



Uncovering the hidden iceberg

Why the human impact of
COVID-19 could be a third crisis



Foreword by our Chief Economist, Craig Alexander

To say that the COVID-19 pandemic has created both a health and an economic crisis is common knowledge; but, it is also creating a mental health crisis that may not be fully appreciated yet.

First and foremost, COVID-19 is a health emergency. Canadians are acutely aware of the daily new confirmed cases, hospitalization counts, and the grim mortality statistics. However, the crisis is also creating mental stress for many Canadians. Isolation can lead to loneliness and depression. Sustained proximity to household members due to stay-at-home orders can create interpersonal strains or, in the worst case, abuse. There can be anxiety over the health risks of going to stores or for workers being on the front line.

Even with the economic reopening, many of these mental effects could persist until a vaccine is deployed, which could take a long time.

The economic downturn will also have significant mental health consequences. Research from the journal *Clinical Psychological Science* found that, during the 2008/09 recession, “Individuals who experienced even a single recession impact still had higher odds of nearly all of the adverse mental health outcomes we examined—including clinically significant symptoms of depression, generalized anxiety, panic, and problems with drug use—three years after the recession.” Furthermore, “These odds were higher still in specific sociodemographic groups who suffered marked losses during the recession or without a strong safety net.” (Association for Psychological Science)

The Canadian economy is expected to contract by at least 6 percent in 2020—a recession that is more than twice as deep as the Great Recession of 2008/09. The national unemployment rate has soared and the pandemic has driven many out of the labour market. The unemployment rate, including those not looking for work due to health concerns or child care responsibilities, reached almost 20 percent in May. We have not observed such a decline in the economy and rise in unemployment outside of a depression. It is only because of the unprecedented policy response that a depression will be avoided in Canada.

The good news is that, barring a second wave and renewed lockdown, the trough of the economic contraction likely already occurred, in April. The bad news is that the economic recovery will take several years, for two key reasons.

First, the virus is still in circulation, which will curtail economic activity.

Second, some of the economic ramifications will likely prolong the labour market recovery. This economic scarring will unfortunately affect segments of the population that already face significant challenges. The job loss and income disruption data show that women, people of colour, young people, and new Canadians are bearing a greater portion of the labour market fallout. Working from home without schools and child care has also added to the mental stress of parents, especially for women who are more likely to stay home to take care of kids.

Additional examples of economic scarring that can be expected to arise include:

Business failures

Many businesses will fail, meaning that there won't be jobs for workers to return to. The rise of business insolvencies and bankruptcies associated with an economic downturn often lag, so this effect will be seen in the months to come. To a significant extent, government programs aimed at supporting businesses are delaying the financial consequences. More of the fallout will be observed when these programs are scaled back or ended.

Reduced entrepreneurship

The elevated risk environment and the tightening of credit conditions will likely curtail entrepreneurial activity and business formation. Small businesses are the job creation engine of the Canadian economy, but the loss of many small firms and the weaker pace of business creation can hamper the labour market recovery.

Lowering headcounts and changing skills

The economic lockdown has accelerated the trend toward digital consumption and digital platforms. It has also accelerated the move toward more flexible and remote work arrangements. For many businesses, these abrupt shifts are fundamentally altering business models and staffing. Steps to automate the shop floor as part of efforts to reduce health risks may also temper the labour market recovery and change the skills that are in demand.

Shifting industrial performance

The economic downturn is hitting some industries much harder than others. Mining, durable manufacturing (like automotive and aerospace), transportation, tourism,

hospitality and food, retail and wholesale have borne the brunt of the downturn. Many of these sectors will take a long time to recover. This will reduce demand for labour in these industries and require displaced workers to look for employment in other sectors, which may need different skills. Moreover, many of the most affected service industries tend to have a high percentage of low-paid workers, with the result that the recession is increasing inequality.

Personal finance vulnerabilities

Financial strain will have increased for many of those who experienced a loss or reduction of income. For some, it will have been necessary to take on more debt or draw down on savings to make ends meet, which adds to financial obligations or reduces personal wealth. Many Canadians experienced the employment and income shock with savings that only covered a couple of weeks of living expenses. This is why the government income support programs were critical. But eventually these will be scaled back or ended, so the income shock from COVID-19 will be felt throughout 2020 and into next year. Moreover, wage growth is likely to be very weak, which will be particularly challenging given the high level of household debt.

The recession caused by worldwide measures to contain the fast-spreading coronavirus is going to be at least twice as deep as the global recession of 2008/09. Coupled with the stress of a significant health threat, the recession's negative impact on the mental health of people cannot be underestimated. The aim of this report is to provide some perspectives on the potential magnitude of the mental health challenge and raise awareness of its importance.

Governments and businesses will need to address the health and economic crises, but the looming mental health crisis is just as important—it just isn't as immediately observable.

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COVID-19: A series of crises

The COVID-19 pandemic took the world by surprise, shocking in its rapid spread. First came the public health crisis, then the economic fallout from the measures to contain transmission. What may be more difficult to address is the impact on the mental health of many millions more people than were infected. Governments and businesses must now prepare to face the pandemic's far-reaching, long-lasting repercussions.¹

Just seven months after the first known case of novel coronavirus in China on New Year's Eve, more than sixteen and a half million people have been infected by the virus, leading to more than 650,000 deaths² worldwide. The situation continues to unfold, with more than 188 countries affected to date and a significant number of positive cases growing in the United States, Europe, Russia, Brazil, and Africa. As a result, this public health threat quickly developed into a pandemic of unparalleled proportions.

The spread of COVID-19 has also put communities, countries, and economies at high risk. Given the highly contagious nature of this novel coronavirus and the highly mobile global population, containment measures have been exceptionally strict in several countries. The high incidence of human-to-human community transmission of COVID-19 has triggered long and severe lockdowns, plunging many economies into the most acute downturn since the beginning of the 20th century. Despite massive economic stimulus to counteract these effects, countries are facing an unprecedented economic crisis.

The shutdown and resulting precipitous decline in economic activity forms the "second-order crisis" of this pandemic. The public health and economic crises go hand in hand: there cannot be a sustainable path to economic growth as long as the health crisis is ongoing, and there is still a potential for a second wave of COVID-19 infection.

Nevertheless, we believe these two crises are only the tip of the pandemic's iceberg. There is a "third-order crisis" simmering, which almost always presents itself in the wake of natural disasters and negative economic shocks: this is a human crisis. Our previous research on the impact of natural disasters on humans shows that once the public health and economic crises have subsided, the human crisis will endure for months, if not years.

The human and social impact of natural disasters and the associated economic hardship may manifest in the form of an increased incidence of mental illness, poorer educational outcomes, an increase in substance abuse and crime, and the weakening of the community fabric. Voices started to be heard around the pending mental health and human impact of COVID-19 in April,³ but little effort has been made to get a sense of the magnitude of these impacts.^{4,5} This is understandable, as governments across the globe were responding to the public health and economic emergencies, focusing their resources on saving lives and providing a living income to a large share of their citizens.

This report aims to provide a sense of what may be the mental health burden associated with COVID-19 and the lockdown measures required to contain the pandemic. It does not constitute a forecast, but rather tries to prepare Canadian businesses, governments, and citizens for the reality of what's to come—such as a more than twofold increase in visits to mental health professionals and possibly a 20 percent increase in prescriptions for antidepressants relative to pre-COVID-19 levels.

The public health crisis took us by surprise, but we cannot afford to let the mental health consequences surprise us. We need to start preparing now for COVID-19's "third-order" crisis: the human one.



The human impact of pandemics and natural disasters

How mental health can be affected by the pandemic: scenario analyses

The human stress system has been evolving in parallel to civilization's progress. Born out of a survival instinct, it has graduated into a vital system that warns us of threats and induces appropriate bodily responses. However, prolonged levels of stress can have a far-reaching impact on mental health. Any event that disrupts the social, economic, or any other aspect of our lives is bound to have some impact on our overall state of well-being, but mental health conditions can significantly affect our ability to function in daily life.

Mental health is often seen as the absence of any mental illness. But lately, societies are becoming more and more sensitive to overall psychological well-being as a building block for a prosperous society. Amartya Sen, who won a Nobel Prize for his contribution to welfare economics, also recognizes the importance of both mental and physical health.¹² He deems mental health one of the basic functions that are directly required for humans to achieve desired capabilities in his capabilities approach economic theory, which later inspired the creation of the United Nation's Human Development Index.

Many researchers have tried to study the impact of economic recessions on mental health. We too are attempting to understand the impact of the current COVID-19 pandemic on a number of mental health variables in order to draw relevant conclusions on how to prepare Canadian businesses, governments, and citizens for the future.

It's important to note that we do not pretend to know exactly how COVID-19 will influence the mental health of Canadians. As for every other aspect of this pandemic, it is still early and we know very little for a fact. However, we believe it is useful to provide scenarios of what the mental health burden may look like based on previous disasters we have studied. Therefore, our scenario analysis is illustrative in nature, and does not constitute a prediction or a forecast.

COVID-19 third crisis: Deloitte's human-impact assessment framework

The past century has seen humans live through three major influenza pandemics—the pandemic of 1918-19 (H1N1 virus), the pandemic of 1957-58 (H2N2 virus), and the pandemic of 1968-69 (H3N2 virus).^{6,7} As a result, a fair bit of literature exists that studies the impact of these pandemics on the economy and the people. This body of literature is further complemented by papers on the economic and human impacts of other disasters, such as natural disasters.

