

# Deaths, 2020

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The COVID-19 pandemic continues to have an appreciable impact on the lives of Canadians. In its commitment to keep Canadians informed of the effects of the pandemic, Statistics Canada has been releasing and updating provisional figures on mortality on a monthly basis with the most recent information available. The most recent provisional data were released on January 10, 2022, covering the period ending November 6, 2021. Today, Statistics Canada is releasing more comprehensive insights on deaths that occurred in 2020, the year in which the pandemic began.

There were 307,205 deaths in Canada in 2020, the year in which the COVID-19 pandemic began, an increase of 21,935 (+7.7%) over the 285,270 deaths observed in 2019. While some year-to-year increase in the number of deaths is expected due to the growth and aging of the population, the pandemic has had a significant impact on mortality in Canada, contributing to the largest annual decline in life expectancy since the vital statistics registration system was introduced in 1921. COVID-19 became the third leading cause of death, with the loss of 16,151 Canadian lives attributed directly to the disease in 2020. Beyond deaths attributed to COVID-19 itself, the pandemic may have also had indirect consequences that increased or decreased the number of other deaths across Canada.

Statistics Canada will continue to update, on a monthly basis, more recent data on deaths, causes of death and comorbidities as these data become available, in order to keep Canadians informed.

## **Life expectancy fell by more than half a year in 2020, the largest single-year decline in Canada since national vital statistics started to be collected in 1921**

Nationally, life expectancy, estimated on an annual basis, was 81.7 years in 2020, a decline of 0.6 years compared with the figure in 2019 (82.3). This was the largest annual decrease ever observed in Canada since 1921, the year that the vital statistics system was introduced. This decrease was greater for males (0.7 years) than for females (0.4 years).

Across Canada, the largest declines were observed in Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. Similar to the national trend, the decrease was generally greater for males than females, with the exception of Quebec. On the other hand, in British Columbia, life expectancy for females remained relatively stable.

## **The COVID-19 pandemic played an important role in the life expectancy decline in 2020**

In Canada, as in most other countries around the world, life expectancy tends to increase over time. The decline observed from 2019 to 2020 is primarily linked to the COVID-19 pandemic, which started to hit the country in 2020.

In a recent study, the direct impact of COVID-19 deaths on life expectancy at birth in 2020 was estimated at -0.4 years for both men and women.

The observed decrease (-0.6 years) is greater, given that it considers all causes of death, not only those associated with COVID-19. For example, the increases in deaths associated with substance-related harms observed in 2020 may also have contributed to reducing life expectancy at birth.

Despite the observed decline, life expectancy in Canada in 2020 remained among the highest in the world. Some countries such as Spain, Italy or the United States have seen a greater impact on life expectancy from the pandemic, with declines in life expectancy at birth of the order of -1.5 years. Conversely, some countries, such as Norway, Denmark and Finland, saw their life expectancy remain stable or even increase in 2020, despite the pandemic.



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## Mortality rates increased in most age groups

The overall decrease in life expectancy in Canada coincided with increased mortality rates for most age groups. Of particular note, mortality rates in 2020 among those aged 25 to 39 years were the highest observed in over 20 years. For those under the age of 15, the mortality rates are less than, or comparable to, those observed in the last few years.

Canadians under the age of 40 were largely unaffected by the direct effects of the pandemic—just over 50 deaths in 2020 were attributed to COVID-19 among those in this age group. However, increases in the number of deaths attributed to other causes, including substance-related harms, were observed for younger age groups.

