

# Case Study

## Innovative Supply Chain Solution for Personal Protective Equipment (PPE) for Ontario Hospitals saves Provincial Taxpayers \$70 million during Pandemic

Shortages of PPE impacted hospitals across Canada. To address this massive challenge, hospitals in the Greater Toronto Area (GTA) served by Ecotex Healthcare Linen Service (Ecotex), with Canada's largest medical textile reprocessing facility located in Mississauga, were immediately able to pivot to AAMI Level II rated reusable barrier isolation gowns.

- Ecotex, a privately owned Canadian company, provides linen, laundry, and reusable surgical textiles to more than 400 hospitals, health systems and medical facilities in Canada and the United States on a daily basis. Through its size and scale across North America, Ecotex was able to expand its PPE program and guarantee costs for GTA hospitals
- As a pandemic response Ecotex expanded its 'local' supply chain, reprocessing production and implemented an emergency logistics program to supplement its regular supplies of reusable Level II gowns and other PPE medical garments.
- **Ecotex doubled the available protective Level II isolation gowns for frontline healthcare workers in the GTA.**
- To maximize the availability of its existing inventory of high-demand medical garments, including scrubs, patient gowns and isolation gowns, Ecotex put in place a "rapid turnaround program" for many of its largest client hospitals. This provided all GTA client hospitals with two deliveries daily and facilitated a 12-hour turnaround for reprocessing medical garments. This emergency response was immediately put into action as the pandemic began, and accelerated by the strong and active relationships between the Ecotex team and senior administrators at the GTA hospital.
- **NO pandemic surge pricing was imposed on GTA hospitals served by Ecotex for its PPE medical garments.**

### As of March 2022, Ecotex had supplied GTA hospitals with 42.5 million Level II isolation gowns

- Ecotex quickly scaled access to AAMI Level II rated reusable Barrier Isolation Gowns for frontline healthcare workers.
- Actions by Ecotex allowed many of Canada's largest hospitals the ability to provide the protection needed for their staff and continue to operate during the pandemic, and **saved the Province of Ontario \$70 million during the first 24 months of the pandemic.**



Frontline health-care workers, protected by reusable PPE gowns from Ecotex treat an intubated patient at Sunnybrook Health Sciences



A health-care worker wearing a reusable PPE gown from Ecotex transports a patient in the dialysis unit at the Humber River Hospital

### During the pandemic the cost of Disposable Isolation Gowns jumped 2,000%

The largest reported pandemic surge price increases were for disposable isolation gowns (2,000%), followed by N95 masks (1,513%), 3-ply masks (1,500%) and reusable face shields (900%). The most remarkable rise was for the 3M brand N95 masks, which rose from USD \$0.11 to \$6.75 each (6,136% increase), though they largely remained unavailable outside of the United States through fall 2020. (Source: [www.mcknights.com/analysis-ppe-costs-increase-during-covid-19-crisis](http://www.mcknights.com/analysis-ppe-costs-increase-during-covid-19-crisis))

Soap (184%) and nitrile gloves (200%) were the only products of the 11 listed to cost double or less. (See Exhibit 1.)