For example, MacFarlane (2009)⁸ demonstrated pandemic fatality rates between 3 percent and 10 percent could yield a decrease in GDP of 4.3 percent to 9.6 percent. Such plunge in GDP creates a sharp increase in the level of unemployment, and it is also documented that the length of unemployment spells during recessions tends to increase substantially.⁹ There is also documented evidence of the strong linkages between long-term unemployment and mental health distress.¹⁰ Based on the literature, it is likely that the current pandemic and its dire economic consequences

may create conditions for a substantial increase in long-term unemployment. The associated stress and financial hardship are likely to cause heightened levels of mental health distress.

Deloitte has developed a framework to assess the human impact of pandemics and natural disasters. It encompasses financial, economic, and social impacts. Financial impacts are further broken down between insurable and out-of-pocket impacts, as a way to measure the stress induced by financial hardship. Economic and social impacts include a wide array of areas under health and well-being, education, jobs and productivity, and community. While COVID-19 may have impacts across all those categories, it was decided to focus this report on mental health impacts.

It is also worth highlighting that human and social costs from infectious diseases and natural disasters vary greatly across industries, communities, populations, and even gender.^{9,10,11}

Impacts of disasters on human well-being

Financial impacts		Economic and social impacts	
Insured	Insurable	Health and well-being	Education
<ul style="list-style-type: none"> Property (home, auto, etc.) Short term disability Long term disability Permanent mutilation Loss of members Life Loss of income Other insured losses 	<ul style="list-style-type: none"> Interest rate cost from emergency credit Uninsured losses of income (employment, small business, etc.) Deductibles Residual claims vs payments 	<ul style="list-style-type: none"> Additional health caseloads and other health outcomes Mental health outcomes Family break-up, violence 	<ul style="list-style-type: none"> Completion & enrollment Academic outcomes Loss of long term income
		Jobs and productivity	Community
		<ul style="list-style-type: none"> Job losses—temporary, permanent Lower productivity in employment Direct (less time spent working) Indirect (from other impacts, e.g., stress) 	<ul style="list-style-type: none"> Crime Substance abuse Social/community networks Environmental damage Opportunity/productivity impacts on third parties (e.g., hosts) Other spillover impacts

The Fort McMurray wildfires: A longitudinal view of the impact of disaster on mental health¹

For the purpose of this analysis, we used data from the Fort McMurray wildfires that began on May 1, 2016, and had swept through the community by May 3. The fires forced the largest evacuation in Alberta’s history, displacing more than 88,000 people from their homes for a full month. Estimates suggest that more than 2,400 homes and structures were damaged or destroyed during the wildfires.^{13,14}

Methodology

This section uses publicly available weekly data from Alberta Health’s Interactive Health Data Application on Fort McMurray Wildfire Surveillance on the following indicators of mental health well-being:

1. Emergency department and inpatient visits
2. Physician visits
3. Antidepressants dispensed

The indicators were studied over a period of 90 weeks:

- The first 18 weeks are identified as the “pre-event period,” a benchmark of pre-existing levels of mental health services required
- The next seven weeks, from April 27 to June 8, are identified as the “acute event period,” during which the wildfires were ongoing and people were evacuated
- The last 66 weeks are marked as the “post-event period” in order to determine any shifts in long-term levels of mental health services required, akin to a “new steady state.”

We did a number of tests for the length of this new steady state, and the results obtained were stable for the time span we considered. While the weekly data shown in the graphs has been smoothed to facilitate readability, the patterns highlighted are calculated using the raw data and are not adjusted from the level shifts observed during the wildfires.

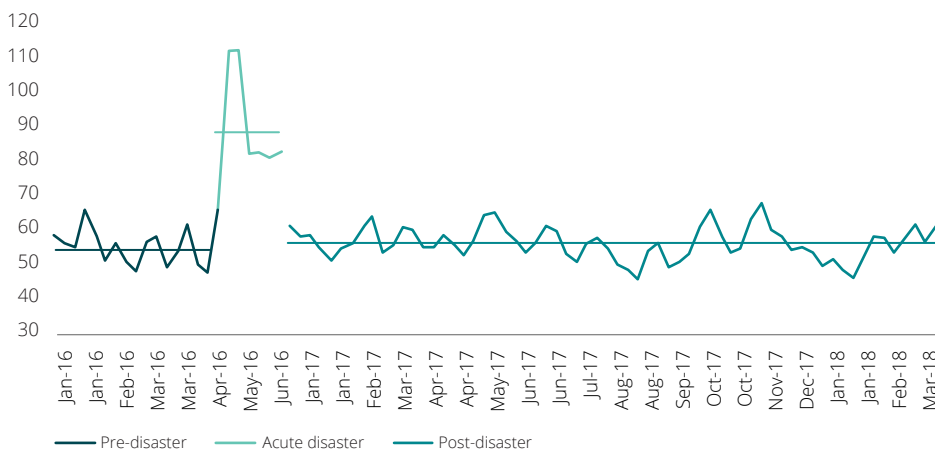
Results

Chart 1 shows the emergency department and inpatient visits for mental and behavioural disorders. The emergency department visit rate increases 65 percent during the acute disaster period relative to the pre-disaster period. However, in the post-disaster period, it returns to levels similar to those before the natural disaster. One possibility is that the spot spike in emergency department visits during the event evolved into other care formats like physician visits, or regular therapy, as the situation normalized.

Chart 2 shows physician visits for anxiety-related disorders. It increases by 92 percent during the acute disaster period, roughly twice the pre-disaster event levels. Physician visits for anxiety-related disorders show a further increase, to 109 percent of the pre-event levels, in the period following the natural disaster. This supports the hypothesis of away from emergency department visits toward other mental health professionals visit, following the disaster.

Finally, Chart 3 indicates an increase of 5 percent in antidepressants dispensed during the natural disaster, which climbs to a long-term average of 13 percent greater than pre-disaster levels.

Chart 1: Emergency and inpatient visits - mental and behavioural disorders



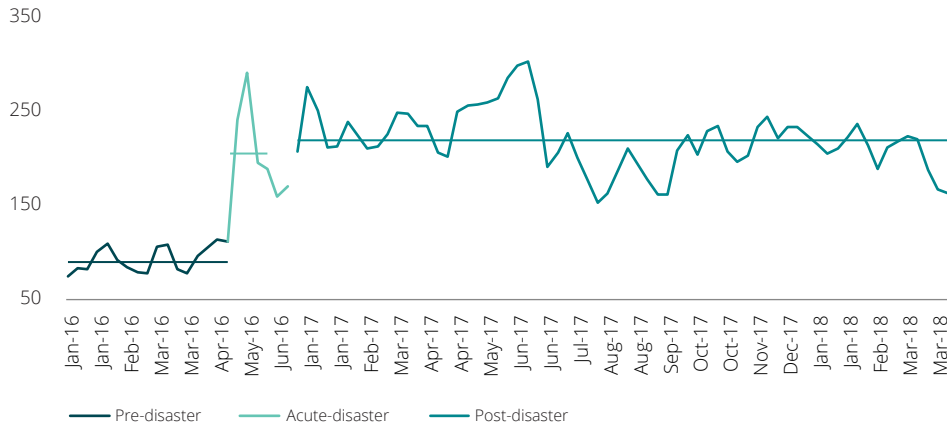
	Average	Change (%)
Pre-disastrous event period	55	
Acute disastrous event period	90	65%
Post-disastrous event permanent levels	56	3%

Source: IHDA, Deloitte analysis.

The sum of emergency department visits and hospitalizations by Fort McMurray residents on a weekly basis reported by Alberta Health using Alberta Hospital Discharge Abstract Database Files and Alberta Ambulatory Care Database Files.

2 weeks moving average, no outliers removed.

Chart 2: Physician visits – anxiety disorders

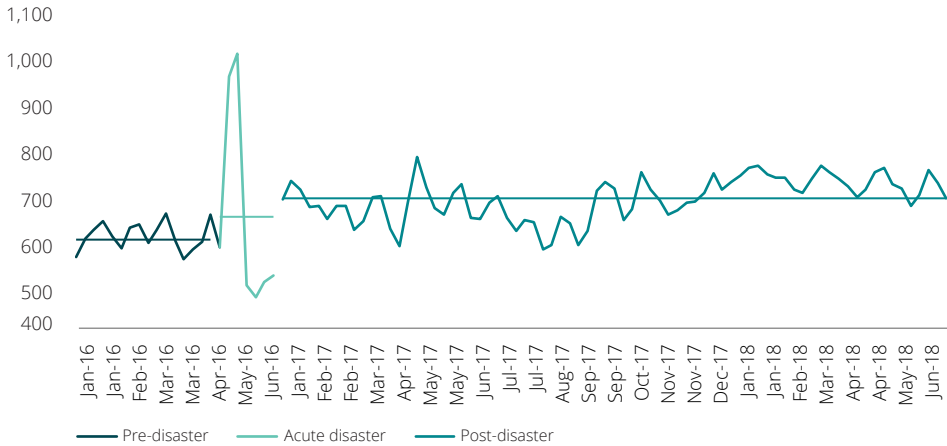


	Average	Change (%)
Pre-disastrous event period	94	
Acute disastrous event period	180	92%
Post-disastrous event permanent levels	196	109%

Source: IHDA, Deloitte analysis.
The sum of physician visits for anxiety disorders by Fort McMurray residents on a weekly basis reported by Alberta Health using Alberta Health Physician Claims data.

2 weeks moving average, removed outlier data: weeks of Aug 29, 2017 and Sep 5, 2017 and holiday weeks of Dec 26, 2017 and Jan 2, 2018.

Chart 3: Antidepressants – persons dispensed



	Average	Change (%)
Pre-disastrous event period	614	
Acute disastrous event period	644	5%
Post-disastrous event permanent levels	692	13%

Sources: IHDA, Deloitte analysis.
The sum of Fort McMurray residents that were dispensed antidepressants on a weekly basis reported by Alberta Health via Pharmaceutical Information Network.

2 weeks moving average, removed outlier data: holiday weeks of Dec 26, 2017 and Jan 2, 2018.

