

# Provisional death counts and excess mortality, January 2019 to May 2020

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COVID-19 has caused the death of more than 8,000 people in Canada affecting communities and families across the country. Beyond deaths attributed to the virus itself, the pandemic could also have indirect consequences that increase the number of deaths due to various factors including delayed medical procedures.

To understand both the direct and indirect impact of the pandemic on deaths in Canada, it is important to measure excess mortality—which occurs when there are more deaths during a period of time than what would be expected or are typical for that period.

Varying levels of excess mortality were observed in British Columbia, Alberta, Ontario, and Quebec in April and May, the height of the COVID-19 pandemic in Canada.

These observations are based on an updated provisional dataset from the Canadian Vital Statistics Death Database being released today as part of Statistics Canada's commitment to provide timely and relevant information on COVID-19 and its impact on Canadians. Statistics Canada's capacity to provide useful information depends on its ability to receive information from the provinces and territories. The data released today are provisional as they do not include all deaths that occurred during the reference period, and do not include Yukon.

Even without a crisis, such as the COVID-19 pandemic, there is always some variation in the number of people who die in a given week from year to year. Excess mortality would occur when the number of reported weekly deaths is beyond the range of this typical variation. While excess mortality can be examined in various ways, this analysis focuses on instances where the number of people who died in a given week in 2020 was higher than the number of deaths for that same week in each of the five previous years.

## Varying levels of excess mortality observed in British Columbia, Alberta, Ontario, and Quebec

British Columbia, Alberta, Ontario, and Quebec all recorded some degree of excess mortality in the weeks since March 11, when the World Health Organization declared COVID-19 a pandemic. Excess mortality was observed for both sexes and appears to disproportionately affect those over the age of 85.

For 8 of the 12 reporting provinces and territories—Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, the Northwest Territories and Nunavut—there was no clear evidence of excess mortality over the same period. That is to say that the number of reported weekly deaths in those jurisdictions was within the range of previous annual figures.

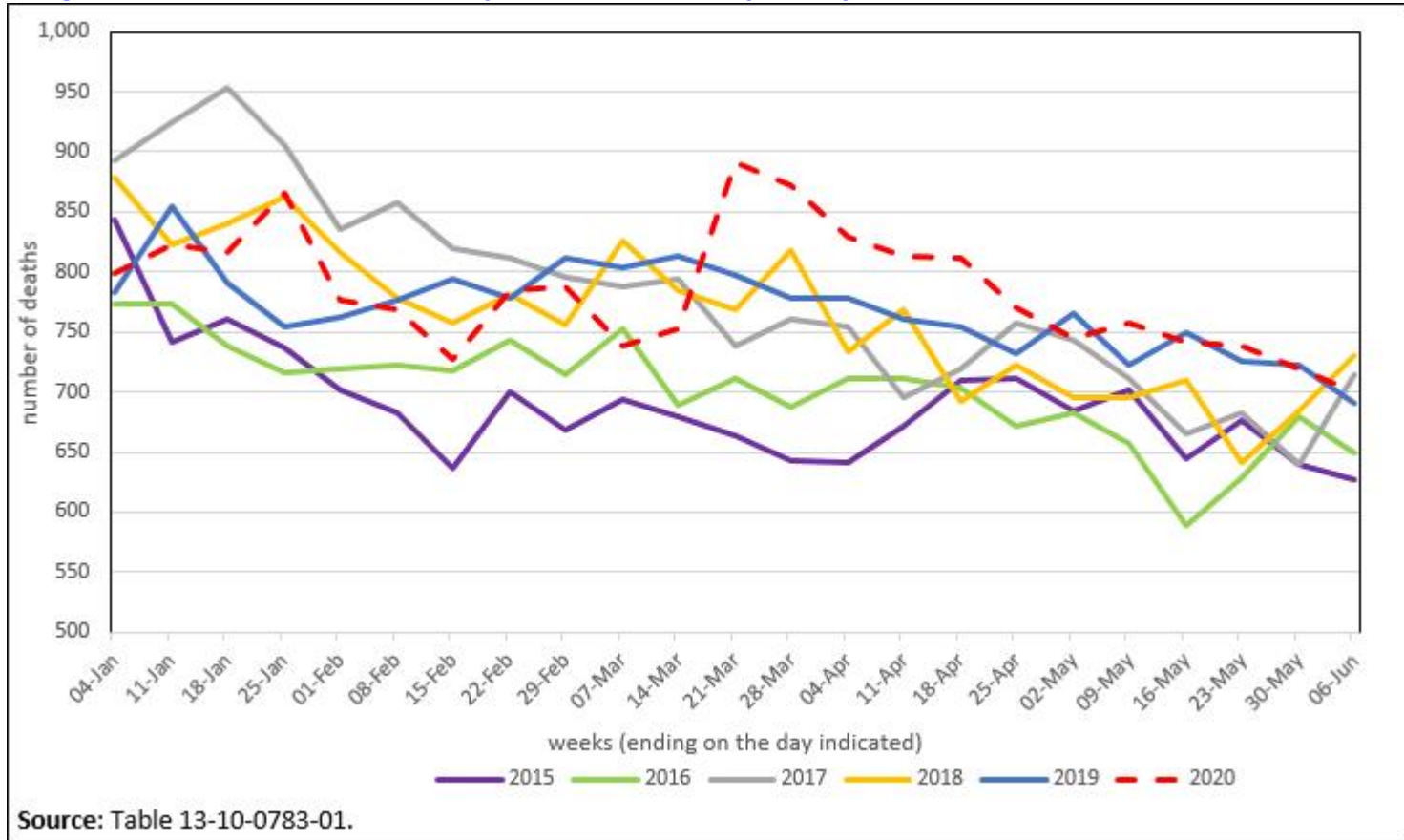
## In British Columbia, after several weeks of excess mortality in April, deaths in May returned to levels consistent with previous years

