

Provisional death counts and excess mortality, January 2019 to June 2020

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COVID-19 has had and continues to have a clear impact on communities and families across the country and many have lost family members and friends. To understand both the direct and indirect effects of the pandemic, it is important to measure excess mortality, which occurs when there are more deaths during a period of time than what would be expected for that period. It should be noted that, even without a pandemic, there is always some variation in the number of people who die in a given week from year to year. This means that what might be expected would mostly fall within a certain range of values.

Varying levels of excess mortality were observed across Canada from March to June 2020. Excess mortality was similar for both sexes, but occurred disproportionately among those older than 85.

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 is now available.

Previous releases focused on the counts reported by the provinces and territories, which do not include all deaths that occurred over the reference period because of reporting delays. Today, for the first time, Statistics Canada is releasing provisional death estimates, which have been adjusted to account for the incomplete nature of the counts, where possible. These adjustments add to the counts to incorporate deaths not yet reported to Statistics Canada, based on past and current provincial and territorial reporting patterns. The provisional estimates will be revised in future releases as more information is reported.

In the first two months of the pandemic, there were more excess deaths than what was reportedly attributable to COVID-19 according to new provisional death estimates

Across Canada, there were more deaths than what would have been expected, if there was no pandemic, from March to April, the period before the number of deaths attributed to COVID-19 hit their peak. Although this trend was largely in line with the reported numbers of deaths attributable to the virus, additional excess deaths were also observed. These could be the result of indirect impacts of the pandemic, such as missed medical appointments or treatments, or cases—especially early in the pandemic—where individuals may have died from the virus prior to getting tested or treated. In addition, this increase in deaths could be attributed to factors unrelated to COVID-19. For example, in Quebec, there were 2,636 more deaths than expected from March to April—504 more than the 2,132 deaths attributed to COVID-19 during this period.

This pattern was also apparent in British Columbia, which had significant excess deaths over this period. In British Columbia, health authorities reported 104 deaths attributable to COVID-19 from March to April, compared with 336 excess deaths. This suggests that there were 232 more excess deaths over this period than deaths attributed to the virus itself. In addition to the direct and indirect impacts of COVID-19, other factors in British Columbia, including the lower-than-expected number of deaths in the period preceding the pandemic, could also have had an effect on these additional excess deaths.

While Statistics Canada does not yet have sufficient data for provisional death estimates for Ontario, the information reported by the province so far indicates that the province experienced excess mortality throughout the month of April.

Over the first months of the pandemic, COVID-19 ranked among the leading causes of death in Canada and, in particular, caused more deaths in Quebec in April and May than any other cause, including cancer and heart disease. In British Columbia, COVID-19 caused more deaths in April than some leading causes of death, including Alzheimer's, influenza and pneumonia, and liver and kidney diseases.



Since the beginning of May, the number of deaths has declined to expected levels

Across Canada, the number of deaths fell from May to June, returning to levels that would have been expected had there not been a pandemic. For some jurisdictions, over this period, the number of reported deaths attributable to the virus surpassed the number of excess deaths.

For example, in Quebec, there were 1,837 more deaths than expected from May to June—less than the 2,834 attributed directly to COVID-19 by health authorities. One possible explanation for this difference could be the result of the first wave of the virus disproportionately affecting vulnerable populations, some of whom were likely at a high risk of dying in the subsequent months regardless of a pandemic.

Most provinces and territories have had no clear evidence of excess mortality because of the COVID-19 pandemic

While Alberta has posted a higher number of deaths in most weeks in 2020 than in previous years, this pattern pre-dated the pandemic. While 145 deaths have been attributed to COVID-19 in the province from March to June, they have not led to a total number of weekly deaths beyond the range of what would have been expected if there was no pandemic.