Note:

¹ We used the Fort McMurray wildfires as a benchmark because they were, at a much smaller scale, a combination of a significant natural disaster and a sharp economic slowdown. While it would have been ideal to have mental health data from previous pandemic periods, it is unlikely we would have reliable data on mental health from that era, the latest pandemics dating back to the 1950s, if not the 1910s.

Applying the findings from Fort McMurray wildfires to COVID-19 in Canada

1. Projected impact of COVID-19 on mental health indicators

Alberta Health’s data on the Fort McMurray wildfires has made it possible for us to see some important patterns emerging in the aftermath of the wildfires, as described in the previous page. We can use these patterns to develop scenarios for the potential mental health impacts of COVID-19 on Canadians.

2. Projection phase and scenarios

In order to develop scenarios, we have used the percentage changes observed in the three variables in the previous section and applied these to the most recent statistic for the levels of similar services across Canada. As defined for the Fort McMurray wildfires, we have projected the impact of COVID-19 in two phases:

Phase 1: The acute disaster event period

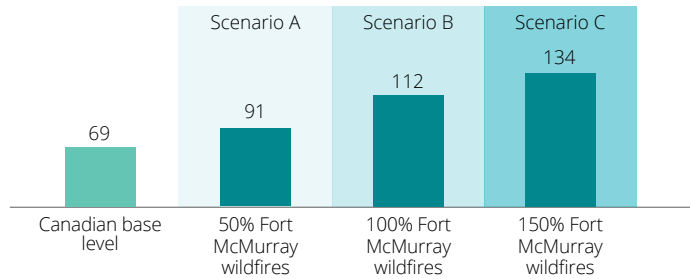
Phase 2: The new steady state, post-disaster event

We have also charted three scenarios for all variables and each of the phases:

1. Scenario A: 50 percent Fort McMurray wildfires
2. Scenario B: 100 percent Fort McMurray wildfires
3. Scenario C: 150 percent Fort McMurray wildfires

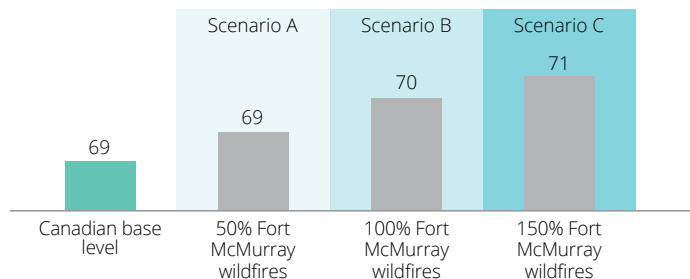
Emergency and inpatient visits for stress/anxiety related disorders¹

Acute disastrous event reaction period (in 000's)



Source: Deloitte analysis.

Post-disastrous event new steady state (in 000's)



Source: Deloitte analysis. Base level data from 2017 mental health statistics from CIHI¹.

Because we have no specific indication on the direction of the mental health impacts of COVID-19 relative to the Fort McMurray wildfires, the scenarios developed are intentionally agnostic (impacts both below and above) and symmetric (same magnitude). Taken as a whole, the results of this analysis can be used as a range of possible mental health outcomes from COVID-19 in the country as a whole.

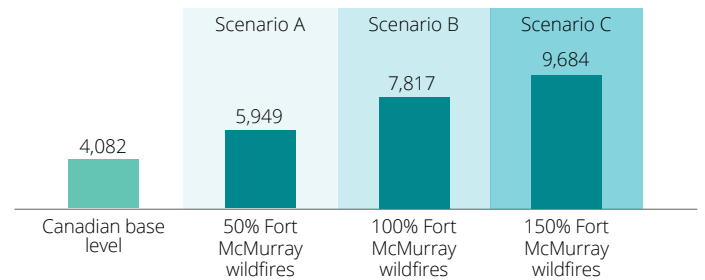
Projecting the results from Fort McMurray wildfires to the COVID-19 pandemic in Canada.

The number of mood and anxiety disorder hospital discharges in Canada, which are similar to emergency and inpatient visits but measured at a different stage, totalled 68,730 in 2017. Taking this number as the base, our analysis shows it could rise to a range of 91,000-134,000 annually during the acute disaster event period. The post-disaster steady state might see these numbers settling down to a more modest level, ranging from 69,000-71,000 annually. All in all, this represents a change between 1 percent to 95 percent relative to pre-disaster levels for hospital discharges (emergency department and inpatient).

Visits to mental health professionals totalled about 4.1 million in 2015, according to Statistics Canada. Taking this number as the base, our scenario analysis shows it rise to a range of 5.9 million to 9.7 million per year during the acute disaster event period. The post-disaster steady state may see these numbers increase further to 6.3 million to 10.7 million annually.

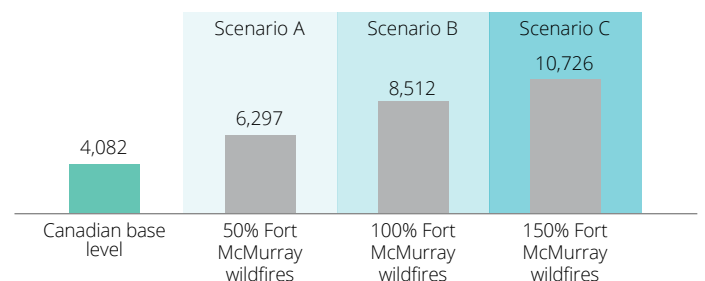
Physician visits for stress/anxiety related disorders²

Acute disastrous event reaction period (in 000's)



Source: Deloitte analysis.

Post-disastrous event new steady state (in 000's)



Base level data – Health professionals visits related to emotional or mental health – 2015 Statcan data²

All in all, this represents a change between 46 percent and 163 percent relative to pre-disaster levels for visits to mental health professionals.

A paper published in Social Psychiatry and Psychiatric Epidemiology in 2002 pegged the percentage of Canadians using antidepressants at 5.8 percent, or about 2.2 million people, assuming the rate applies to today's population.¹ Taking this number as the base, our analysis shows it may rise to a range of 2.2 million to 2.3 million annually during the acute-event period. The post-disaster steady state might see these numbers rise further, to 2.3 million to 2.6 million every year. All in all, this represents an increase in the use of antidepressants of 2 percent to 19 percent relative to pre-disaster levels.

We believe these scenarios provide a sensible and useful idea of the order of magnitude of the impact of COVID-19 on the mental health on Canadians. One caveat is in order, however. While victims of the Fort McMurray wildfires remained covered for mental health services through their employer-based insurance, this may not be the case during COVID-19, given the extent of job losses and furloughs. This may prevent some Canadians from accessing the services they need. In other words, while our analysis shows just as many Canadians may need access to mental health services, not all of them may be able to afford these services if they lose their complementary health insurance.

Conclusion

In this section, we used empirical evidence to develop scenarios for Canada's mental health burden from the COVID-19 pandemic in upcoming months and possibly years. Without pretending we know how the aftermath on mental health will play out, our analysis shows the current pandemic has the potential to significantly increase the level of mental health support services required by Canadians in future. The table below summarizes our results.

Mental health metric	Base level	Acute disaster event level ²	Long-term steady state ²
Emergency and inpatients visits for stress/anxiety related disorders	68,730	91K-134K 32%-95%	69k-71k 1%-3%
Physician visits for stress/anxiety related disorders	4,082,100	5.9M-9.7M 46%-137%	6.3M-10.7M 54%-163%
Antidepressant prescriptions	2,149,480	2.2M-2.3M 2%-7%	2.3M-2.6M 6%-19%

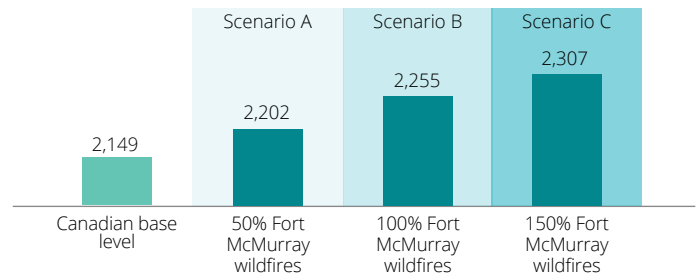
Note:

¹ This is the most recent statistic regarding antidepressant usage that we found.

² Ranges are based on the factor applied: 0.5x, 1x and 1.5x the impact of the Fort McMurray wildfires.

Antidepressant prescriptions¹

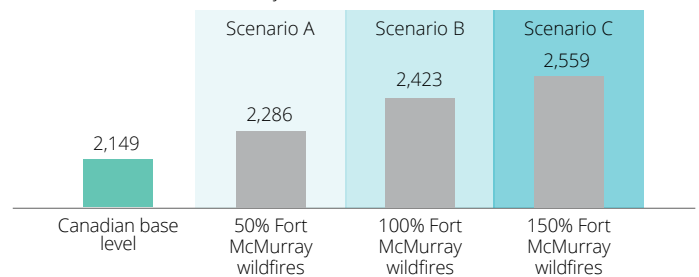
Acute disastrous event reaction period (in 000's)



Source: Deloitte analysis.

¹Base level data-Antidepressant-5.8% usage in Canada in 2002- Link.

Post-disastrous event new steady state (in 000's)



Source: Deloitte analysis.

Understanding the impact of long-term unemployment on mental health

Losing one’s job and staying unemployed for a long period can be a very stressful event in a person’s life. Harry S. Truman, the 33rd president of the United States, famously said, **“It’s a recession when your neighbour loses his job; it’s a depression when you lose your own.”**

In normal economic times, there are always a certain number of people changing jobs and some of these people might experience short (a few weeks) unemployment spells between jobs. However, during recessions, some employers will lay off some or even all their workforce while others tend to cancel or postpone hiring decisions. As a result, unemployed workers in between jobs can experience much longer unemployment spells, along with financial hardship, increased stress levels, and even skills atrophy. Long-term unemployment has received a lot of attention in the literature for its ability to negatively affect a variety of human well-being indicators.