In British Columbia, excess mortality was observed for a six-week period beginning in mid-March. Over this period, there were 386 more deaths than in any of the previous five years for those same weeks.

According to publically available figures, British Columbia reported 99 deaths attributed to COVID-19 over the same six-week period. This suggests that there were more excess deaths over this period than reported deaths due to COVID-19.

By the beginning of May, the number of observed deaths had declined to similar numbers from previous years. A decrease in the number of COVID-19 deaths was also observed during this period.

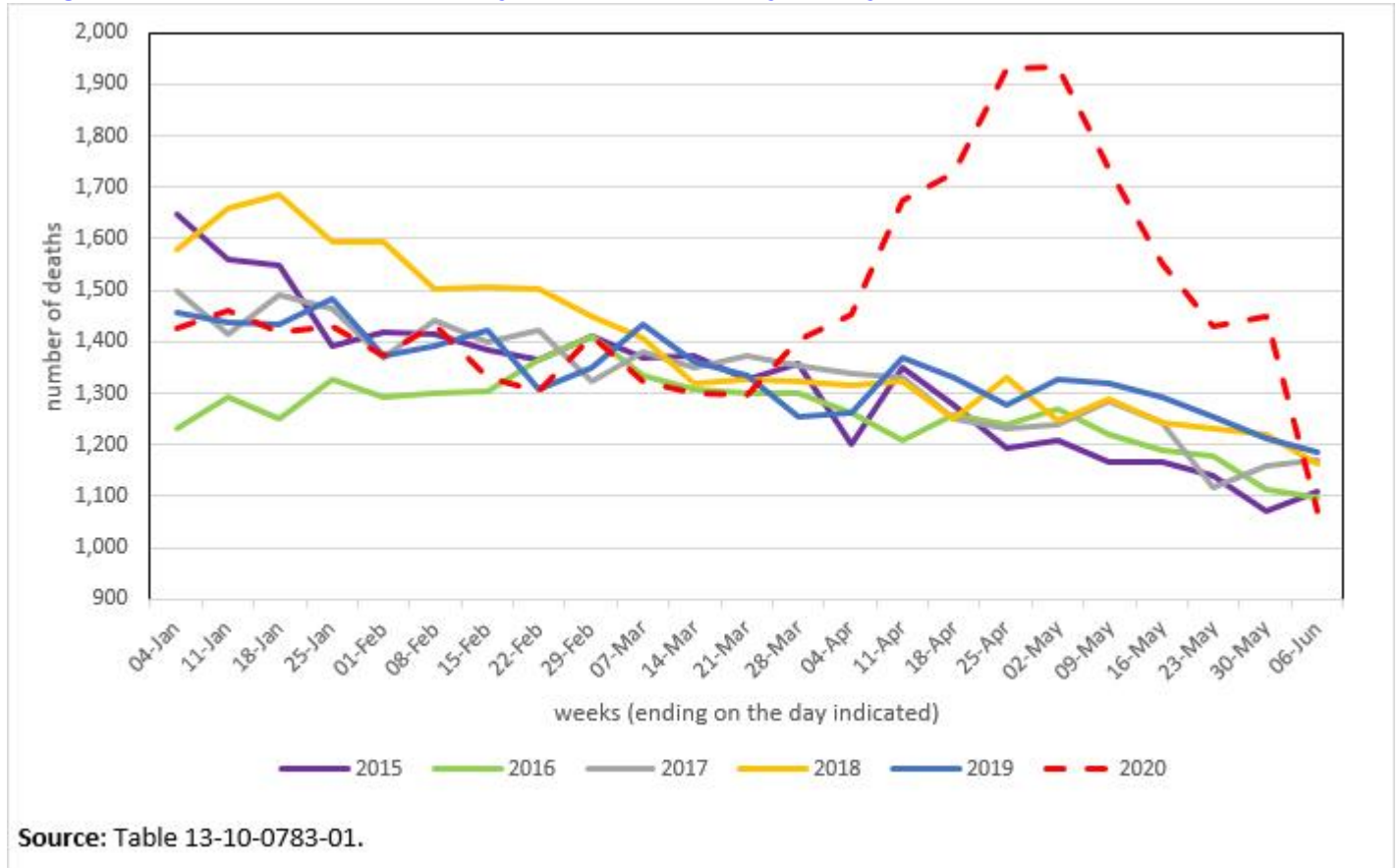
**Infographic 1 – Number of deaths by week from January to May, British Columbia, 2015 to 2020**



