

Pan-Canadian Demand and Supply Planning of PPE and Critical Supplies

**Collaborating to Address Health Sector
Needs and Reopening the Economy**

May 27, 2020

YOUR HEALTH AND SAFETY... OUR PRIORITY.



Objectives of today's discussion



Discuss the need for an integrated Pan-Canadian view of supply and demand for PPE and critical supplies



Understand how to provide value to you in the short, medium, and long term



Agree on next steps for collaboration to manage the needs of the health sector as economies reopen

Building on existing efforts to support the health sector with PPE, a Pan-Canadian view will address anticipated challenges

As economies reopen, addressing demand and mitigating supply gaps will be critical to maintain inventories for public health systems and ambulatory care.



Why the need for a Pan-Canadian view?

- Economy-wide demand for PPE has increased significantly due to COVID
- Health sector is now competing for supplies as economies reopen
- Non-health sector consumption will materially increase demand
- We expect to be in a supply constrained market for some time
- A fragmented approach could dilute current efforts to address these challenges

An integrated Pan-Canadian view may 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

The Pan-Canadian Demand and Supply Model will use epidemiological models and near-real time supply information to project demand and supply requirements across all sectors

**Epidemiological
Modelling**

Multiple epidemiological models are used to project different disease progression scenarios for the next 12+ months by P/T

**Demand
Projections across
sectors**

Unconstrained demand for PPE is projected based on the epidemiological scenarios, PPE usage protocols, and time-phased reopening of the economy across 50+ sectors in each P/T, continuously refined against actual usage

**Inventory
Projections &
Supply Balancing**

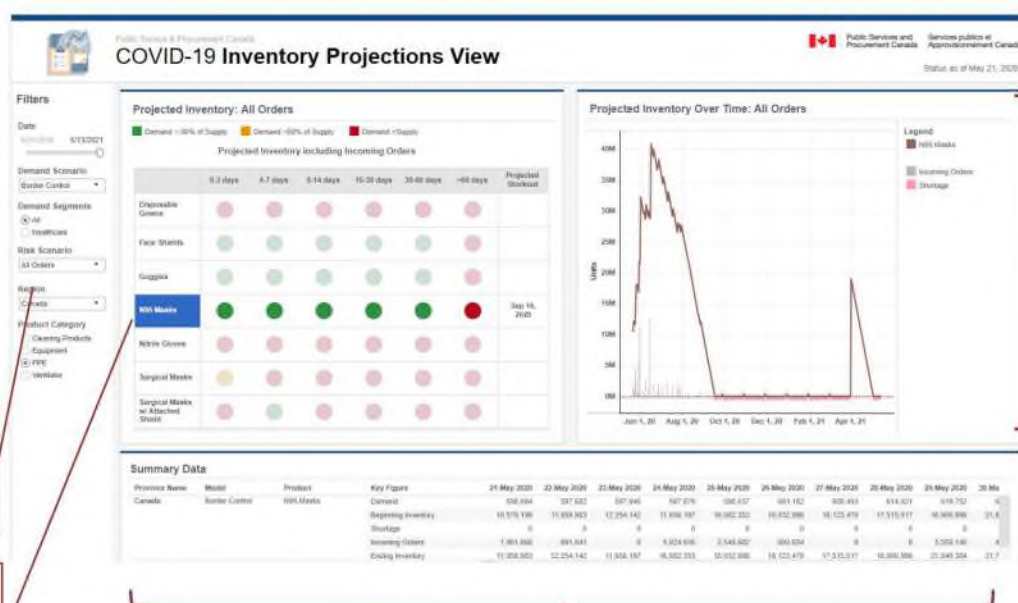
Near real time on-hand and inbound supply data is gathered and netted against the demand projections to identify supply shortages and generate time-phased purchase requirements over the next 12+ months across 50+ sectors in each P/T



Sector examples :

- Hospitals
- Residential Care
- Police Services
- Fire Services
- Grocery Stores
- Public Administration
- Retail
- Hospitality
- Immuno-compromised Public
- General Public

Sample Inventory Projections View: Time-phased inventory/supply requirements based on projected demand, with alerting for projected shortages



Filtering Capabilities: To filter and navigate the data by date, risk scenario, P/T and epidemiological model scenarios.