In this section, we add another approach to link the pandemic and the economic conditions it has caused to Canadians’ mental health. With the disaster event-based approach, we offer a perspective on how the economic environment may increase the need for mental health support services.

Before diving into how long-term unemployment (LTU) affects mental health, it is crucial to take stock of how LTU relates to official unemployment in economic expansionary periods as well as during recessions. We therefore studied the two most recent significant economic slowdowns in Canada: the 1990-92 recession and the 2008-2009 recession.

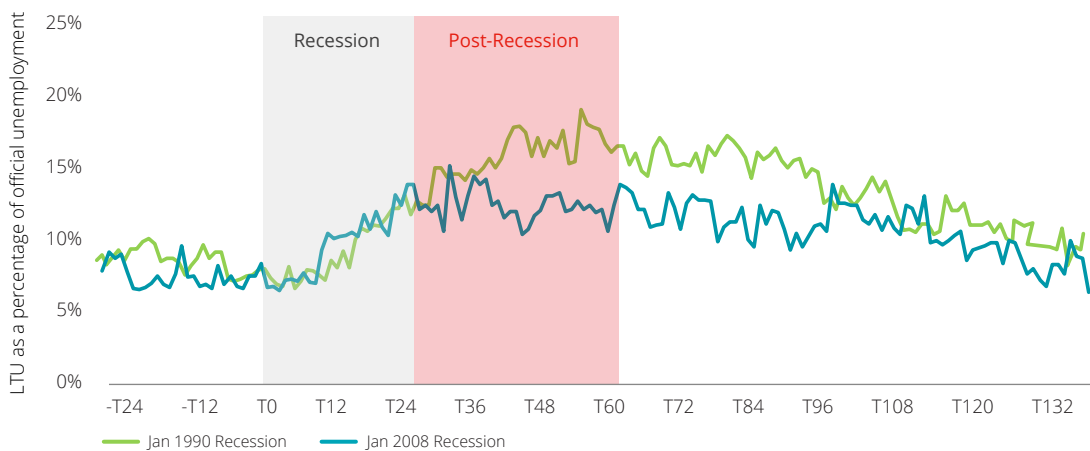
Event name	Start month/Defined as “T0”
1990-1992 recession	April 1990
2008-2009 recession	August 2008

Methodology

We studied the monthly time series data on the official unemployment rate (defined as R4) as well as the LTU rate (R1, unemployed one year or more), as reported by Statistics Canada. We calculated the incidence of LTU by dividing the LTU rate for each month by the total unemployment levels (UL) of the corresponding month. This is expressed as a ratio of long-term unemployment to official unemployment (LTU/UL). We then plotted this as an index for both recession periods (see Canada's long-term unemployment (LTU) as a percentage of official unemployment chart below), rebasing them to make their starting points coincide.

We assigned the label T0 for the month when the recession began in both cases, which then continues in one-month increments. T0 refers to March 1990 for the first recession and to October 2008 for the second recession. We studied the index for 24 months prior to the recession (T0) in order to measure the magnitude of the increase in the periods during and after the recession. We assumed the next 24 months to be the recession period (although it might not coincide with the Bank of Canada’s definition of recession) and the next 36 months as the post-recessionary period for the purposes of analyzing the unemployment index over a longer period of time. We then overlaid the index from both recessions on each other on the basis of the defined timelines to study the pattern of evolution of LTU.

Canada's long-term unemployment (LTU) as a percentage of official unemployment



T0 is defined as April 1990; August 2008
Source: Statistics Canada, Deloitte analysis.

Observations

As expected, long-term unemployment is generally only a fraction of official unemployment. A subset of laid-off workers struggles to find a new job within a year, but there is a sharp increase in the LTU/UL ratio during recessions. The data on unemployment during recessions establishes the relationship between economic downturns and the incidence of LTU in the economy, which has a more pronounced, retarded, and long-lasting impact. In both the recessions we looked at, LTU as a share of official unemployment ranged around 12 to 15 percent on average, about double where this share stood prior to each recession.

The incidence of LTU as a share of official unemployment (index marked in green in the chart on page 14) exhibits an interesting trend during the 1990s recession. While it was averaging around 8.4 percent in the 24 months prior, it starts increasing with the onset of recession, averaging 9.8 percent in the 24-month recession period. It also continues to rise for an additional 24 months following the recession, and the LTU/UL ratio peaks at 20 percent in the post-recession period—this is equivalent to an increasing period of the ratio for a full 48 months. The share of LTU as a percentage of official unemployment then normalizes and returns to lower levels, similar to those before the recession.

Similar patterns are observed during the 2008-09 recession. Long-term unemployment as a share of official unemployment increases from an average of 7 percent in the pre-recession period to 8.7 percent during recession, and averages 12.6 percent in the 36-month period after the recession. LTU as a percentage of total unemployment peaks only 34 months after the start of the recession, to 15.5 percent. It is notable that the LTU/UL ratio does not rise for as long a period in the 2008-09 recession as it did in the earlier one, likely because the increase in unemployment is much smaller than in 1990.

For people who have been unemployed for a number of years, this corresponds to the very long-term.

In both recessions, it took more than 10 years for the LTU/UL ratio to return to its pre-recession levels. For people who have been unemployed for a number of years, this corresponds to the very long-term.



Literature review: Impact of recession-induced long-term unemployment on human indicators

Long-term unemployment is often described as one of the most important carriers of economic distress. Because of its persistent nature, there’s a plethora of literature that links LTU to a variety of negative impacts on people, including mental health, crime, substance abuse, and other social issues. The aim of this literature review is to address these relationships and investigate their nature in order to meaningfully analyze and comment on the impact of LTU on human variables of interest.

The Canadian-based Institute for Work & Health (2009)¹⁵ compiles evidence from a number of studies that focus on different ways unemployment can affect mental health. First and foremost comes a decline in standard of living, followed by insecurity associated with the length of time during which income is lost and the risk of a future drop in income. Three other factors mentioned in the report include stigma from being unemployed, as well as loss of self-esteem and loss of social contacts.

Losing a job and experiencing long-term unemployment can be extremely stressful because of the involuntary loss of income, life-structure, and the defining role our work plays in modern lives. Andersson (2019)¹⁶ took a scientific and chemical approach to study the subject. She studied a highly adaptable part of the human brain called the hippocampus. It houses glucocorticoid receptors (GC receptors), which activate coping mechanisms in stressful situations. Andersson found dysregulation of GC receptors over a longer period of time has harmful effects on the hippocampus, correlated with symptoms like depression, restraint stress, post-traumatic stress disorder, low self-esteem, learned helplessness, and psychosocial stress. She goes on to show that LTU induces a similar kind of stress and is correlated with dysregulation of cortisol.

In fact, there is documented evidence that points to a robust association between poor self-perceived health and long-term unemployment, lower available income, and severe material

deprivation. During the 2008-09 financial crisis in Spain, long-term unemployment (unemployed for 12–23 months) increased the probability of self-reporting poor health outcomes from 45 percent to 67 percent, and very long-term unemployment (24 to 48 months) increased this probability further from 78 percent to 132 percent when compared to employed individuals. Inversely, each additional percentage point increase in family income reduces the odds of reporting poor health by 16 percent to 28 percent. The impact is not limited to the individual, but extends to her or his household; membership in a household with severe material deprivation increases the probability of reporting bad health by between 70 percent and 140 percent.¹⁷

A paper from the Journal of Labor Economics¹⁸ aimed to investigate the causal effect of unemployment on mental health during the 2008-09 financial crisis in Spain. The study reports that an increase in the unemployment rate by 10 percent raised self-reported poor health and mental disorders by 3 percent. The results were found to be large and statistically significant. Another noteworthy finding in this paper is that failure to re-enter employment for those who try the hardest might have an even higher cost on their mental health.

Of course, the impact of long-term unemployment on mental health is not the same for everyone. There are a variety of features that determine each individual’s vulnerability to its impacts, which could vary by gender, family income, and age, among other factors. A study conducted in Sweden¹⁶ aimed to study the age aspect of this conundrum by focusing on the impact of various durations of unemployment spells on youth (aged 17 to 24 years).

The results of the study, reported in the chart below, reveals the risk of receiving a mental health disorder diagnosis was 170 percent higher for the cohort that is unemployed for more than six months than that of the employed cohort. The results also highlight that youth unemployment is strongly associated with alcohol and drug use. Similar to previous research, the length of unemployment also appeared to increase the risk of receiving a mental diagnosis.

Labour force status	Hazard ratio ¹ during economic crisis (95% CI)	Hazard ratio in non-crisis period (95% CI)
Full time worker (ref) unemployed	1.00	1.00
Less than 3 months	1.69 (1.14 to 2.49)	1.92 (1.40 to 2.63)
3-6 months	2.19 (1.43 to 3.37)	2.60 (1.72 to 3.94)
More than 6 months	2.70 (1.71 to 4.28)	3.33 (2.00 to 5.57)

Note:
¹ Hazard ratio is interpreted as chance of an event occurring in exposed variable / chance of the event occurring in the control variable. A ratio of 1.5 means for a group means that the risk of experiencing mental health is higher for that group by about 50%.

The results are adjusted for gender, age, country of birth, prior mental health diagnosis, parental socio economic index and education, parents mental health

Identifying Canada's most vulnerable populations

We have demonstrated that COVID-19 is concentrated in low-income neighbourhoods, and the economic impact is concentrated in the service sector, which employs a disproportionate number of women. In this section we examine low-income as an indicator to emphasize and underline the most vulnerable populations in the country. In 2018, Statistics Canada reported that 12.8 percent of Canadians were living below the low-income threshold. This number masks several important socio-demographic dimensions, and thus warrants further dissection and examination.