**In Quebec, excess mortality reached its peak in early May**

In Quebec, excess mortality was observed for 10 consecutive weeks, starting at the end of March. Over that period, there were 3,384 more deaths in 2020 than in any of the previous five years. There were 4,435 deaths attributed to COVID-19 over this same 10-week period, according to reporting from the Public Health Agency of Canada (PHAC). It is important to note that the provisional death data are not complete due to reporting delays. The apparent sharp decline in excess deaths between the last two weeks (ending June 6, 2020) is most likely due to the greater delays in reporting of deaths for more recent periods. The observed number of deaths for this period will increase as more data are reported from Quebec.

**Infographic 2 – Number of deaths by week from January to May, Quebec, 2015 to 2020**

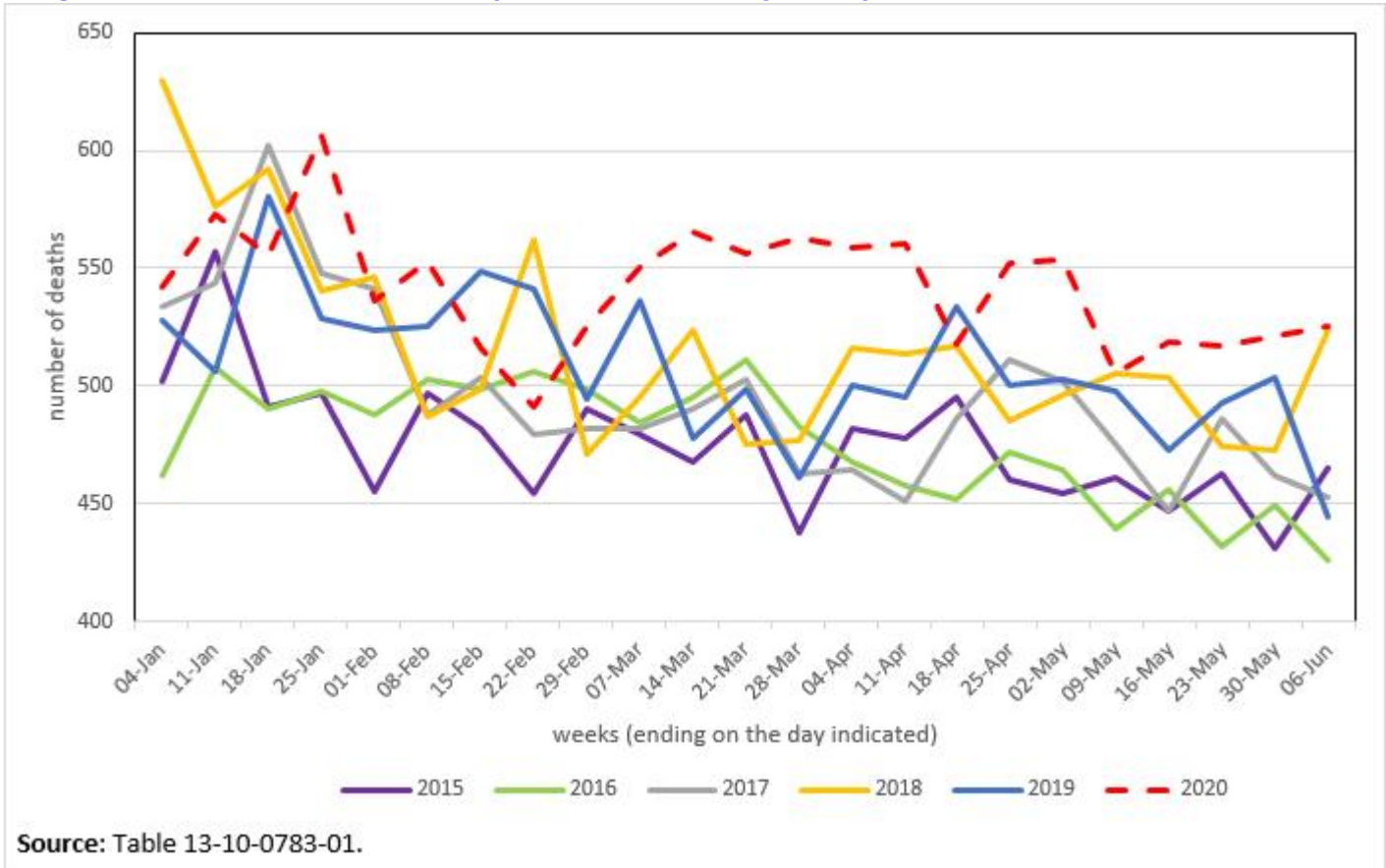


Source: Table 13-10-0783-01.

**In Alberta, the number of deaths is higher in March, April and May than in previous years**

From the last week of February to the end of May, with the exception of two weeks, the weekly number of deaths in Alberta was above the figures for each of the previous five years. Over this period, there were 8,089 deaths, 639 more than the highest number recorded over the last five years. By comparison, the PHAC reported 146 deaths due to COVID-19 over this 15-week period, which would account for less than one-quarter of the excess mortality observed during that period. This suggests that some of the excess mortality observed during the pandemic period could reflect other factors, such as changes in population composition or increases in the number of deaths due to other causes.

Infographic 3 – Number of deaths by week from January to May, Alberta, 2015 to 2020