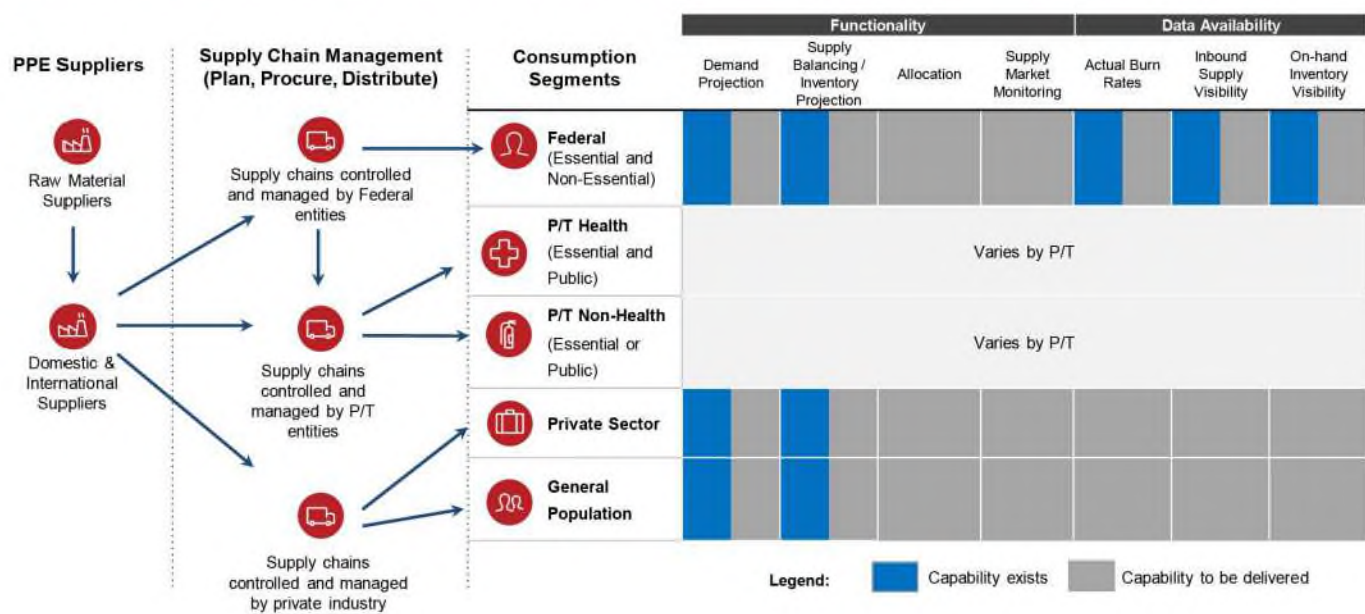
Risk scenarios: Provides ability to view inventory projections based on risk adjusted supply.

Project Inventory Alerts: Provides spotlight alerting of the projected inventory over distinct time periods to highlight shortages.

Data Summary: Provides daily demand projections and inventory/supply requirements for the selected time period, by scenario, product category, product and P/T.

Projected Inventory View: Projected inventory and unmet demand by risk scenarios for the selection products

We see an opportunity to bring together the combined capabilities that exists in models at the federal and in some P/T jurisdictions



- Existing data (i.e., Federal inventories, anticipated deliveries) will be incorporated into supply models
- Ongoing P/T collaboration and data sharing will help close gaps (i.e., P/T forecasts and requisitions, actual burn rates, and P/T on-hand inventory and inbound supply) and accelerate model enhancement

Additional data is required to enable this vision given future demand and potential supply constraints

Data Currently Available:

- Federal inventories of PPE
- Anticipated deliveries of PPE at the federal level
- Epidemiological projections under three scenarios (high, medium and low public health interventions to prevent spread)
- Basic information related to demand for PPE from P/T and federal agencies

Currently Data Gaps:

- P/T inventories of PPE
- P/T purchase orders and anticipated deliveries
- Actual usage of PPE within various sectors of the economy in different P/Ts (based on their restarting strategies)
- Supply and demand modelling work occurring at the P/T level

Beyond addressing demand and supply gaps, this is the incremental value proposition



Coordinated Strategies and Economies of Scale

- Joint strategies to manage / conserve demand and build domestic manufacturing capacity
- Economies of scale through collective purchasing, favourable payment terms, cost savings, and streamlined contracting and logistics



Strategic Private Sector Engagement

- Strengthened FPT position when engaging large private players
- Match suppliers with P/T and private sector buyers



Increased Capacity to Focus on Local Needs

- Freed up P/T capacity to focus on more critical decisions and strategies required to address local needs
- Modelling support for jurisdictions

We would appreciate your perspective on how we can continue to provide value, in the interest of transparency and data sharing