Canada's vulnerable populations: Mapping the impact of COVID-19

While affecting society as a whole, natural disasters and economic recessions impose vastly different burdens on different segments of the population. While some people ride out the storm with limited damage, others suffer devastating outcomes that can potentially severely impair their well-being and their subsequent capacity to achieve their full potential.

The purpose of this section is to identify the groups in Canada who are most vulnerable to the adverse effects of COVID-19. This section starts with assessing where in Toronto and Montreal COVID-19 is most prevalent. These neighbourhoods often correspond to low-income urban areas.

We then explore the fact that, unlike the 2008-09 recession, most job losses due to COVID-19 and the associated lockdowns have been in relatively low-paying retail and service industry positions. This explains why the current economic crisis was labelled a "she-cession," since women are overrepresented in these job losses. In addition, as schools and childcare centres closed, women were more likely to take time off from work to shoulder the burden of childcare.

Delving deeper into this gender-based analysis, we demonstrate that even before COVID-19, the lockdowns, and the economic crisis, women—and especially single-parent women—were among those at the greatest risk of being economically vulnerable. They were also more likely to suffer from mental health conditions than men, and less likely to have their mental health needs fully met. And since disasters can significantly increase the incidence of poor mental health, women remain the most vulnerable.

Studying income characteristics of Canadian neighbourhoods by concentration of COVID-19

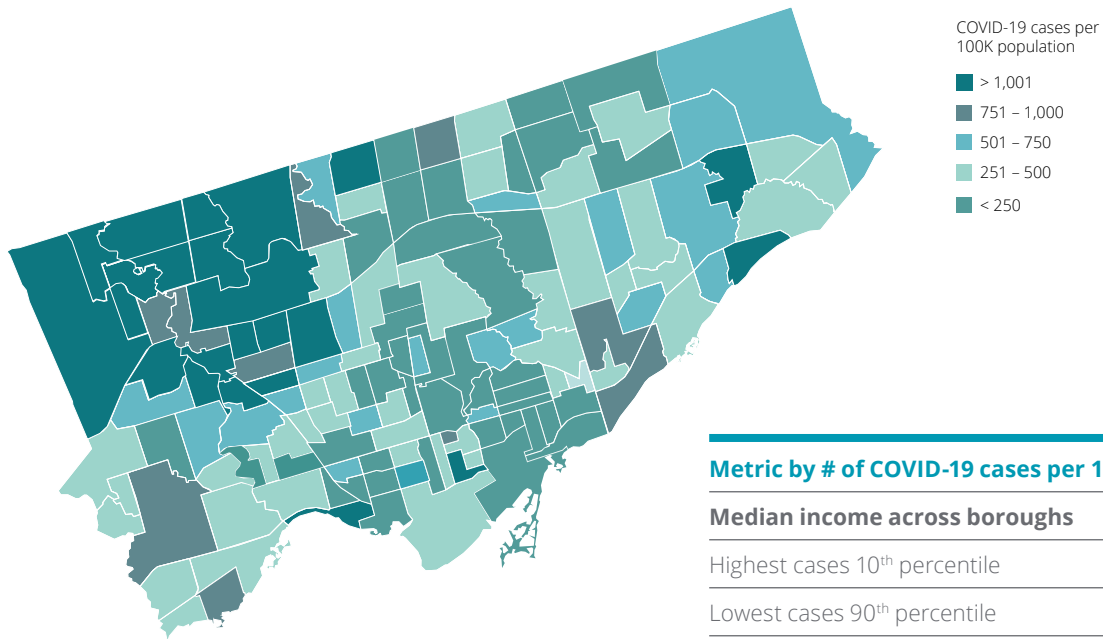
Many cities and provinces have started unveiling detailed geographical information about the spread of the coronavirus. Toronto and Montreal, the two hardest hit Canadian cities by number of cases, released this data in the last week of May. An analysis of neighbourhoods in these two cities reveals that low-income households carry a disproportionately higher burden of COVID-19 cases.

Toronto has 140 neighbourhoods, and the virus is present in all of them. A quick look at the map, however, shows that the highest concentration of COVID-19 cases is in the northwest and northeast parts of the city, at more than 600 cases per 100,000, which corresponds to areas where the median income is lowest. By comparison, the more affluent neighbourhoods, centred in the middle of the map (light aqua on the chart), have fewer than 300 cases per 100,000.

Mapping household income against COVID-19 cases for all of Toronto's neighbourhoods validates the visual analysis of the mapping of infection cases. The areas in the top decile of COVID-19 cases per 100,000 population (90th percentile and above) have a median income of \$51,014, or 21.9 percent lower than the overall median income. In comparison, areas in the lowest decile of COVID-19 cases per 100,000 population (10th percentile and below) have a median income of \$93,663, or 43.5 percent higher than the overall median.

A similar analysis for Montreal points toward an analogous pattern. The areas in the top decile of COVID-19 cases per 100,000 population have a median income of \$47,801, or 20.6 percent lower than the overall median income. By comparison, areas in the lowest decile of COVID-19 cases per 100,000 population had a median income of \$95,710, or 58.9 percent higher than the overall median.

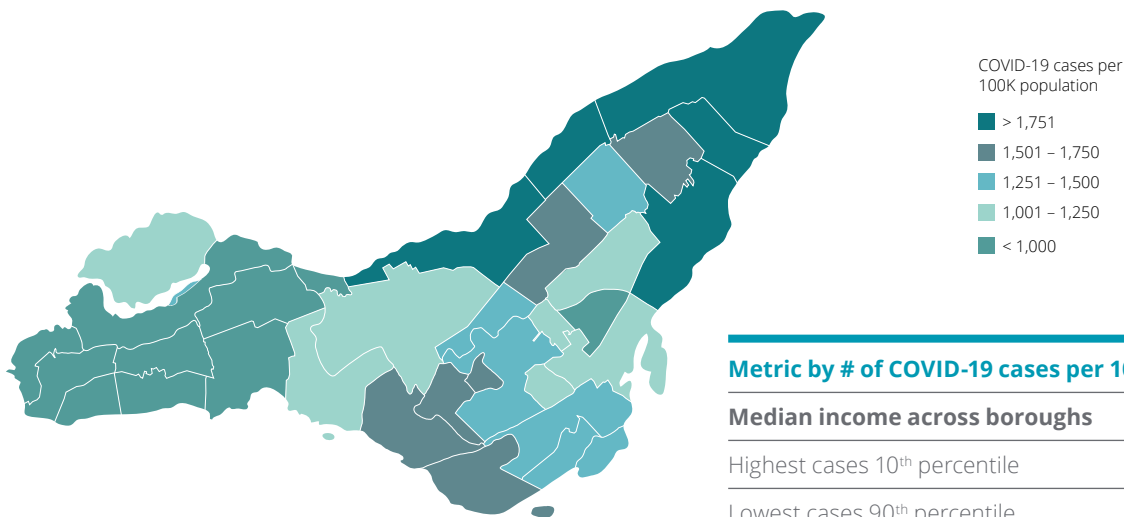
Distribution of COVID-19 cases as of July 27, 2020, in Toronto



Metric by # of COVID-19 cases per 100,000	Household income
Median income across boroughs	65,293
Highest cases 10 th percentile	51,014
Lowest cases 90 th percentile	93,663

Source: Statistics Canada, City of Toronto, Deloitte analysis.

Distribution of COVID-19 cases as of July 27, 2020, in Montreal



Metric by # of COVID-19 cases per 100,000	Household income
Median income across boroughs	60,291
Highest cases 10 th percentile	47,801
Lowest cases 90 th percentile	95,710

Source: Statistics Canada, City of Montreal, Deloitte analysis.

Economic impact of COVID-19 across industry and gender concentration

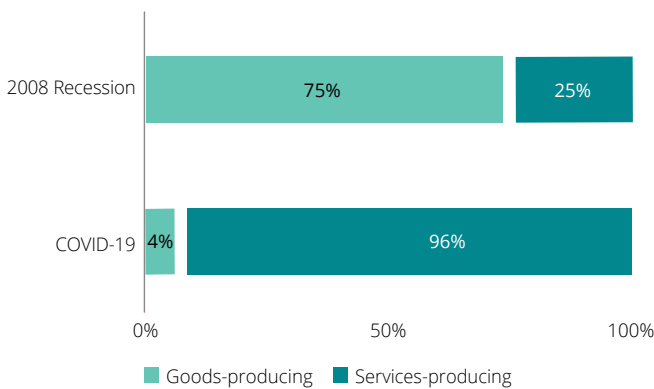
There may be several possible explanations for the concentration of COVID-19 cases in lower-income areas, but more research will be needed to grasp how this geographic distribution of cases unfolded. What is clear from the data we already have is that lockdowns were especially harsh on the retail and service industry, where jobs typically require less training and are more precarious.

This is in sharp contrast with the 2008-09 recession, which hit the goods-producing industries most. As a consequence, the populations affected by the two economic downturns are dramatically different, with women being harder-hit by the current economic conditions. This is important to note, as economic conditions directly affect mental well-being, and, as the next pages will show, women were already vulnerable on that count before the pandemic struck.

As evident from the chart below, (Proportion of jobs lost by sector type: 2008-09 financial crisis vs. COVID-19), 96 percent of the jobs lost during the COVID-19 economic downturn have been in the services sector, out of which wholesale and retail trade account for 17 percentage points, and accommodation and food services account for 30 percentage points. Education, transportation, and health care are other big losers. In the goods-producing sector, which has accounted for 4 percent of all job losses so far, manufacturing accounted for 6 percentage points.¹⁹

By contrast, the 2008-09 recession weighed heavily on the goods-producing sector, which accounted for 75 percent of total job losses. Within this sector, construction and manufacturing alone contributed 37 percentage points and 30 percentage points, respectively.¹⁷ Within the services sector, wholesale and retail trade were the biggest losers, followed by professional and business services.