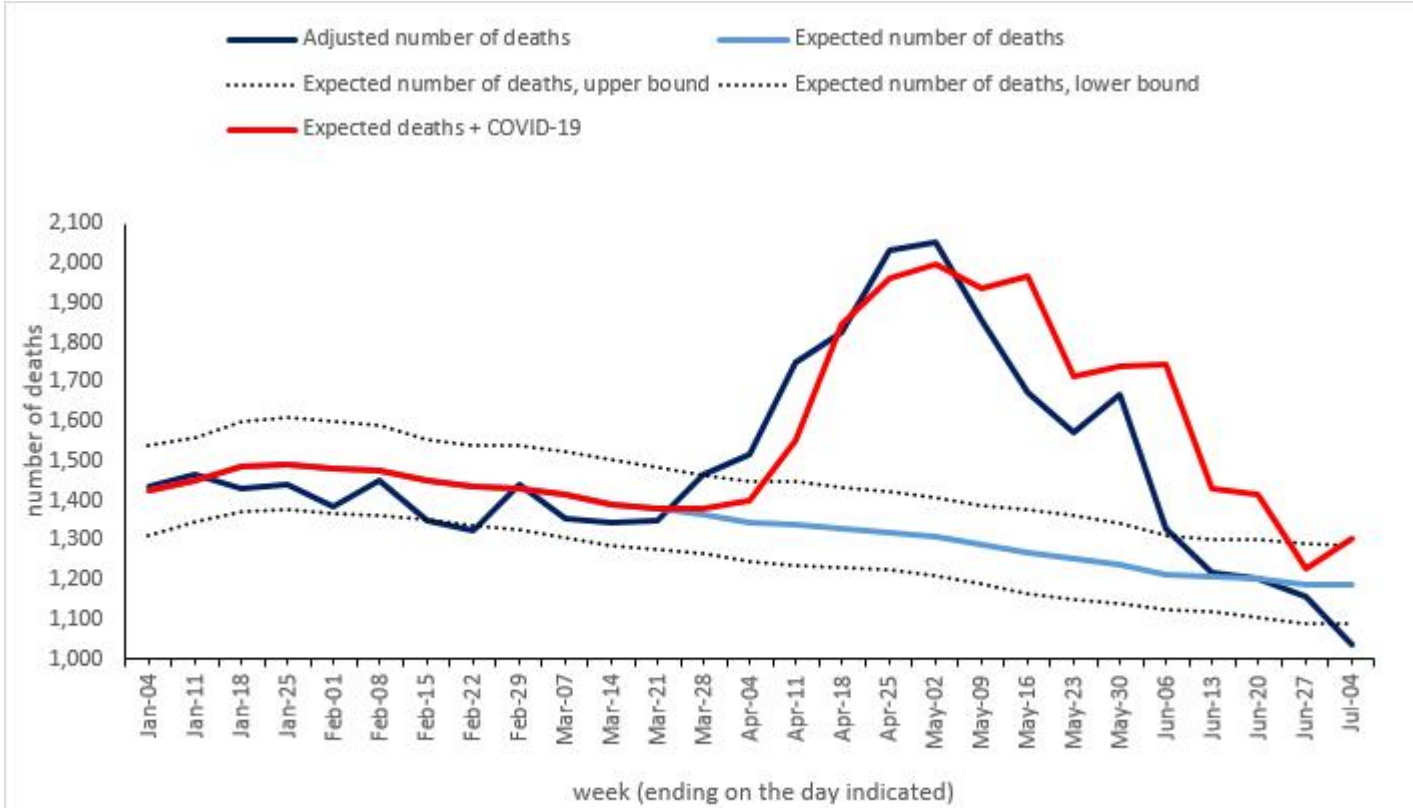
In Nova Scotia, during the week ending April 25, there were 37 excess deaths beyond the expected range. However, while this may have been driven in part by the 15 deaths reportedly caused by the virus that week, it would also have been affected by the lives lost in the mass shooting that took place on April 18 and 19. The remaining weekly figures are all within the range of what would be expected.

According to the provisional estimates, Manitoba, Saskatchewan and the Northwest Territories each experienced single weeks of excess deaths from March to June. However, this did not continue over multiple weeks, and it is expected that the number of weekly deaths will occasionally fall outside the expected range regardless of excess mortality.

For the other reporting provinces and territories—Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, and Nunavut—there was no clear evidence of excess mortality, i.e., the number of weekly deaths reported in those jurisdictions is within the range of what would be expected if there was no pandemic.