- Current state of supply-demand modelling within your jurisdiction, and feedback received from key stakeholders to-date
- Anticipated changes in demand given gradual reopening of health and non-health sectors, including essential services, and early insights on potential gaps
- Initial feedback on the vision and desired collaborative approach
- Potential data collection process, leveraging lessons learned
- Benefits envisioned and expected within your jurisdiction
- Views on how this tool can support future FPT policy discussions and decisions

Next steps

- Bilateral engagement with P/Ts to discuss lessons learned, views on proposed model and to discuss data sharing
- Engagement with other sector P/T tables
- Return with model prototype for review by mid-June

Annex – Deep Dive on Key Capabilities

Project Demand Requirements – Deep Dive

Project Demand Requirements			
Key Capabilities	● Forecasting demand for individual PPE items for various sectors, based on epidemiological models and usage ● Running scenarios for specific sectors (e.g., health sectors) based on varying adoption rates ○ Understanding PPE usage based on latest available information, detecting outliers and fine-tuning forecasts based on requisitions, actual burn rate		
Inputs	● Master data model ○ 12+ month epidemiological models ○ Staffing/facilities by consumption segment ○ Point of consumption operating protocols ○ Operation level (% of workforce back to work) ○ Actual PPE burn rates ○ P/T forecasts ○ P/T requisitions	Outputs	● Time-phased unconstrained demand forecast ○ Demand what-if scenarios for epidemiological models and operation levels ○ Consumption segment forecast vs. requisition vs. actual burn rate comparisons ○ Federal forecast vs. P/T forecast comparison
Level of Granularity	• Daily / weekly data • L2-L4 depending on product category • P/Ts • Consumption segment by 3-Digit NAICS code classification	Reports / Views	● Demand scenarios comparison view ● Demand deep dive view ○ Federal forecast vs. P/T forecast view ○ Forecast vs. requisitions vs. actual burn rate view
Horizon	• Historical: actual usage rates from March 2020 to present • Future: Rolling 12-24 month horizon	Metrics	○ Forecast accuracy ○ Forecast bias
● Existing capability ○ Some capability - requires further development ○ New capability to be developed			

Balance Supply Requirements & Project Inventory – Deep Dive

Balance Supply Requirements & Project Inventory			
Key Capabilities	● Balancing available inventory and inbound supply at the federal and P/T levels with the demand projection ● Projecting potential shortages across various time horizons ◐ Providing visibility into inventory redistribution opportunities for institutions / industries with large centralized stockpiles ○ Recommending purchase orders required to meet demand		
Inputs	● Master data model ● Lead times ◐ Demand projections ● NESS on-hand inventory ● P/T warehouse on-hand inventory ● PSPC inbound supply (open POs) ○ Consumption segment level on-hand inventory ○ Consumption segment level inbound supply and planned POs ○ Domestic & international supplier manufacturing capacity ○ Inventory policy	Outputs	● Time-phased inventory projections ● Time-phased projected allocations to P/Ts ● Visibility of potential redistribution of inventory ◐ Time-phased recommended purchase orders ○
Level of Granularity	• Daily • L2-L4 depending on product category • P/Ts • Consumption segment by 3-Digit NAICS code classification	Reports / Views	● Inventory projection view ● Specialty equipment capacity & usage view ○ Time-phased recommended purchase orders
Horizon	• Future: Rolling 12-24+ month horizon	Metrics	● Projected days of supply ● Projected stockouts

● Existing capability
◐ Some capability - requires further development
○ New capability to be developed

Monitor Supply Market – Deep Dive

Monitor Supply Market			
Key Capabilities	○ Providing an aggregated view of domestic and foreign supplier capacity for finished goods and raw materials ○ Providing an aggregated view of domestic retailer / distributor inventory for finished goods ○ Integrating with the 'Call to Action' supply data portal, with data validation steps to ensure quality		
Inputs	● Master data model ● Supply requirements ○ Domestic and international supplier finished goods manufacturing capacity ○ Domestic and international supplier critical raw material manufacturing capacity ○ Domestic retailer / distributor finished goods on-hand inventory ○ 'Call to Action' supplier data (requires validation)	Outputs	○ Time phased domestic and international supplier finished goods manufacturing capacity ○ Time phased domestic and international supplier critical raw material manufacturing capacity ○ Current domestic retailer / distributor finished goods on-hand inventory
Level of Granularity	• L2-L4 depending on product category • Supplier • Weekly / as required	Reports / View	○ Projected finished goods capacity view ○ Projected critical raw material capacity view ○ Domestic retailer / distributor inventory view
Horizon	• Future: Rolling 12-24+ month horizon	Metrics	○ Manufacturing capacity

● Existing capability	◐ Some capability - requires further development	○ New capability to be developed
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