## COVID-19 was the third leading cause of death in Canada in 2020

COVID-19 played an important role in the increased mortality rates observed in 2020. Over the course of the year, COVID-19 was the third leading cause of death in 2020, accounting for 5.3% of all deaths in Canada, behind cancer (26.4%) and heart disease (17.5%). Unintentional injuries (accidents) were the fourth leading cause of death (5.0%), with stroke (cerebrovascular diseases), chronic lower respiratory diseases, diabetes mellitus, influenza and pneumonia, Alzheimer's disease and chronic liver disease and cirrhosis completing the top 10. The rate of influenza and pneumonia deaths in 2020 (12.9 deaths per 100,000 population) declined in comparison to 2019 (15.6 deaths per 100,000 people), making it the lowest rate attributed to such deaths in over 20 years. However, the rate of deaths attributed to influenza and pneumonia does vary from year to year.

COVID-19 was the third leading cause of death among Canadian women, accounting for 8,350 or 5.6% of all deaths in this group, and fourth among men (7,801 or 4.9%). It was also generally among the top 10 leading causes of death among those over the age of 34 with its effects felt mostly among those above the age of 64. Those aged 65 years and older accounted for 94.1% of all COVID-19 deaths in Canada, with over half (54.6%) occurring among those over the age of 84.

In Quebec (third), Manitoba (fourth) and Ontario (fifth), COVID-19 ranked among the top five leading causes of death.

## Increased mortality due to substance-related harms during the pandemic

Beyond deaths attributed to COVID-19 itself, the pandemic likely had indirect consequences leading to an increase in the number of deaths due to factors such as delayed medical procedures or increased substance-related harms.

In fact, Canada experienced notable increases in the number of deaths associated with substance use in 2020. There were 4,604 deaths due to accidental poisonings, including overdoses, reported for 2020. This was higher than the 3,705 deaths reported in 2019, and comparable to the 4,501 deaths reported in 2018 and the 4,830 deaths reported in 2017, at the height of the pre-pandemic opioids crisis. The increase from 2019 to 2020 in the rate of deaths attributed to accidental poisonings was particularly acute for younger Canadians. Those between the ages of 40 and 44 years saw the largest increase, going from a rate of 16.3 deaths per 100,000 people in 2019 to 23.1 deaths per 100,000 people in 2020.

In addition, there were notable increases in the number of alcohol-induced deaths in 2020, particularly those under the age of 65. Among those under the age of 45, the number of alcohol-induced deaths rose from around 360 in each of 2017, 2018 and 2019 to 542 in 2020. There was also an increase in the number of alcohol-induced deaths in those aged 45 to 64 in 2020 (1,946) compared with 1,656 or fewer deaths annually in the years 2017 to 2019. Alcohol-induced deaths include deaths attributed to a number of diseases and conditions related to the chronic use of alcohol, but exclude unintentional deaths, like traffic accidents, where alcohol is believed to be a contributing factor.

While it is still too early to observe the impact of the pandemic on suicides, based on the data reported so far, suicide (intentional self-harm) claimed the lives of 3,839 Canadians in 2020. Deaths investigated by coroners or medical examiners, such as suicides, accidents and homicides, often require lengthy investigations. Consequently, information on these causes of death typically takes more time to be reported to Statistics Canada. While