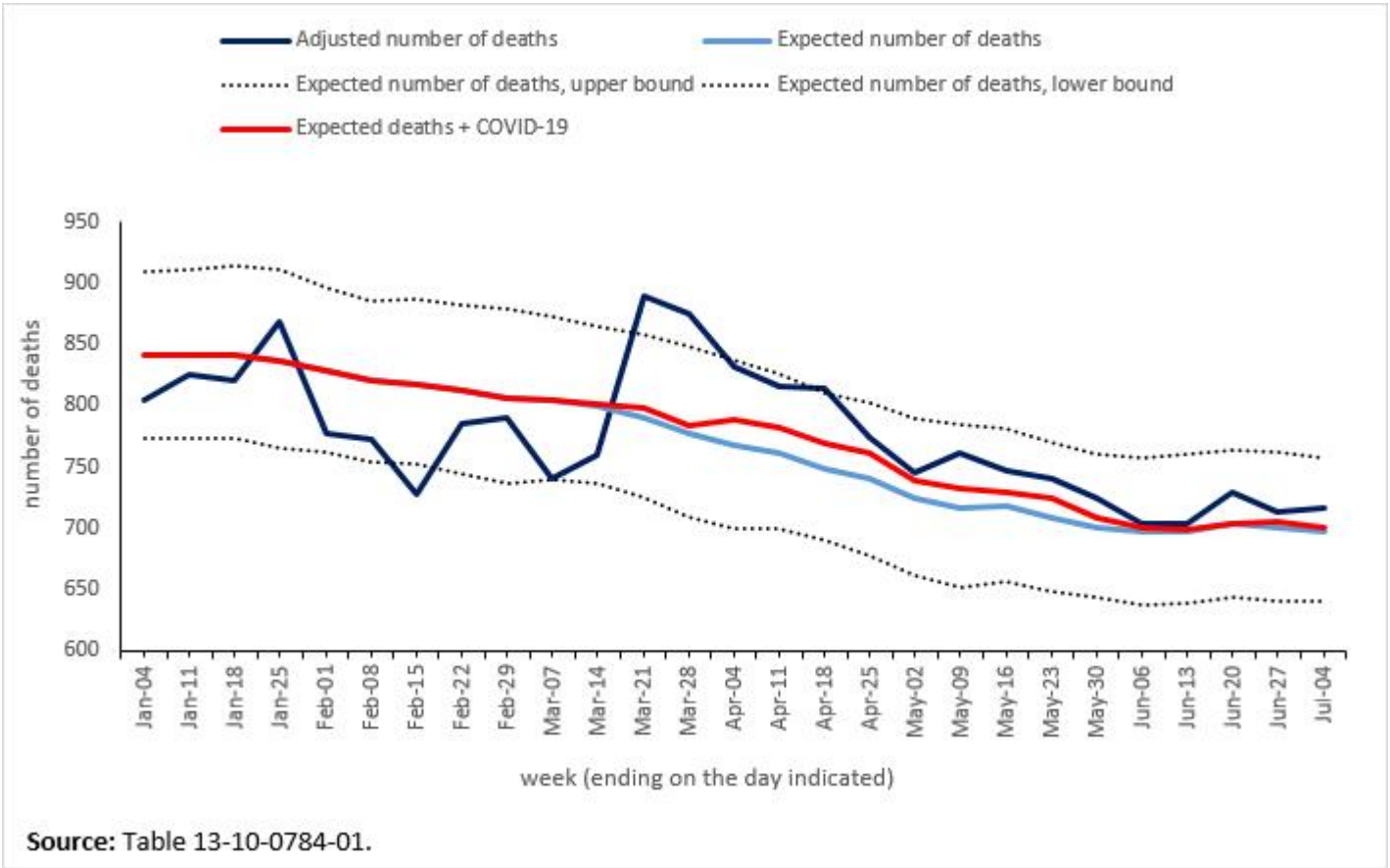
Statistics Canada will continue to provide timely information on a regular basis on excess deaths as that information becomes available throughout the pandemic.

Infographic 1 – Provisional adjusted weekly number of deaths, expected number of deaths and COVID-19-related deaths, Quebec