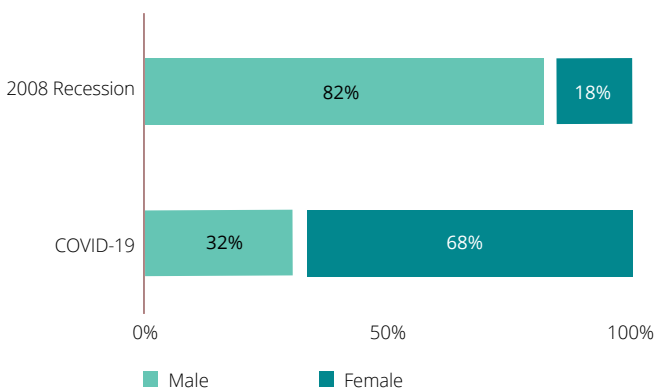
Proportion of jobs lost by sector type: 2008-09 financial crisis vs COVID-19



	Goods-producing	Services-producing
COVID-19	4%	96%
2008 Recession	75%	25%

Source: Statistics Canada, Deloitte analysis.

Proportion of jobs lost by gender: 2008-09 financial crisis vs COVID-19



	Male	Female
COVID-19	32%	68%
2008 Recession	82%	18%

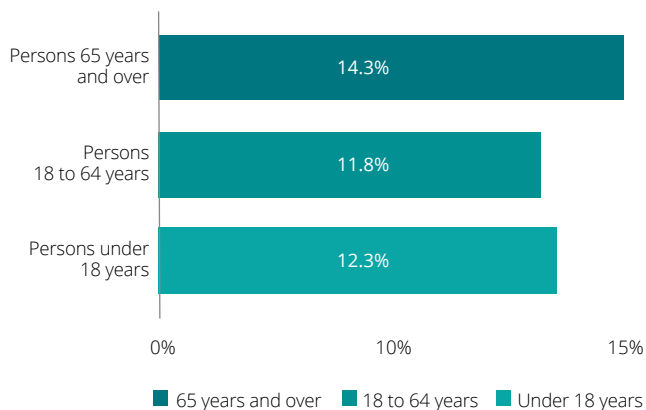
Source: Statistics Canada, Deloitte analysis.

The industry pattern has strong implications for who lost their jobs during the economic downturns. In the current, COVID-19-related downturn, the majority of the jobs lost were held by women: 68 percent of all jobs lost so far. In the 2008 recession, only 18 percent of all jobs lost were held by women.²⁰

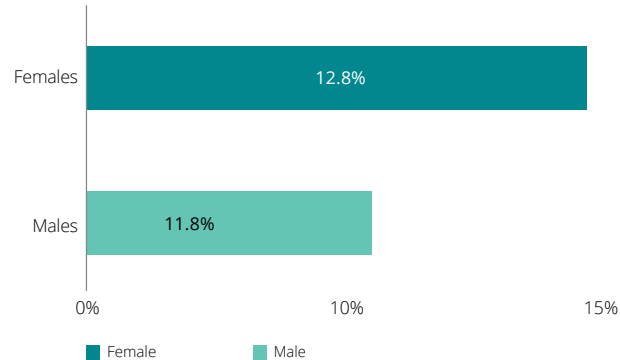
(96 percent of all job losses to date) and, consequently, heavy job losses for women, as they are traditionally heavily employed in service sectors such as food and accommodation, health care, educational services, and retail. (See the appendix for a detailed table comparing job losses and share of women workers between the current economic downturn and the 2008-09 recession).

Hence, unemployment caused by COVID-19 and the shutdowns initiated to contain its spread in the community has caused a disproportionate amount of job losses in the service sector

Percentage of persons in low-income bracket by age 2018



Percentage of persons in low-income bracket by gender 2018



Source: Statistics Canada, Deloitte analysis.

Age: Age has traditionally been one of the most important factors to focus on, due to different roles assumed by people in different life stages. If we look at age distribution across the three categories defined in the table “Percentage of persons in low income by age 2018”, we see that persons above 65 years have a low-income rate of 14.3 percent across Canada, higher than the national average and higher than any other age group.

Gender: Gender inequality has been on the centre stage of debate around inequality for a long time, so it's no surprise to see in the table “Percentage of persons in low income by gender 2018,” that women carry the burden of low income disproportionately, with a low-income rate of 12.8 percent. Men, on the other hand, exhibit a rate of 11.8 percent, a whole percentage point lower.

Percentage of persons in low-income bracket by province 2018

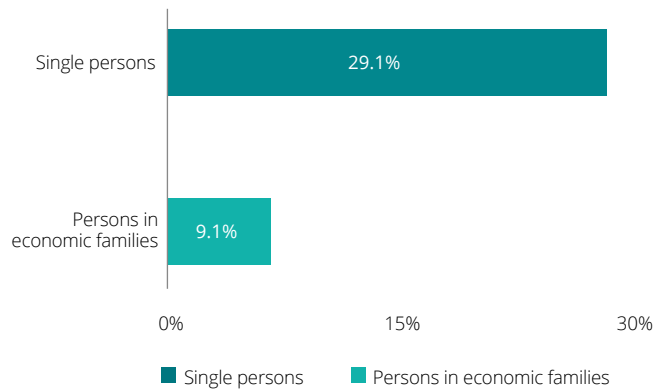
	CAN	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC
All persons	12.3%	16.0%	14.6%	15.9%	13.8%	14.0%	12.4%	14.1%	13.0%	7.5%	11.2%
1. Age											
Persons under 18 years	12.3%	15.7%	15.9%	16.8%	14.7%	11.7%	13.9%	19.0%	14.3%	7.3%	9.4%
Persons 18 to 64 years	11.8%	13.7%	12.0%	14.3%	11.7%	12.8%	12.3%	12.2%	12.5%	7.9%	11.1%
Persons 65 years and over	14.3%	23.3%	21.8%	20.2%	18.9%	20.4%	11.3%	14.8%	13.4%	5.9%	13.1%
2. Gender											
Males	11.8%	15.8%	13.8%	15.1%	12.9%	13.0%	12.0%	13.3%	12.3%	7.5%	11.6%
Females	12.8%	16.2%	15.5%	16.7%	14.6%	15.1%	12.9%	14.8%	13.8%	7.6%	10.8%
3. Family status											
Persons in economic families	9.1%	12.4%	11.5%	11.9%	9.9%	9.6%	9.6%	11.9%	10.0%	5.8%	7.9%
Single persons (not in an economic family)	29.1%	38.1%	32.7%	34.3%	34.3%	33.5%	29.7%	26.8%	28.7%	17.1%	26.7%

Source: Statistics Canada, Deloitte analysis.

Single-person households are another group of the population showing a particularly high low-income rate of 29.1 percent, more than twice the national average. In other words, being part of a household of more than one, also called an economic family, can serve to substantially cushion the incidence of low income. This situation is likely to remain constant in the case of a recession leading to one household member's job loss, since it may be possible to offset the loss of one income by counting on a second income-earner in the household.

The chart below focuses on low income as one of the important vulnerability factors from an individual point of view. But the incidence of low-income by type and size of the household forces us to expand the horizon of this investigation to include economic family structure. Family structures can be divided into couples, lone-parent families, and others. We grouped couples by their dependents, and lone-parent families by the gender of the parent.

Overall, 6 percent of families in Canada experienced low income in 2015, with couples faring relatively better than lone-parent families. Among lone-parent families, those led by women had the highest incidence of low income across all family types: 17.4 percent. This compares to 11.3 percent for lone-parent families led by men, and 4.8 percent for economic families formed by two parents with children.



Once again, the data highlights the economically precarious position many women were in even before the pandemic.

It is easy to observe from the data on the previous page that on an individual level, persons above 65 years of age and females are overrepresented in low-income populations. Single people are also at higher risk of low-income status (29 percent) as compared to persons who are part of an economic family (9 percent).

Percentage of persons in low-income bracket by province 2018

	CAN	NL	PE	NS	NB	QC	ON	MB	SK	AB	BC
Total - Economic family structure	6.0%	3.6%	4.1%	4.9%	4.4%	5.2%	6.8%	6.8%	3.9%	4.8%	7.5%
Couple economic families	4.1%	2.1%	2.8%	2.9%	2.7%	3.3%	4.8%	4.2%	2.4%	3.2%	5.3%
Couple economic families w/o children or other relatives	3.3%	2.3%	2.0%	2.6%	2.3%	2.9%	3.7%	3.0%	1.8%	2.5%	4.3%
Couple economic families with children	4.8%	1.9%	3.7%	3.2%	3.2%	3.7%	5.6%	5.2%	3.0%	3.8%	6.3%
Couple economic families with other relatives only	3.1%	0.8%	1.1%	1.8%	1.5%	3.2%	3.1%	6.9%	2.7%	2.0%	4.1%
Lone-parent economic families	16.1%	12.3%	11.0%	14.5%	13.5%	14.0%	17.0%	20.0%	12.7%	14.7%	19.6%
Male lone-parent economic families	11.3%	7.8%	9.1%	9.8%	9.5%	10.6%	12.1%	12.3%	8.8%	9.5%	13.6%
Female lone-parent economic families	17.4%	13.4%	11.4%	15.7%	14.6%	15.1%	18.2%	22.1%	13.7%	16.2%	21.1%
Other economic families	14.3%	9.0%	8.3%	12.4%	10.3%	15.0%	15.4%	17.8%	9.4%	8.0%	18.5%