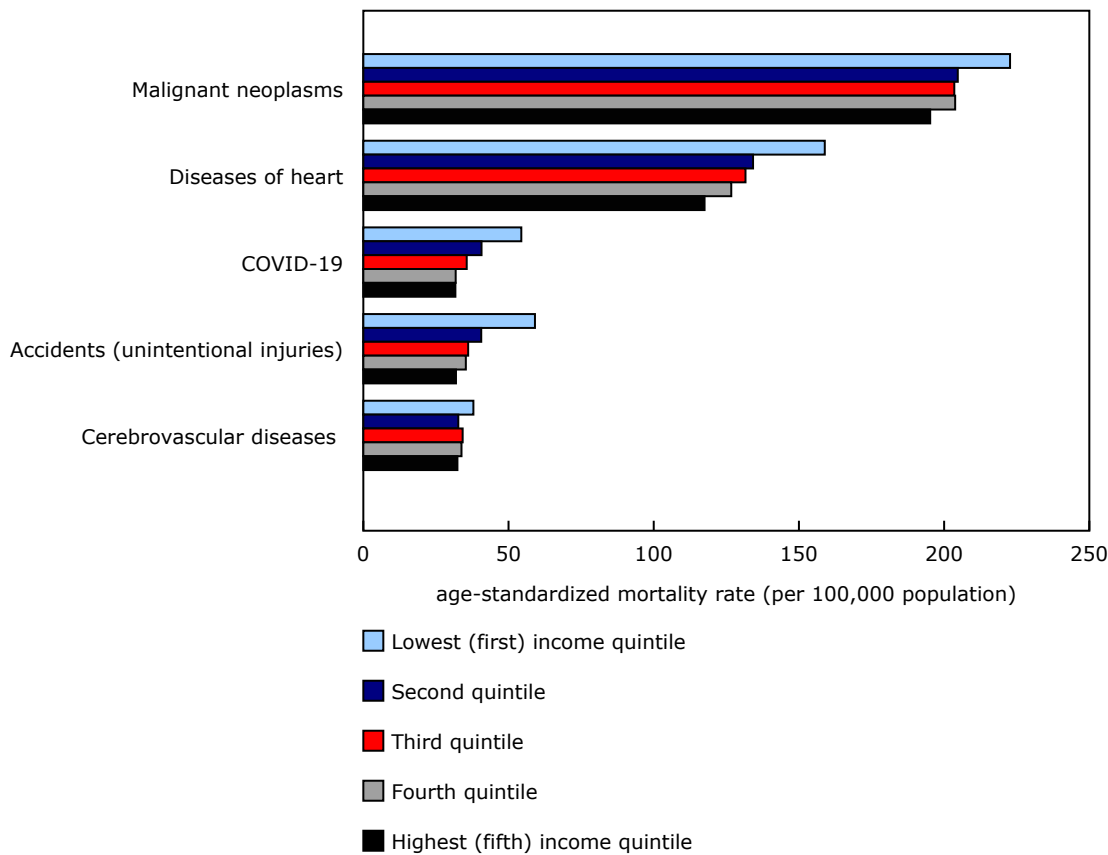
the 2020 suicide figures currently are lower than the roughly 4,500 reported in both 2019 and 2018, based on typical reporting delays, this figure could be underestimated by between 5% and 16%. As a result, it is still premature to assess whether or not the rate of suicide in Canada has increased or declined in 2020, compared with previous years.

### Higher mortality rates for cancer, heart disease and COVID-19 found in lower-income neighbourhoods

Mortality rates in 2020 were generally higher in lower-income neighbourhoods across Canada. In particular, mortality rates due to the four leading causes of death in 2020 (i.e., cancer, heart disease, COVID-19, and deaths from all accidental injuries—which includes transportation accidents, falls, overdoses, among others) were all higher in lower-income neighbourhoods. The largest differences in mortality rates between neighbourhoods by income level were found for mortality due to accidents and COVID-19. The mortality rate for accidents was almost double (1.9 times higher) for those in the lowest-income neighbourhoods compared with those in the highest-income neighbourhoods. Similarly, the mortality rate for COVID-19 was 1.7 times higher for those in the lowest-income neighbourhoods compared with those in the highest-income neighbourhoods.

Nationally, males generally had higher mortality rates than females. However, the largest difference was seen in the lowest-income neighbourhoods where the mortality rate for accidents, including accidental poisonings and overdose, was approximately two times higher for males than females.

**Chart 1**  
**Age-standardized mortality rate for selected causes of death by neighbourhood income quintile (Canada excluding territories), 2020**



Source(s): Data derived from Canadian Vital Mortality - Death Database, 2020 (3233) and Census of Population, 2016 (3901).

### Note to readers

A preliminary dataset from the Canadian Vital Statistics Death Database (CVSD), covering the 2020 reference year, was released today. Revisions were also made to the data covering the 2017, 2018 and 2019 reference years.