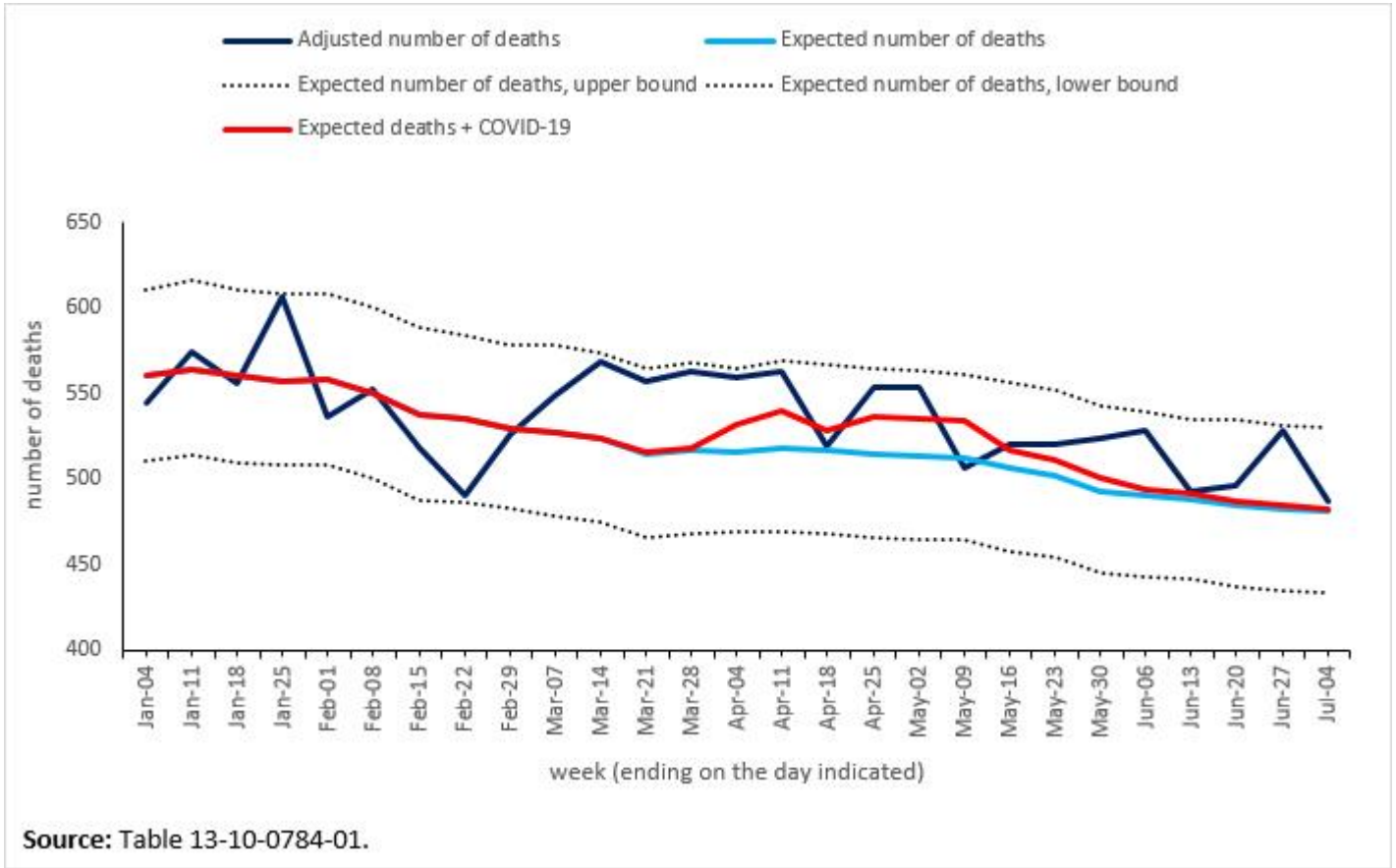


Source: Table 13-10-0784-01.