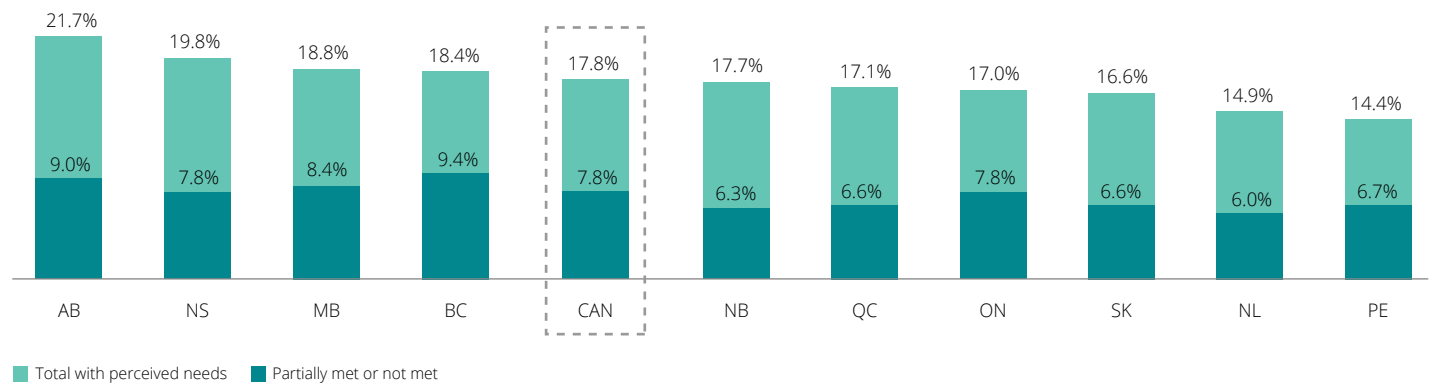
Source: Statistics Canada, Deloitte analysis.

Current levels of perceived need for mental health in Canada

So far in this section, we have shown that people living in low-income areas have been more likely to contract COVID-19 than those living in more affluent neighbourhoods. We also showed the economic downturn resulting from COVID-19 has affected the retail and service industry more than other sectors, which has led to disproportionate job losses among women. This is an additional layer of vulnerability to which women are exposed, especially single mothers, who were already facing a higher incidence of low income than the overall population before the pandemic.

Building on this information, we now turn to the incidence of mental health issues, and to what extent mental health needs are met, to wrap up our analysis of populations vulnerable to the human impacts of COVID-19.²¹

Population with perceived need for mental health care by province 2018



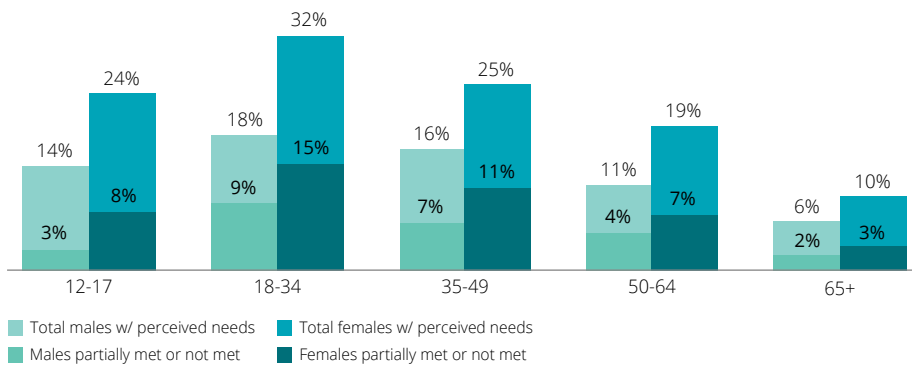
Source: Statistics Canada, Deloitte analysis.

Overall, 17.8 percent of Canadians have self-reported perceived mental health needs. Of those, only 56.2 percent report their needs have been fully met, which leaves a sizable 43.8 percent of Canadians with mental health needs that are only partially met or unmet altogether. This corresponds to close to 8 percent of the overall population in Canada (7.8 percent).

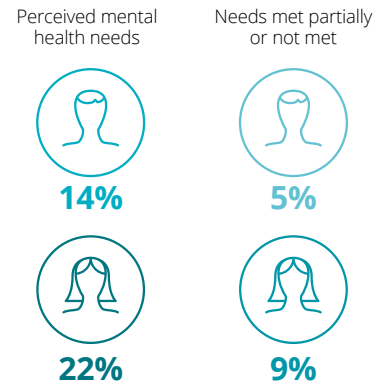
Age and gender—an intersection of two social variables

Across age groups, women face a higher incidence of self-reported mental health needs than men. Ten percent to 32 percent of women report having mental health needs, compared to 6 percent to 18 percent for men. Women are also more likely to have their mental health needs only partially or even totally unmet—between a third to a half of women report this, compared to about a fifth to 40 percent of men.

Perceived mental health needs, male and female



Source: Statistics Canada, Deloitte analysis.



These findings were also validated by a recent Statistics Canada survey on gender differences in mental health during COVID-19. This survey, conducted between April 24 and May 11, 2020, found that 25.5 percent of women surveyed reported fair or poor mental health, compared to 21.2 percent of men. Moreover, 57 percent of women reported their mental health is “somewhat” or “much” worse since physical distancing began, compared to 47.0 percent for men. Finally, the survey found women were more likely than men to report symptoms consistent with moderate/severe generalized anxiety disorder and to report that their lives are quite a bit/extremely stressful.²²

Several Canadian governments have already recognized mental health as a growing issue during this pandemic, announcing programs to help support Canadians struggling with mental health issues at this time. This includes the governments of British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Prince-Edward Island and the Government of Canada. These programs are aimed at supporting emergency mental health services in general in addition to some key vulnerable communities, such as Indigenous people and children. These programs also aim to increase the implementation and adoptions of digital mental services through phone lines and secure videoconference, among other health and wellness related goals.

In summary, women are at the epicentre of the human impact of COVID-19. They are most affected by the economic downturn because of their high level of representation among retail and services industries. This is true in absolute terms for the current situation (more women are losing their jobs than men), but especially when compared to the 2009-08 recession. Women also lead men when it comes to low-income rates, and finally, women are self-reporting mental health needs in greater proportions than men, with a greater likelihood of reporting their needs as unmet or only partially met.

Conclusion

The bottom line: How we can avert failure

Taking a step back and reflecting on our findings, our first thought is for our fellow Canadians who are experiencing challenges because of the COVID-19 pandemic. If you are facing any health, personal, financial, or mental health difficulties, we urge you to seek help. You'll find a number of links to valuable resources listed in the mental health section in the appendix.

Our second thought is about how shocking the results of our analysis are. When we embarked on this venture, we never envisioned finding such significant potential impacts of COVID-19 on people: up to a 2.6-fold increase in mental health-related visits to health professionals and up to a 20 percent increase in antidepressant prescriptions. Visits to health professionals could reach 10.7 million annually, up from 4.1 million in the latest available official data point.

Beyond the numbers, each affected individual lives through a personal drama. For our society, the sheer magnitude of the possible wave of mental health needs is overwhelming. If the public health crisis of COVID-19 took us by surprise, and the economic crisis disrupted us, let's make sure we are prepared to face the impending mental health crisis.

For **governments**, this means getting ready now. We believe governments should focus on enabling access to services through **connecting resources** and **using existing networks**, rather than by delivering mental health services directly to the public. There is a wide and experienced private network of mental health practitioners, some not-for-profit. There is no reason to duplicate this network, especially at a time when hospitals and general practitioner clinics are already under stress.

Governments can act as key intermediaries by facilitating the connection between mental health practitioners and patients. Whether it be on the internet, a help line, or an app, governments are uniquely placed to help people find resources. In areas where especially vulnerable populations live, where access to the internet, smartphones, and even just regular landlines may be more difficult, governments have networks on the ground to identify those most at risk and refer them to relevant services. However, schools, front-line service offices, hospitals, public health clinics, and other on-the-ground governmental offices will need resources and support in scaling that capacity, in both expertise and number of professionals.

In regard to scaling, governments should rapidly scale mental health support capacities in daycare as well as in schools. Behind each parent, there is at least one child who has been affected by the pandemic too: isolation from their extended family and friends, lost opportunities for schooling and socialization, and exposure to increased parental stress may leave children vulnerable or prone to adverse mental health outcomes. Daycares and schools should play a first-responder role in identifying those children most affected and providing them with immediate mental health supports, while the children wait for access to regular services.

For **existing mental health clinics**, being prepared for the impending crisis means enhancing services to acknowledge public health needs. Clinics that are allowed to open and haven't **readied their premises** to welcome patients in person should do so very soon. Not only will it help the clinic fulfill its role and answer client needs, it may also help the local economy. Clinics may also consider adopting or **accelerating their digital presence**, as the current situation has shown it is possible to meet a large share of mental health needs through digital channels such as videoconferencing and apps. Not only is this a cost-effective way to expand service, it will also contribute to addressing the potentially significant wave of mental health needs coming down the road.

For **insurers**, this may be the right time to review processes to more efficiently accommodate a larger number of transactions; for example, by **extending direct reimbursement** to mental health service providers. It may also be a good time to consider **streamlining costs and operations** to prepare for a larger-than-expected volume of claims for mental health services. Finally, there may be an opportunity to explore new insurance offerings that respond to niche needs.

Finally, for all **employers**, this means considering how to provide additional flexibility and support to their employees. This may start by acknowledging that not all employees navigate through the circumstances the same way: some may not feel comfortable to take public transit and show up at the office despite reopening of the economy, while others may have circumstances that make having a desk available at the office desirable. As such, it may require employers to **consider hybrid labour participation models**, where some employees keep working mostly remotely using digital tools and others

make it to the office more regularly, to the extent permitted by local bylaws. In the short term, it may require planning for and **investing in digital tools**, both hardware and software. Over time, this may become a more common business model that may provide opportunities to optimize the real estate footprint of some organizations.