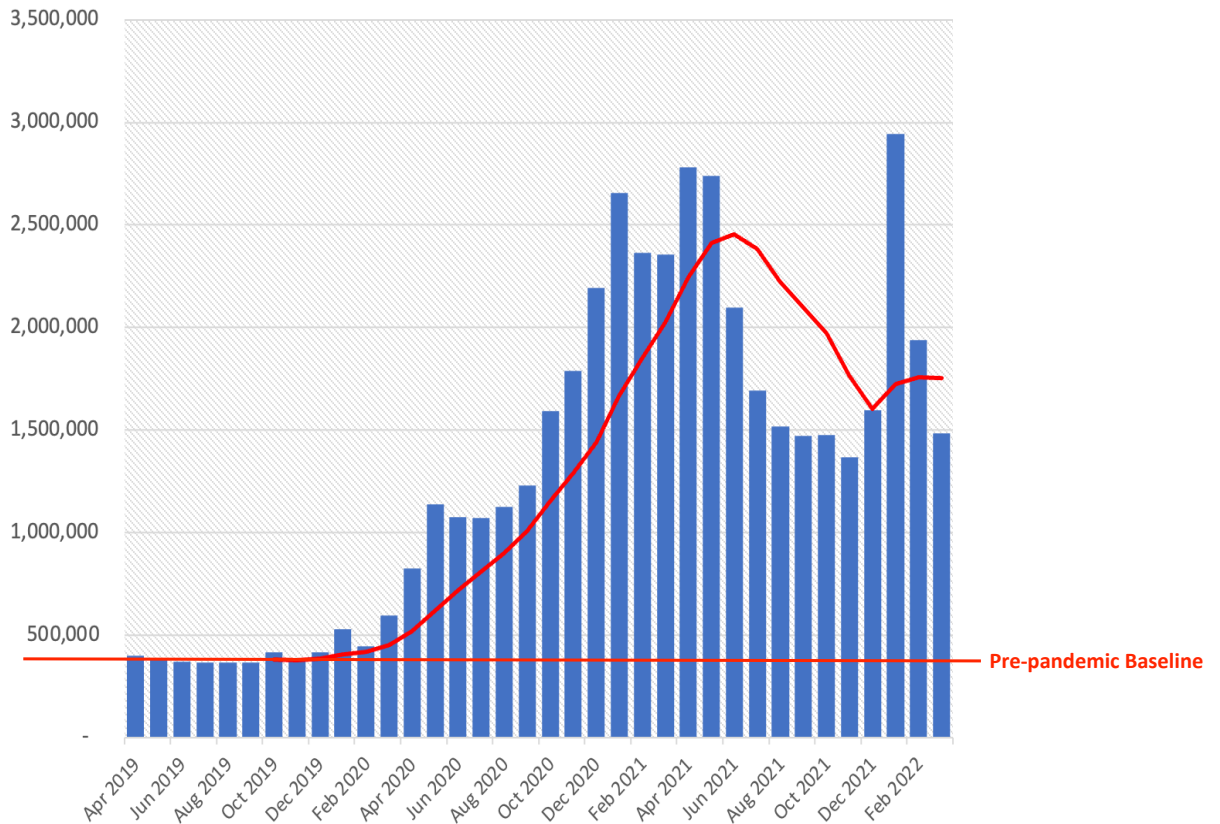
**Exhibit 1: Pricing Per Item\***

Item	Pre Covid-19 Cost	Current Covid-19 Cost	Price Markup	Percentage Markup	Notes
Vinyl Exam Gloves	\$ 0.02	\$ 0.06	\$ 0.04	300%	Ideally people use vinyl. If not vinyl then latex but issues with allergies so Nitril is most expensive resort
Latex Gloves	\$ 0.03	\$ 0.08	\$ 0.05	267%	
Nitril Gloves	\$ 0.05	\$ 0.10	\$ 0.05	200%	
3ply Masks	\$ 0.05	\$ 0.75	\$ 0.70	1500%	FDA certified in boxes, not bags.
KN95 Masks	N/A	\$ 4.00		N/A	Recently (April 2nd) FDA approved
N95 Masks	\$ 0.38	\$ 5.75	\$ 5.37	1513%	Niosh certified, CDC approved list
3M N95 Masks	\$ 0.11	\$ 6.75	\$ 6.64	6136%	Currently unavailable. Includes testing kit for sizing
Hand Sanitizer	\$ 0.26	\$ 0.56	\$ 0.30	215%	Per ounce for 8 ounce bottle. Required to be at 70% percent alcohol
Isolation Gowns	\$ 0.25	\$ 5.00	\$ 4.75	2000%	New gown per resident
Face shields	\$ 0.50	\$ 4.50	\$ 4.00	900%	Reusable
Soap	\$ 0.19	\$ 0.35	\$ 0.16	184%	Per ounce via dispenser

\*Pre-Covid-19 pricing is based on multiple facilities averaged over 12-month period.

Regardless of the cost, limited access to the required PPE and resulting shortages left doctors, nurses and other frontline workers dangerously ill-equipped to care for COVID-19 patients. The most critical supply shortages were gowns, medical masks, gloves, respirators, goggles, face shields, and aprons.

**Isolation Barrier Gowns shipped to GTA hospitals by Ecotex  
(Quantity by Month)**



Monthly volumes of reusable Isolation Barrier Gowns shipped to GTA hospitals by Ecotex illustrate the resilience of its 'local based' supply chain to adapt to surge demands during the various waves of the coronavirus during the first 24 months of the pandemic.