The data released today are preliminary, as they do not include information on deaths having occurred in Yukon. Furthermore, deaths investigated by coroners or medical examiners, such as suicides, accidents and homicides, often require lengthy investigation. Consequently, information on the causes of death, particularly among younger Canadians, whose deaths are more likely to result in an investigation, typically requires more time before it is reported to Statistics Canada.

The tabulation of the causes of death is based on the underlying causes of death, which is defined by the World Health Organization as the disease or injury that initiated the train of events leading directly to death, or as the circumstances of the accident or violence that produced the fatal injury. The underlying cause of death is selected from the causes and conditions listed on the medical certificate of cause of death completed by a medical professional, medical examiner or coroner.

Life expectancy represents the average number of years lived by a hypothetical cohort exposed at each age to the mortality conditions observed during a given year or period. Life expectancy in 2020 should be interpreted with caution as it has been strongly affected by the COVID-19 pandemic, and is expected to return to pre-pandemic levels as the impacts of the health crisis diminish. In fact, in general, the life expectancy calculated for the year 2020 is not very representative of the number of real years that current and future cohorts can expect to live insofar as mortality rates were higher in 2020, but will be expected to resume their downward trends over time.

The reduction in life expectancy associated with COVID-19 is documented in the study [Reductions in life expectancy directly associated with COVID-19 in 2020](#).

The category of accidental poisoning includes poisoning from various illicit drugs, prescription and over-the-counter medications, alcohol, as well as solvents and pesticides.

Alcohol-induced mortality includes death attributed to the following causes of death:

- Alcohol-induced pseudo-Cushing's Syndrome
- Mental and behavioural disorders due to use of alcohol
- Degeneration of nervous system due to alcohol
- Alcoholic polyneuropathy
- Alcoholic myopathy
- Alcoholic cardiomyopathy
- Alcoholic gastritis
- Alcoholic liver disease
- Alcohol-induced acute pancreatitis
- Alcohol-induced chronic pancreatitis
- Finding of alcohol in blood
- Accidental poisoning by and exposure to alcohol
- Intentional self-poisoning by and exposure to alcohol
- Poisoning by and exposure to alcohol, undetermined intent.

The CVSD data for the 2020 reference year were linked to the Postal Code Conversion File plus (PCCF+) using the postal code information from the residential address of deceased individuals to obtain neighbourhood income quintile information. A small number of deaths with missing residential postal code information were not linked with PCCF+. Therefore, they were excluded from the analysis.

The quintile value from the neighbourhood income quintile after tax income per person equivalent assigned to each dissemination area (DA) based on census metropolitan area/census agglomeration (CMA/CA) level income was used to aggregate deaths—where quintile 1 is the lowest-income quintile and quintile 5 is the highest-income quintile. A small number of deaths with missing quintile values were excluded from the analysis.

The direct standardization method was used to age-standardize all rates to the 2011 Census of Population with five-year age groupings.

**Available tables:** [13-10-0114-01](#), [13-10-0140-01](#) to [13-10-0156-01](#) , [13-10-0391-01](#), [13-10-0392-01](#), [13-10-0394-01](#), [13-10-0395-01](#), [13-10-0707-01](#) to [13-10-0716-01](#) , [13-10-0756-01](#), [13-10-0776-01](#), [13-10-0780-01](#), [13-10-0782-01](#), [13-10-0800-01](#), [13-10-0801-01](#), [13-10-0833-01](#) and [13-10-0837-01](#).

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

The publication *Life Tables, Canada, Provinces and Territories* ([84-537-X](#)) is now available.

The publication *Methods for Constructing Life Tables for Canada, Provinces and Territories* ([84-538-X](#)) is also available.

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; [infostats@statcan.gc.ca](mailto:infostats@statcan.gc.ca)) or Media Relations ([statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca](mailto:statcan.mediahotline-ligneinfomedias.statcan@statcan.gc.ca)).