

Provisional death counts and excess mortality, January to August 2020

Released at 8:30 a.m. Eastern time in *The Daily*, Wednesday, October 28, 2020

In early 2020, COVID-19 began spreading across Canada, impacting communities and families throughout the country. During the first wave of the pandemic—from March to June—there were more than 7,000 excess deaths across Canada. Although the total number of weekly deaths returned to ranges that would be expected had there not been a pandemic by July, the number of deaths attributable to COVID-19 began to trend upward again in early fall. The number of cases reported by the Public Health Agency of Canada for the first 7 days of October alone (244 deaths) was higher than the monthly totals reported in August (191) and September (171).

Today, as part of Statistics Canada's commitment to provide timely and relevant information on COVID-19 and its impact on Canadians, an updated provisional dataset from the Canadian Vital Statistics Death Database covering the period from March to the end of August is now available. While these data are provisional (i.e., they include only deaths occurring over the reference period that have been reported to Statistics Canada by the provinces and territories), they provide an important benchmark for understanding the potential impacts of the resurgence of the COVID-19 pandemic on communities across Canada.

What have we learned about COVID-19 death data from the first wave of the pandemic?

Since the onset of the pandemic, surveillance figures reported by the provincial and territorial health authorities have provided a timely snapshot of deaths attributable to COVID-19. These results are based on confirmed cases of the virus causing COVID-19, which means they may not always include cases where someone died of COVID-19 before getting tested.

Since May, Statistics Canada has been releasing provisional figures on excess mortality and causes of death, including deaths attributed to COVID-19. As Canada experiences a resurgence of COVID-19 cases, these results can be used to better understand the nature of timely surveillance data and what they imply for excess mortality in the country.

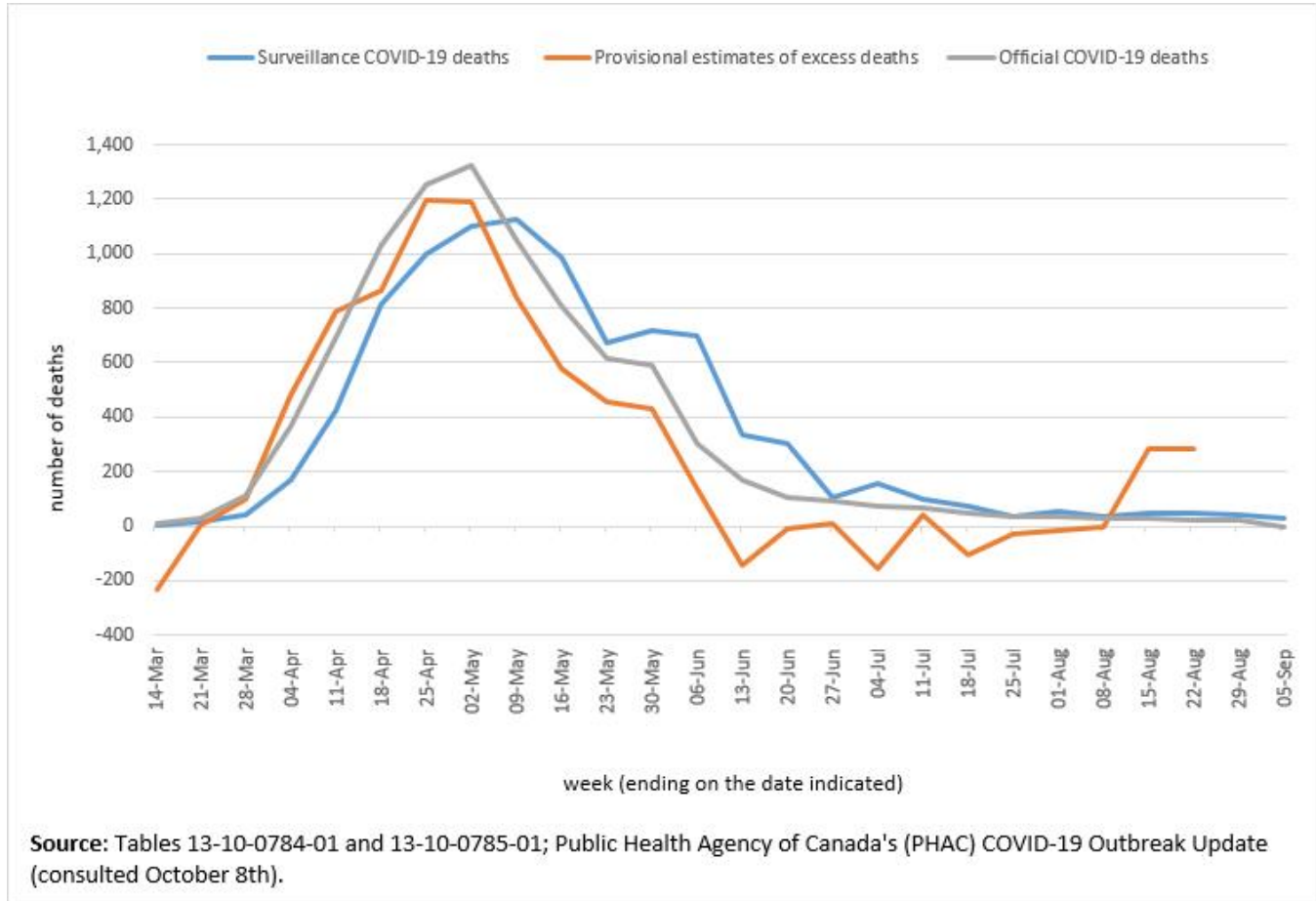
The number of deaths attributed to COVID-19 by public health authorities is comparable to official death statistics