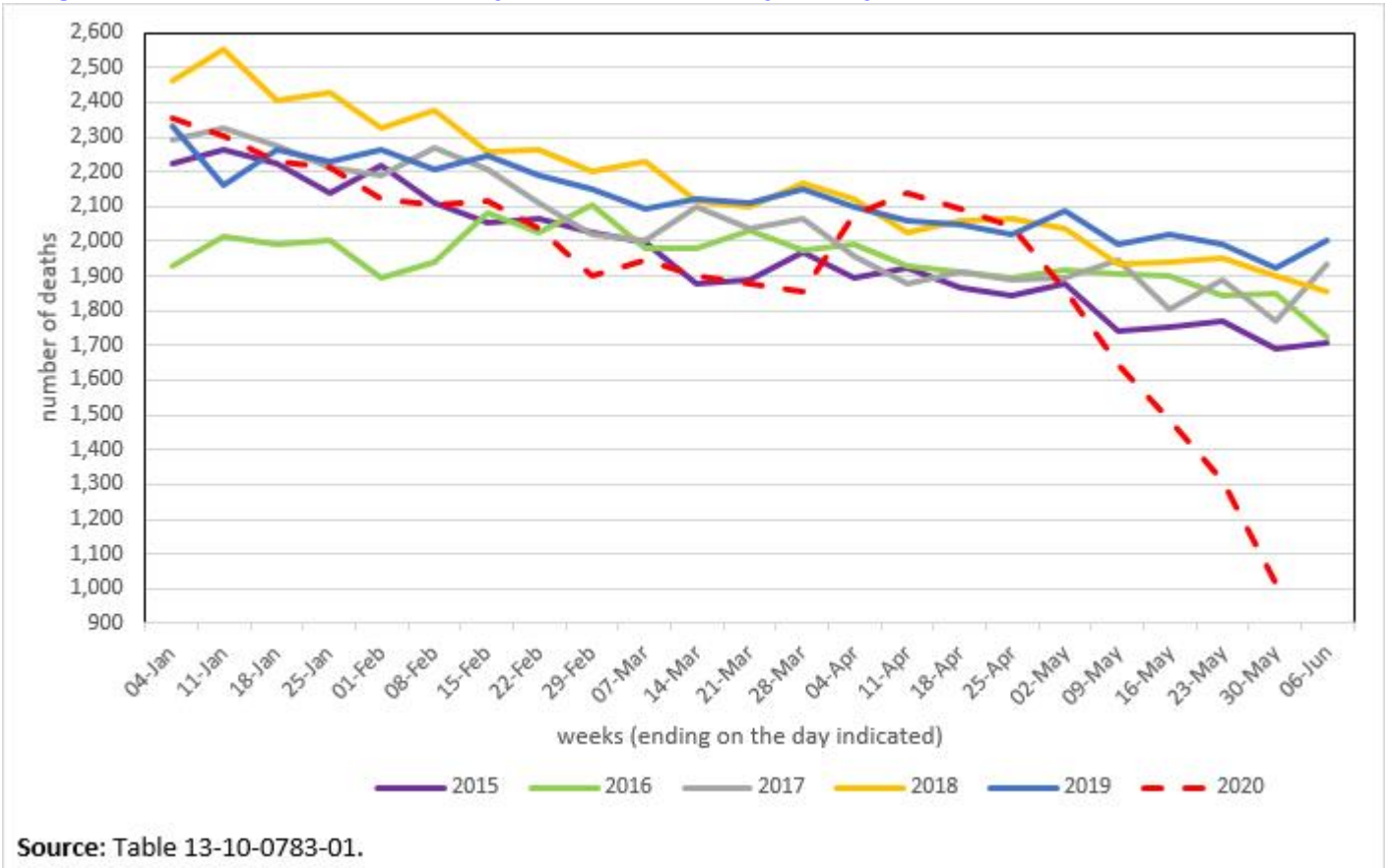
### Ontario shows signs of excess mortality during the pandemic

From the beginning of the pandemic to the first week of June, Ontario had more reported deaths due to COVID-19 (2,407) than any other province except Quebec (4,970) according to the PHAC. Given this, it would be expected that there would be excess mortality over that period of time.

The provisional death data reported by Ontario to date are not yet fully complete, but there are early indications of excess mortality in mid-April.

The observed decline in the number of deaths starting in mid-April is consistent with reporting delays affecting the provisional death counts in Ontario.

Infographic 4 – Number of deaths by week from January to May, Ontario, 2015 to 2020



Source: Table 13-10-0783-01.

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

### Note to readers

The provisional death counts released today for the first 23 weeks of 2020 may not match counts from other sources, such as media reports, or counts and estimates from provincial or territorial health authorities and other agencies. Provisional death information will be updated as it becomes available.

Data for the first 23 weeks of 2020 are being released for the following reporting provinces and territories: Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Manitoba, Saskatchewan, Alberta, British Columbia, Northwest Territories and Nunavut. The data also include deaths occurring in Ontario up to May 30, 2020.

There are a number of ways to measure excess mortality. Following consultation with experts, this analysis takes a conservative approach where the number of people who died in a given period in 2020 is compared with the maximum number of deaths that occurred in the same period over the previous five years. Further analysis based on other approaches, such as comparing with five-year averages or by age and sex, is also possible with the data released today. As more data become available, Statistics Canada will continue to enhance its understanding of excess deaths.

The number of deaths in Canada related to COVID-19 as of June 6 comes from the Public Health Agency of Canada's COVID-19 Outbreak Update (consulted July 10). For the most recent information, please refer to the [Public Health Agency of Canada website](#).

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

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

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

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](mailto:STATCAN.infostats-infostats.STATCAN@canada.ca)) or Media Relations (613-951-4636; [STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca](mailto:STATCAN.mediahotline-ligneinfomedias.STATCAN@canada.ca)).