For some employers, it may be an opportunity to **review the mix of employee benefits** and see how to better accommodate employees in this stressful period, sometimes by introducing flexible benefit options that respond different needs from employees at different stages in life. It may also be an opportunity to expand the breadth of mindfulness programs offered to employees in their benefits package, recognizing that benefits above and beyond mental health professional services help. Other opportunities for flexible support options may also arise. Providing low-to-no-cost academic tutors, online structured recreative or relaxation sessions and other services to employees' children, above and beyond coverage for mental health professional services, may prove useful in removing part of the stress faced by parents from balancing work and family obligations concurrently on a daily basis, over an extended period of time.

The current situation may even be an opportunity to **engage in a fruitful discussion with employees on the future of work**, work-life balance and the extent and nature of support for employees and their families within the organization. Given the unprecedented nature of this pandemic for those currently in the labour market, there is not a proven recipe or "cookie-cutter" approach to how to deal with the pandemic in the work environment. However, organizations that will be able to turn this lemon into lemonade by engaging in a positive and transparent discussion with their employees may benefit from it in the short and long term.

This report has demonstrated that the human impacts of COVID-19 have the potential to be significant and long-lasting. They may also be an additional burden on populations that are already vulnerable, with women being at the forefront. But there are actions that can be taken by governments, mental health service providers, and the broader health ecosystem to help them go through this crisis. It's now up to us to react ahead of time and prepare.



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Appendix

Mental health resources

If you are facing any personal, financial, or mental health challenges, know that there is help available to you. The resources listed below are a good starting point.

Note: this is not a comprehensive list of all the national support resources available to the general public.

National resources for support

Crisis support

Find a **crisis center** in your province or territory

Visit **Canadian Mental Health Association** to find your local CMHA office to access support and resources

Kids Help Phone visit online or call 1-800-668-6868 to speak to a counsellor

Transgender Crisis Line 1-877-330-6366

Suicide and Crisis Support 1.833.456.4566 (24/7/365) or text "Start" to 45645 (4pm-Midnight EST)

Non-crisis support

Visit **eMentalHeath.ca** to find resources, services, help and support in your community

Find a therapist in your local area

Find a psychologist in your local area

Visit **Greenspace** for virtual therapy and track your results online (Ontario residents only)

ConnexOntario to find services for drug and alcohol, gambling or mental health issues

Stress Strategies is a free online tool that uses practical, problem-solving methods to help identify and address the source of stress.

Plan for resilience and learn strategies to effectively deal with stress and unforeseen situations

Vulnerable populations

Jobs lost by industry and gender: 2008 financial crisis vs. COVID-19.

Unadjusted employment by industry (x1000)

	Nov-08 - Feb-09			Feb-20 - Apr-20		
	Job loss	% of total	% Male	Job loss	% of total	% Female
Total, all industries	(521)	100%	82%	(1,139)	100%	68%
Agriculture	(13)	3%	75%	14	-1%	32%
Forestry, fishing, mining, quarrying, oil and gas	(24)	5%	67%	(4)	0%	109%
Utilities	(1)	0%	38%	2	0%	NM
Construction	(195)	37%	92%	7	-1%	NM
Manufacturing	(157)	30%	66%	(68)	6%	80%
Goods-producing sector	(390)	75%	79%	(48)	4%	127%
Wholesale and retail trade	(69)	13%	26%	(194)	17%	68%
Transportation and warehousing	(9)	2%	NM	(94)	8%	2%
Finance, insurance, real estate, rental and leasing	9	-2%	NM	(3)	0%	NM
Professional, scientific, and technical services	(34)	7%	NM	(36)	3%	85%
Business, building, and other support services	(36)	7%	35%	(10)	1%	NM
Educational services	(6)	1%	NM	(158)	14%	71%
Health care and social assistance	29	-5%	NM	(85)	7%	71%
Information, culture, and recreation	(2)	0%	NM	(68)	6%	80%
Accommodation and food services	2	0%	NM	(342)	30%	58%
Other services (except public administration)	(15)	3%	NM	(113)	10%	63%
Public administration	0	0%	NM	12	-1%	67%
Services-producing sector	(132)	25%	91%	(1,091)	96%	65%

Source: Statistics Canada, Deloitte analysis.

Endnotes

Preface

- 1 Government of Canada. "Coronavirus disease (COVID-19): Outbreak update", <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html?topic>, Accessed on July 27, 2020.
- 2 Johns Hopkins University (JHU). "COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE)", <https://coronavirus.jhu.edu/map.html>, Accessed on July 27, 2020.
- 3 Statistics Canada. "Canadians' mental health during the COVID-19 pandemic", May 27, 2020, <https://www150.statcan.gc.ca/n1/daily-quotidien/200527/dq200527b-eng.htm>
- 4 Alvin Powell, "Feeling more anxious and stressed? You're not alone", *The Harvard Gazette*, April 16, 2020, <https://news.harvard.edu/gazette/story/2020/04/rising-mental-health-concerns-in-the-coronavirus-era/>
- 5 Emily A Holmes*, Rory C O'Connor*, V Hugh Perry, Irene Tracey, Simon Wessely, Louise Arseneault, Clive Ballard, Helen Christensen, Roxane Cohen Silver, Ian Everall, Tamsin Ford, Ann John, Thomas Kabir, Kate King, Ira Madan, Susan Michie, Andrew K Przybylski, Roz Shafran, Angela Sweeney, Carol M Worthman, Lucy Yardley, Katherine Cowan, Claire Cope, Matthew Hotopf, Ed Bullmore. "Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science", *Lancet Psychiatry*, April 15, 2020, [https://www.thelancet.com/pdfs/journals/lanpsy/PIIS2215-0366\(20\)30168-1.pdf](https://www.thelancet.com/pdfs/journals/lanpsy/PIIS2215-0366(20)30168-1.pdf)

Human impact of pandemics and natural disasters

- 6 A M Connolly, R L Salmon, B Lervy, D H Williams. "What are the complications of influenza and can they be prevented? Experience from the 1989 epidemic of H3N2 influenza A in general practice.", May 29, 1993, <https://www.bmj.com/content/306/6890/1452>
- 7 Centers for Disease Control and Prevention (CDC). "2009 H1N1 Pandemic (H1N1pdm09 virus)", <https://www.cdc.gov/flu/pandemic-resources/2009-h1n1-pandemic.html>
- 8 Richard D Smith, Marcus R Keogh-Brown, Tony Barnett, Joyce Tait. "The economy-wide impact of pandemic influenza on the UK: a computable general equilibrium modelling experiment", *BMJ*, November 20, 2009, <https://www.bmj.com/content/339/bmj.b4571>
- 9 Vincent Dubé. "Sidelined in the labour market", Statistics Canada, June 14, 2004, <https://www150.statcan.gc.ca/n1/en/catalogue/75-001-X200410413118>
- 10 Lidia Farré, Francesco Fasani, Mueller Hannes. "Feeling useless: The effect of unemployment on mental health in the Great Recession", *IZA Journal of Labor Economics*, 2018, <https://www.econstor.eu/bitstream/10419/195030/1/1046043102.pdf>
- 11 J. Caron, A.Liu. "A descriptive study of the prevalence of psychological distress and mental disorders in the Canadian population: comparison between low-income and non-low-income populations", *National Library of Medicine (NIH)*, June 30, 2010, <https://pubmed.ncbi.nlm.nih.gov/20609292/>
- 12 Martha Nussbaum. "CAPABILITIES AS FUNDAMENTAL ENTITLEMENTS: SEN AND SOCIAL JUSTICE", *Feminist Economists*, January 20, 2011, <https://www.tandfonline.com/doi/abs/10.1080/1354570022000077926>
- 13 BBC News. "Canada wildfire: 20% of Fort McMurray homes destroyed, says MP", May 8, 2016, <https://www.bbc.com/news/world-us-canada-3624449>
- 14 @RMWoodBuffalo. *Twitter post*, May 4, 2016, <https://twitter.com/rmwoodbuffalo/status/727897683940257792>
- 15 The Canadian-based Institute for Work & Health (2009).
- 16 Maja Andersson. "Psychological effects of LTU", *University of Skovde*, 2019.
- 17 M. Puerto López del Amo González, Vivian Benítez, José J. Martín-Martín. "Long term unemployment, income, poverty, and social public expenditure, and their relationship with self-perceived health in Spain (2007–2011)", *BMC Public Health*, January 15, 2018, <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-017-5004-2>
- 18 Lidia Farré, Francesco Fasani, Hannes Mueller. "Feeling useless: the effect of unemployment on mental health in the Great Recession", *IZA Journal of Labor Economics*, 2018, <https://izajole.springeropen.com/articles/10.1186/s40172-018-0068-5>
- 19 Emelie Thern, Jeroen de Munter, Tomas Hemmingsson, Finn Rasmussen. "Long-term effects of youth unemployment on mental health: does an economic crisis make a difference?", *BMJ*, May 26, 2020, <https://jech.bmj.com/content/71/4/344>

Identifying Canada's vulnerable populations

- 20 Statistics Canada. "Labour force characteristics by industry, monthly, unadjusted for seasonality (x 1,000)", <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410002201>
- 21 The data reported in this section comes from the Canadian Community Health Survey and consists of self-reported health statistics. While such statistics can be prone to selection and disclosure bias, with different patterns across gender and age groups, it still provides valuable insights into how different health conditions, including mental health conditions, influence different population segments in different ways.
- 22 Statistics Canada, <https://www150.statcan.gc.ca/n1/pub/45-28-0001/2020001/article/00047-eng.htm>



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