Despite differences in how the data are collected, results from the first wave of the pandemic indicate that surveillance figures from public health authorities are comparable to provisional counts of deaths attributable to COVID-19 from the Canadian Vital Statistics Death Database—the official source of data on deaths in Canada. The weekly trend was similar for both data sources, with the greatest proportion of COVID-19 deaths occurring in April and May, followed by a significant decrease in the summer months. Overall, provincial and territorial vital statistics offices have reported 8,145 deaths attributed to COVID-19 from March to June, about 5% more than the surveillance figures (7,755) reported for the same period. As more deaths are reported by the provincial and territorial vital statistics offices, this gap may increase.

There are some notable differences between the data sources that help explain why the number of deaths being reported differs. First, unlike official death statistics, which include both confirmed and probable cases of COVID-19, surveillance figures may be restricted to confirmed cases only. For example, the number of COVID-19 deaths reported by Public Health Ontario includes only individuals who died after receiving a positive COVID-19 test. This means that surveillance data may not always include cases where someone died of COVID-19 before getting tested. This difference helps explain why the provisional figures from vital statistics are higher for the first wave. In addition as seen in Infographic 1, the surveillance results seem to peak slightly later than the official death counts, which could reflect differences in how provincial and territorial health authorities report the date of death.

Surveillance data reported by provincial and territorial health authorities provide a timely snapshot of the death toll as a result of COVID-19 in Canada. While they may not always include those who died prior to getting tested for the virus causing COVID-19, they are within 5% of the provisional death figures reported by vital statistics offices.

Infographic 1 – Official weekly number of COVID-19 deaths, surveillance number of COVID-19 deaths and provisional estimates of excess deaths, Canada



Excess mortality in the first wave of the pandemic aligns with deaths attributable to COVID-19

Excess mortality, which occurs when there are more deaths during a period of time than what would normally be expected is an important measure in understanding both the direct and indirect effects of the COVID-19 pandemic. While the direct effects include deaths attributable to COVID-19, the indirect effects relate to measures put in place to address the pandemic. These measures could cause increases or decreases in mortality, such as missed or delayed medical interventions, fewer traffic-related incidents, and other possible changes in behaviour such as increased substance use.

Provisional results from the first wave indicate that weekly deaths attributable to COVID-19, according to official death statistics and surveillance figures at the national level, align closely with the provisional estimates of excess mortality which indicates that excess deaths in Canada over this period were largely driven by COVID-19. However, it should be noted that some excess deaths over this period could still be the result of indirect impacts of the pandemic or other causes not linked directly to the pandemic.

Overall, if the similarities between public health surveillance figures and official death data persist through the resurgence of cases, Canada will likely experience an increase in excess deaths in October.

Deaths attributable to COVID-19 have affected certain communities in Canada disproportionately

Today, Statistics Canada is also releasing the article ["COVID-19 mortality rates in Canada's ethno-cultural neighbourhoods."](#)

This study found that COVID-19 mortality rates were higher during the first wave of the pandemic in Canadian neighbourhoods characterized by higher proportions of population groups designated as visible minorities.

