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DATA TO INSIGHTS FOR A BETTER CANADA

**Gearing up to restart: Businesses' need for
personal protective equipment**

by Steve Martin

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Gearing up to restart: Businesses' need for personal protective equipment

by **Steve Martin**

The COVID-19 pandemic has seen unprecedented demand for personal protective equipment (PPE), resulting in persistent global uncertainty about supplies and inventories of PPE since the beginning of the pandemic. Availability of these items is particularly important for Canadian businesses to safely reopen and operate, as provinces and territories continue to relax physical distancing measures and economic activity resumes. This study examines businesses' demand for PPE, and concerns about lack of supply, using new data for July 2020 from the Personal Protective Equipment Survey.

Two thirds of businesses need PPE to safely operate

A little over two thirds (69.1%) of businesses operating in the provinces report that they need, or expect to need, PPE to operate in accordance with COVID-related public health guidance as of July.¹ This is a reduction of over ten percentage points from May, when 80.5% of businesses needed or expected to need PPE (Statistics Canada, 2020b), suggesting that fewer businesses than anticipated needed PPE to adapt as physical distancing measures were further relaxed and employment increased in June and July (Statistics Canada, 2020a; 2020f).

Demand for PPE varies across sectors of the economy, with at least four out of five businesses in accommodation and food services, private health care and social assistance, retail trade, and construction requiring PPE, compared to less than half of businesses in agriculture, forestry, fishing and hunting, and professional, scientific and technical services.² Accommodation and food services, health care, and retail trade were identified as among the top sectors in need of PPE in May (Statistics Canada, 2020b), with businesses in these sectors continuing to be among the most likely to require PPE. The construction sector has seen large increases in employment as construction projects resume, likely fueling the sector's demand for PPE. The most recent data for investment in building construction show an increase of 60.1% in May, coupled with a record-setting increase in monthly real GDP (Statistics Canada, 2020a; 2020c; 2020e; 2020f).³ Demand for PPE varies across the country as well, although much less than by sector, with businesses in Ontario the most likely to require PPE (73.9%).⁴

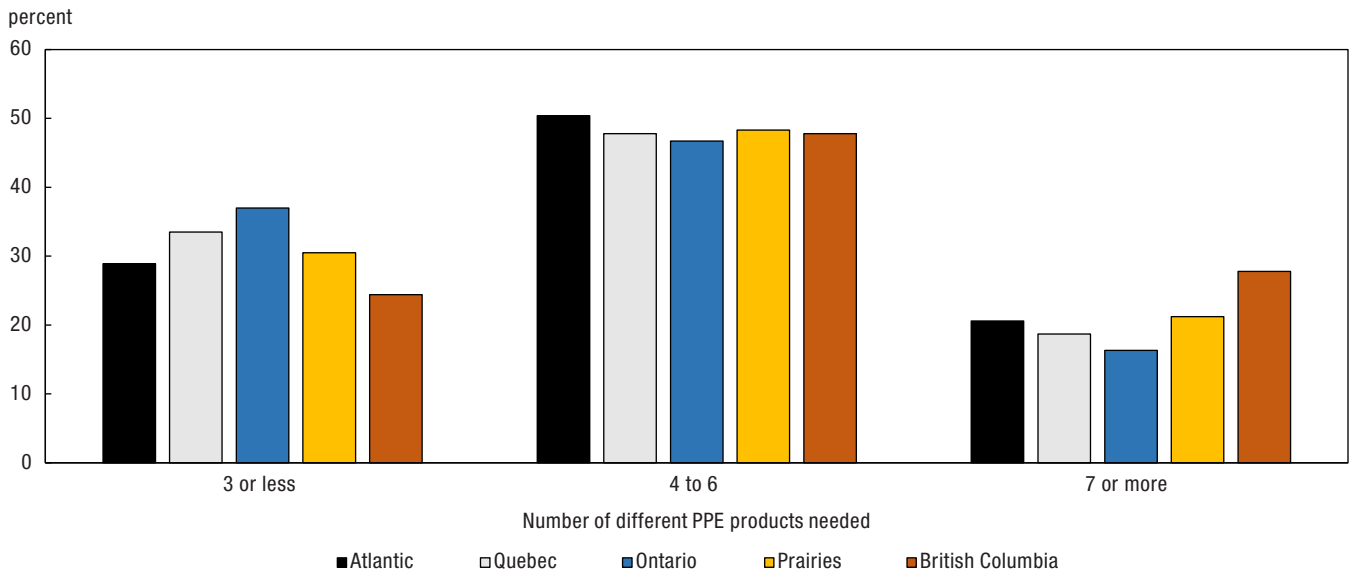
There are a variety of different types of PPE that businesses need to safely operate. Of the businesses that need PPE, two thirds (67.3%) need at least four of the twelve types of PPE covered by the Personal Protective Equipment Survey (chart 1).⁵ Items related to cleaning surfaces and hands are the most likely types of PPE to be needed, as businesses implement enhanced cleaning protocols and increase access to hand sanitizer for employees (Statistics Canada, 2020a; 2020b). Businesses are most likely to need hand sanitizer (91.8%), disinfectant (76.5%), disinfectant

1. Businesses operating in the territories are excluded from the analysis due to low response rates, although the results are largely unchanged if these businesses are included.
2. Health care and social assistance only includes offices of physicians, offices of dentists, offices of other health practitioners, out-patient care centres, home health care services, nursing and residential care facilities, and child day-care services, and excludes organizations controlled by federal, provincial, and local government according to the Canadian Classification of Institutional Units and Sectors. Construction only includes building construction.
3. The most recent data also show a large increase in employment and sales for retail businesses, with a corresponding record-setting increase in monthly real GDP, as business resumes (Statistics Canada, 2020a; 2020d; 2020e; 2020f).
4. Part of the difference in demand for PPE across the country is due to differences in the composition of businesses, although similar patterns of demand are seen after controlling for differences by sector.
5. These include: disinfectant, disinfectant wipes, disposable gowns, eye goggles, face shields, hand sanitizer, nitrile gloves, respirators, reusable gowns, shoe/boot covers, surgical masks, and thermometers.

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wipes (67.5%), and surgical masks (59.5%).⁶ As with overall demand for PPE, businesses in different sectors of the economy demand different varieties of PPE, ranging from 93.7% of businesses in private health care and social assistance needing at least four different types of PPE, to 36.6% of businesses in construction, with little variability across the country.

Chart 1
Businesses that need personal protective equipment (PPE) need many types



Source: Statistics Canada, Personal Protective Equipment Survey, July 2020.

One third of businesses that need PPE expect a shortage

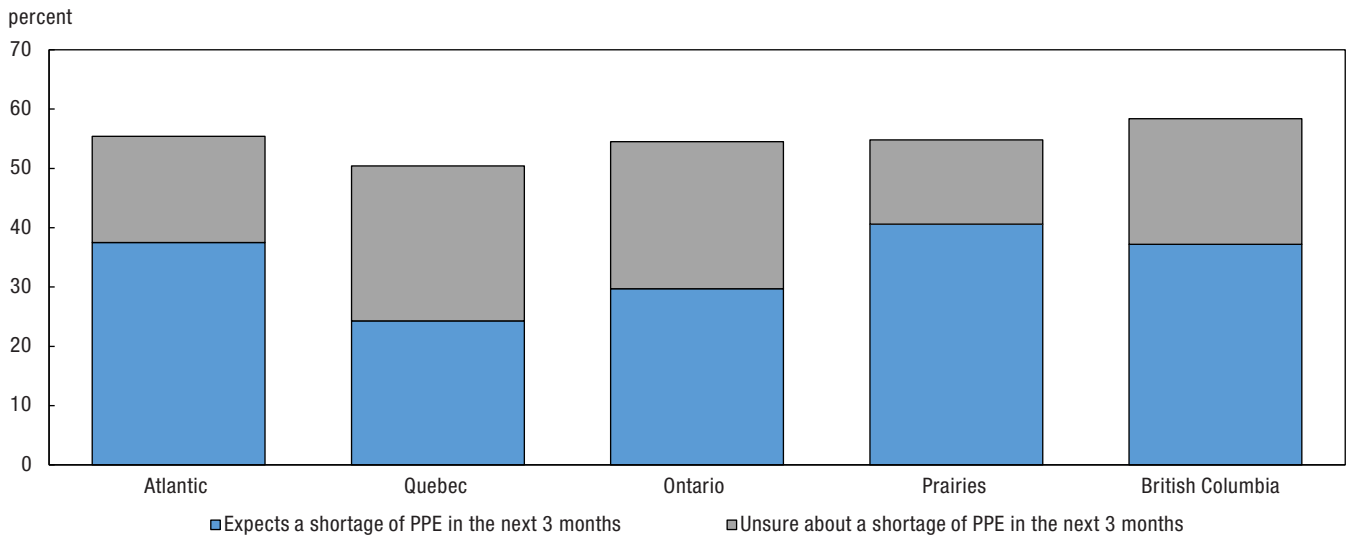
A little under one third (32.4%) of businesses that need PPE expect a shortage in the next three months for at least one type of PPE that they require. An additional one in five businesses (22.0%) are also unsure if they will experience a shortage in the next three months for at least one type of PPE that they need, so that less than half (45.6%) of businesses do not expect a shortage for any of the PPE they need (chart 2).⁷ This compares with two thirds (65.8%) of businesses that did not experience or expect to experience difficulty procuring PPE in May (Statistics Canada, 2020b), suggesting that supplies of PPE are less certain than in May, and echoing concerns about lack of stockpile in the country (Dyer, 2020).

6. Nitrile gloves were the next most likely item to be required, with 57.1% of firms requiring this type of PPE. The remaining types of PPE covered by the survey were far less likely to be needed by businesses.

7. Some businesses both expect a shortage for some types of PPE and are unsure if they will experience a shortage for other types of PPE. Businesses that both expect a shortage and are unsure if they will experience a shortage for at least one type of PPE that they require are counted as expecting a shortage.

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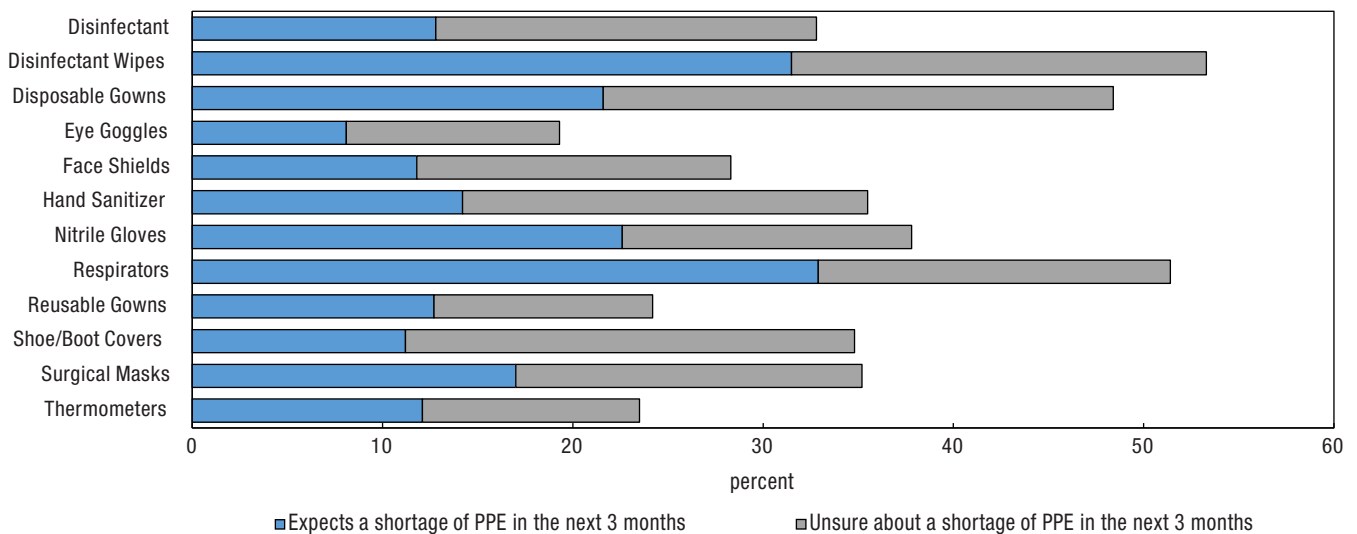
Chart 2
Businesses are uncertain about availability of personal protective equipment (PPE)



Source: Statistics Canada, Personal Protective Equipment Survey, July 2020.

As with demand, concerns about availability of PPE vary by sector and type of PPE. Businesses in private health care and social assistance are the most likely to expect shortages, with half (49.1%) of businesses in this sector expecting a shortage in the next three months for at least one type of PPE they require, and an additional 16.6% unsure if they will experience a shortage. In total, about one third (34.3%) of these businesses are not expecting a shortage in the next three months. Businesses tend to have concerns about shortages for essential items in high demand, namely disinfectant wipes (53.2%), respirators (51.4%), disposable gowns (48.4%), and nitrile gloves (37.8%)—see chart 3.

Chart 3
Availability of certain types of essential personal protective equipment (PPE) is more uncertain than others



Source: Statistics Canada, Personal Protective Equipment Survey, July 2020.

Early in the pandemic, concerns about availability of PPE stemmed largely from concerns about access to international supplies. As of July, 7.4% of businesses in the manufacturing, wholesale, and retail trade sectors are involved with the production or distribution of PPE. Despite a concerted effort by governments to acquire more PPE, and encourage manufacturers to produce PPE, one possible reason that many businesses are expecting shortages of PPE could be due to inequality in their inventories of PPE per employee. For disinfectant wipes, disposable gowns, nitrile gloves, and respirators—the items for which businesses are most likely to expect a shortage—the top quartile of businesses hold at least five to fifteen times the amount of PPE per employee working on site compared to the bottom quartile of businesses that need these items.⁸⁹ Another possibility is that businesses are simply unsure about how much PPE they will need as employees return to work. Businesses that will not have more employees working on site in October than in July are 12.1 percentage points more likely to not expect a shortage between July and October for any of the PPE that they need, compared to businesses that will increase the number of employees working on site.¹⁰

Data sources

Data for this analysis come from the Personal Protective Equipment Survey for July 2020. This voluntary survey aims to collect information on businesses' supply, demand, and inventories of PPE. The sample for the July iteration of the survey has an overall response rate of 48.1%, and includes 3,593 businesses operating in Canada. An important piece of context for these data is that, due to COVID-19, there have been an unprecedented number of business closures, with certain regions of the country (e.g., Ontario) seeing an over 100% increase in closures, and certain industries (e.g., retail) seeing an over 200% increase in closures, in April 2020 compared to April 2019 (Lafrance-Cooke et al., 2020). Not only does this highlight the challenges for collecting these data, but it also means that the results only apply to those businesses that have at least partially resumed operations, not to businesses that have not resumed operations but will.

8. Due to limitations in the data, this measure ignores whether an employee working on site requires a given type of PPE or not, and whether a business needs PPE for other purposes than equipping employees (e.g., businesses in the retail sector providing customers with hand sanitizer).
9. For respirators in particular, results from a linear probability model that controls for region, sector, and current level of employment suggest that a one percent increase in inventory is associated with a 4.7 percentage point decrease in the likelihood of either expecting or being unsure about a shortage.
10. This is largely unchanged after controlling for region and sector in a linear probability model.

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