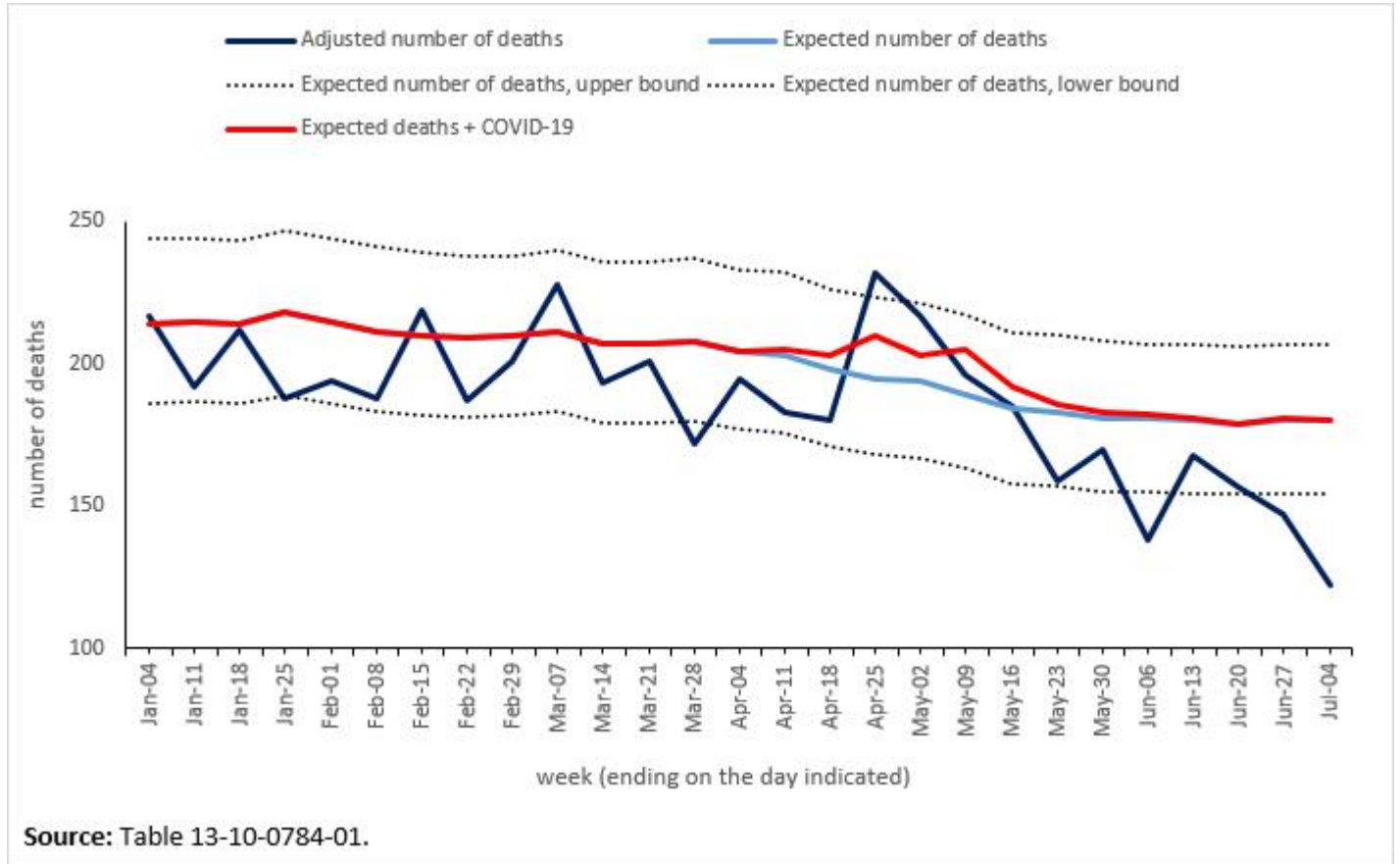
Infographic 2 – Provisional adjusted weekly number of deaths, expected number of deaths and COVID-19-related deaths, British Columbia



Infographic 3 – Provisional adjusted weekly number of deaths, expected number of deaths and COVID-19-related deaths, Alberta



Infographic 4 – Provisional adjusted weekly number of deaths, expected number of deaths and COVID-19-related deaths, Nova Scotia



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 they do not include Yukon. Provisional death counts are based on what is reported to Statistics Canada by the provincial and territorial vital statistics registries. 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. More information on these models and the Vital Statistics Death Database 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 27 weeks of 2020 may not match figures from other sources, such as media reports, or counts and estimates from provincial or territorial health authorities and other agencies. The provisional death counts and estimates will be revised in future releases as provincial reporting increases.

Provisional death counts and estimates for the first 27 weeks of 2020 are being released for the following reporting provinces and territories: Newfoundland and Labrador, Prince Edward Island, Nova Scotia, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia, and the Northwest Territories. Provisional death counts for the first 27 weeks of the year for New Brunswick, Ontario and Nunavut are also being released. Provisional select grouped causes of death for the first six months of 2020 are being released for all provinces and territories, except Yukon.

References to the period between March and June refer to the period from the week ending March 28 to the week ending June 6. References to the period from March to the end of April refer to the period from the week ending March 28 to the week ending May 2. References to the period from May to the start of June refer to the period from the week ending May 9 to the week ending June 6.

The number of deaths in Canada attributed to COVID-19 as of July 4 comes from the Public Health Agency of Canada's COVID-19 Outbreak Update (consulted August 17). For the most up-to-date information, visit the [Public Health Agency of Canada website](#).

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](#).

COVID-19 death information reported by the Public Health Agency of Canada is based on data submitted by provincial and territorial authorities. There may be some differences in regards to how provinces and territories report the date of death. This date may refer to the actual date of death or the date when the death was recorded by the jurisdiction. The authoritative source for causes of death will be the Canadian Vital Statistics Database as the data become available.

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

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

More information about excess mortality during the COVID-19 pandemic in Canada is available in the article "[Excess mortality in Canada during the COVID-19 Pandemic](#)," 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).