In Quebec and Ontario, for example, the age-standardized mortality rate in neighbourhoods with the highest proportions of population groups designated as visible minorities was more than three times higher than that of neighbourhoods with the lowest proportions of population groups designated as visible minorities.

These patterns also applied to specific population groups. In Montréal, the higher the proportion of Black Canadians in a neighbourhood's population, the higher the COVID-19 mortality rate. In Toronto, similar results were observed for South-Asian Canadians.

Note to readers

The data released today are provisional as they are not based on all deaths that occurred during the reference period because of reporting delays, and do not include Yukon. Provisional death estimates have been adjusted to account for incomplete data, where possible. The numbers of excess deaths discussed in this analysis refer to provisional estimates. Information on the methods used can be found in the Definitions, data sources and methods section of Survey 3233— [Vital Statistics - Death Database](#).

The provisional death counts and estimates released today for the first 36 weeks of 2020 may not match figures from other sources (e.g., media reports) or counts and estimates from provincial or territorial health authorities and other agencies.

Provisional selected grouped causes of death for the first eight months of 2020 are being released for the following reporting provinces and territories: Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Alberta, British Columbia, Northwest Territories, and Nunavut. Causes of death for the first seven months of 2020 for Ontario, Manitoba, Saskatchewan and Canada are also being released. Provisional estimates for the first 36 weeks of 2020 are being released for the following reporting provinces and territories: Newfoundland and Labrador, Prince Edward Island, Nova Scotia, Quebec, Alberta, British Columbia, and Northwest Territories. Provisional death estimates for the first 28 weeks of 2020 in New Brunswick, 25 weeks in Nunavut, 31 weeks in Ontario and 34 weeks in Canada are also being released. In addition, data were suppressed for the weeks ending August 29, 2020, and September 5, 2020, for Manitoba and for the week ending September 5, 2020, for Saskatchewan.

References to the first wave and to the period from the end of March to June refer to the period from the week ending March 28 to the week ending June 6.

The number of deaths in Canada attributable to COVID-19 for the first 10 days of October come from Public Health Agency of Canada's (PHAC) COVID-19 Outbreak Update (consulted October 8th). These data were reported to the PHAC from the provincial and territorial health authorities. For the most recent information, please refer to the PHAC's [website](#).

Data on deaths due to COVID-19 from the PHAC website were collected for surveillance purposes. These data may be based on confirmed cases of the virus causing COVID-19 only, which means that they may not always include cases where someone died of COVID-19 before getting tested. In addition, surveillance figures may be based on the date the death was reported rather than the date the death occurred. Lastly, these figures may include deaths where COVID-19 was found to be a contributing cause of death, as well as deaths where COVID-19 was found to be the underlying cause of death.

Information on COVID-19-related surveillance data reported by the provinces and territories can be found here: [Provincial and territorial resources for COVID-19](#).

The Canadian Vital Statistics Death database is the authoritative source for death information in Canada, as it includes all registered deaths and the causes of death have been certified by a medical professional, coroner or medical examiner. In the case of COVID-19, distinctions are made between confirmed or probable cause of death attributable to COVID-19. In addition, although these COVID-19 death statistics include deaths where COVID-19 was found to be the underlying cause of death, it is also possible for a person to have died of another disease (found to be the underlying cause of death) while having COVID-19. In these circumstances, COVID-19 is included as part of the multiple causes of death.

To facilitate the identification of trends in the number of weekly deaths by age group and sex, and by province and territory, an interactive visual tool is available: [Weekly death counts: Interactive tool](#).

More information on excess mortality during the COVID-19 pandemic in Canada is available in the article: [Excess mortality in Canada during the COVID-19 pandemic](#).

Available tables: [13-10-0768-01](#) and [13-10-0783-01](#) to [13-10-0785-01](#) .

Definitions, data sources and methods: survey number [3233](#).

To facilitate the identification of trends in excess deaths by province and territory, an interactive visual tool is available: [Weekly adjusted number of deaths, expected number of deaths and estimates of excess mortality: Interactive tool](#).

More information about deaths attributed to COVID-19 in Canada is available in the article "[COVID-19 mortality rates in Canada's ethno-cultural neighbourhoods](#)," released today as part of the publication *StatCan COVID-19: Data to Insights for a Better Canada* ([45280001](#)).

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; STATCAN.infostats-infostats.STATCAN@canada.ca) or Media Relations (613-951-4636; STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca).