January 2020 to fully focus on response to novel coronavirus (Covid-19) [NOTE: Consultations have not occurred yet]

# Stockpile Inventory as of January 2020

- As of December 2019, approximately 85-90% of expired product in the provincial stockpile had been destroyed and 10-15% of non-expired product was available
- As of January 2020, stockpile inventory was limited to Ebola PPE (e.g.-PAPRs and small quantities of gloves/coveralls)
- All destruction exercises were halted when the Ministry became aware of COVID-19

**Document References**: MOH Inventory Consolidated with Notes, 2020-01-22; Personal Protective Equipment (PPE) Preparations: 2019- n COV, 2020-01-28

# Stockpile Review – Moving Forward

- As outlined in OHPIP, there is a need for a stockpile to ensure some supply of product during a pandemic when supplies are in demand or global supply chains strained however, the demand for PPE as a result of COVID-19 was unprecedented and countries around the world struggled to develop an adequate supply
- Ministry's policy review is critical to guiding PPE purchases in the future – some considerations include purchasing based on specific hazards v. general consequences, managing PPE and preventing expiry, ensuring resources to support on-going maintenance etc.
- Supply Chain Management Act (December 2019) may have implications for PPE procurements going forward. It has resulted in the creation of a corporation known as Centralized Supply Chain Ontario (also known as Supply Ontario) and its purposes include to provide support and supply chain management on behalf of health sector entities which include LTCHs

**Document Reference:** General Stockpile Review: Desk Analysis Current State Assessment, 2019-11-07