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## Significant benefits to client hospitals of locally reprocessed Level II rated PPE reusable barrier isolation gowns:

- Quick access to a locally secure supply-chain, plus local control over sourcing
- Ability to quickly scale during a pandemic, natural disasters, or other emergencies
- Established efficacy and acceptance among frontline healthcare workers, (i.e., OCHU/CUPE)
- Improved safety and protection for frontline healthcare workers, (Ref. ARTA)
- Dramatic reduction in environmental and medical waste impact
- Significant cost savings

### Key Take Aways

This is an example of an innovative supply chain solution by Ecotex Healthcare Linen Service, an established, major Canadian private sector contractor, who partnered with Ontario Hospitals to address the PPE shortage, while saving the taxpayers of Ontario \$70 million during Pandemic.

Using this reusable PPE solution post-pandemic, the Province of Ontario, and its Ministry of Health, responsible for administering the health care system, could achieve annual savings of greater than \$60 million, while improving emergency response resiliency and take a progressive step in reducing medical and environmental waste being generated at Ontario hospitals.

Based on the evidence, there is proven operational and financial benefits for the Ontario hospitals served by Ecotex, an innovative Canadian based company with an established supply chain that serves its customers throughout North America, led by a progressive leadership team focussed on best practices and continuous improvement for efficiency of service and quality control.

### Background:

- In the 24 months ending March 2022, 307,444 cases of COVID-19 were confirmed, with 17,100 hospitalizations and 7,403 deaths, highlighting the major impact on the greater Toronto area. (Source: [www.toronto.ca/covid-19-pandemic-data](http://www.toronto.ca/covid-19-pandemic-data)). Provincewide, Ontario recorded 1,234,240 confirmed cases, 45,809 hospitalizations and 12,704 deaths from COVID-19 during the same period. (Source: <http://covid-19.ontario.ca/data>)
- In the early days of the pandemic, demand for quality-assured personal protective equipment (PPE) skyrocketed. This led to severe supply restraints as competition grew between countries to stockpile inventories, contributing to a global pandemic pricing surge for PPE – especially medical masks and barrier gowns – including goggles, gloves, face shields and other items that are used by frontline health care and other essential workers. The proper use of quality-assured PPE is crucial to prevent exposure to infectious diseases, including COVID-19.
- In early April 2020, The World Health Organization (WHO) warned that severe and mounting disruptions to the global supply of PPE – caused by the sudden rising demand, panic buying, hoarding and misuse – was putting lives at risk from the new coronavirus and other infectious diseases. The pandemic driven demand for PPE and broken supply chains placed healthcare workers around the world at risk.
- Over the two decades leading up to the pandemic, through centralized procurement by shared service organizations, (SSOs), including Plexus and Mohawk-Medbuy, many Ontario hospitals moved increasingly to rely on single-use, disposable Level II isolation gowns, a cellulose product sourced from Asia. This policy reduced the resilience of Ontario Hospitals to meet a surge in demand during a pandemic, or natural disasters, including tornados, earthquakes, wildfires, or other emergencies.
- The simultaneous and global demand surge for single-use PPE items like disposable gowns, found factories mostly located in China, unable to meet demand. A further major challenge for accessing these single-use, disposable PPE products, even if available, were half a world away. The temporary halt of manufacturing in China in the early summer months of 2020, created additional pressure on demand for single-use, disposable gowns.
- Within six weeks of the declaration of the global pandemic, Ontario hospitals began depleting remaining inventories of single-use, disposable isolation gowns. The lack of PPE resulted in several hospitals postponing scheduled surgeries.

### Proven Efficacy and Acceptance: Reusable Gowns endorsed by Ontario Council of Hospital Unions/CUPE

Multi-use reusable gowns were endorsed by the 34,000 member Ontario Council of Hospital Unions/CUPE in an October 2020 report titled, *Disposable versus Reusable Medical Gowns: A Performance Comparison* published in the American Journal of Infection Prevention.

The report concluded that multiple-use reusable gowns are superior from an environmental perspective, as well as offering superior protection and durability. Reusable gowns provide greater water resistance, strength, and pilling resistance than disposable gowns. The adoption of reusable gowns may result in increased protection and significant cost savings due to their superior durability and sustainability when compared to disposable gowns. (Source: [ochu.on.ca/disposable-versus-reusable-medical-gowns-a-performance-comparison/](http://ochu.on.ca/disposable-versus-reusable-medical-gowns-a-performance-comparison/))