

# Changes in life expectancy by selected causes of death, 2017

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## Life expectancy stops increasing in Canada

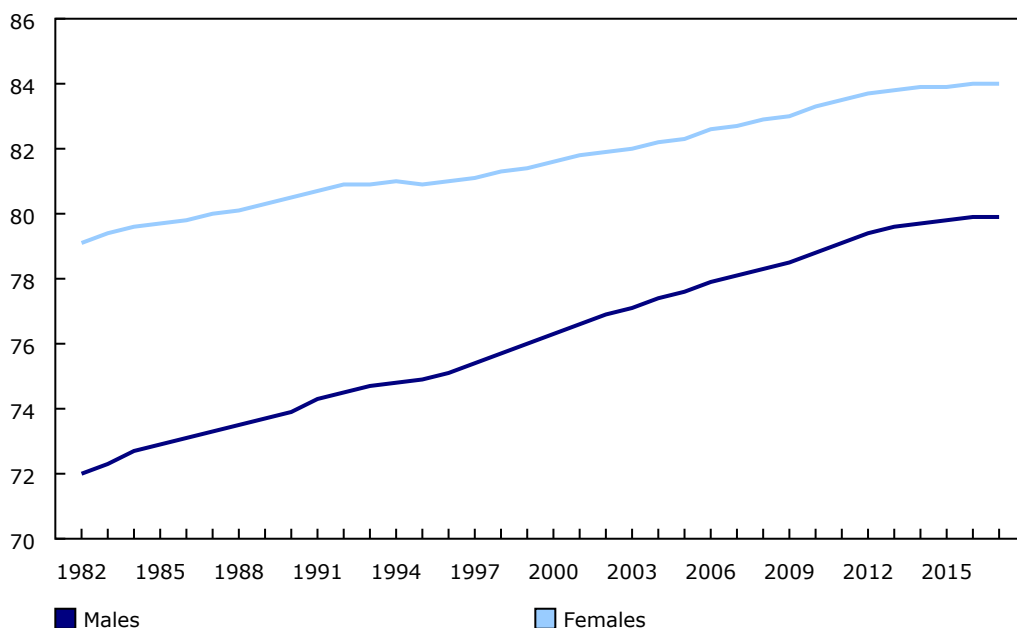
Life expectancy at birth did not increase from 2016 to 2017 for either males or females, a first in over four decades. This was largely attributable to the opioid crisis.

Life expectancy at birth increased on average by 0.2 years per year in Canada from the mid-1990s to 2012. Gains then slowed to a 0.1 year annual increase until 2016.

On average, women in Canada can expect to live for 84.0 years and men for 79.9 years, if they were to experience the mortality patterns observed in 2017 throughout their lives.

**Chart 1**  
Life expectancy at birth in Canada from 1982 to 2017, by sex

life expectancy at birth, in years



Source(s): Canadian Vital Statistics: Death Database (3233) and population estimates (3604).

## Increases in life expectancy in four provinces are largely offset by a marked decline in British Columbia

Life expectancy at birth increased in four provinces (Newfoundland and Labrador, Prince Edward Island, Quebec, Saskatchewan) and in Nunavut, while there was no change in life expectancy in Ontario from 2016 to 2017.

Life expectancy for men increased by 0.3 years to 80.6 in Quebec from 2016 to 2017. As a result, life expectancy for men living in Quebec surpassed that of Ontario men for the first time on record. Life expectancy at birth for men in Prince Edward Island hit a record high of 80 years.



In contrast, life expectancy at birth in British Columbia fell for the second year in a row, decreasing by 0.3 years for men and by 0.1 years for women from 2016 to 2017.

Changes in life expectancy at birth in Canada are due to a number of factors. Life expectancy increases when there are fewer deaths in general, or when deaths tend to occur at older ages, or a combination of both. Life expectancy declines when there are more deaths, when deaths occur at younger ages, or a combination of both.

By examining changes in deaths by age and cause, in 2017, it was possible to identify the main factor that was responsible for the recent change in life expectancy in Canada, and in particular in British Columbia: accidental drug overdoses among young adult men.

**Table 1**  
**Life expectancy at birth in 2017, and change in life expectancy (years) since 2016, by sex and province or territory**

	Females		Males	
	2017	2016 to 2017	2017	2016 to 2017
	years	difference in years	years	difference in years
<b>Canada</b>	<b>84.0</b>	<b>0.0</b>	<b>79.9</b>	<b>0.0</b>
Newfoundland and Labrador	81.7	0.1	77.5	0.3
Prince Edward Island	83.8	0.1	80.0	0.2
Nova Scotia	82.6	-0.1	78.2	0.0
New Brunswick	82.9	-0.1	78.6	-0.1
Quebec	84.2	0.1	80.6	0.3
Ontario	84.4	0.0	80.4	0.0
Manitoba	82.1	-0.1	77.9	0.0
Saskatchewan	82.7	0.1	77.9	0.1
Alberta	83.8	0.2	79.2	-0.1
British Columbia	84.6	-0.1	80.1	-0.3
Yukon	..	..	..	..
Northwest Territories	79.3	0.3	75.2	-0.3
Nunavut	73.4	0.1	70.8	0.7

.. not available for a specific reference period

Source(s): Canadian Vital Statistics: Death Database (3233) and population estimates (3604).

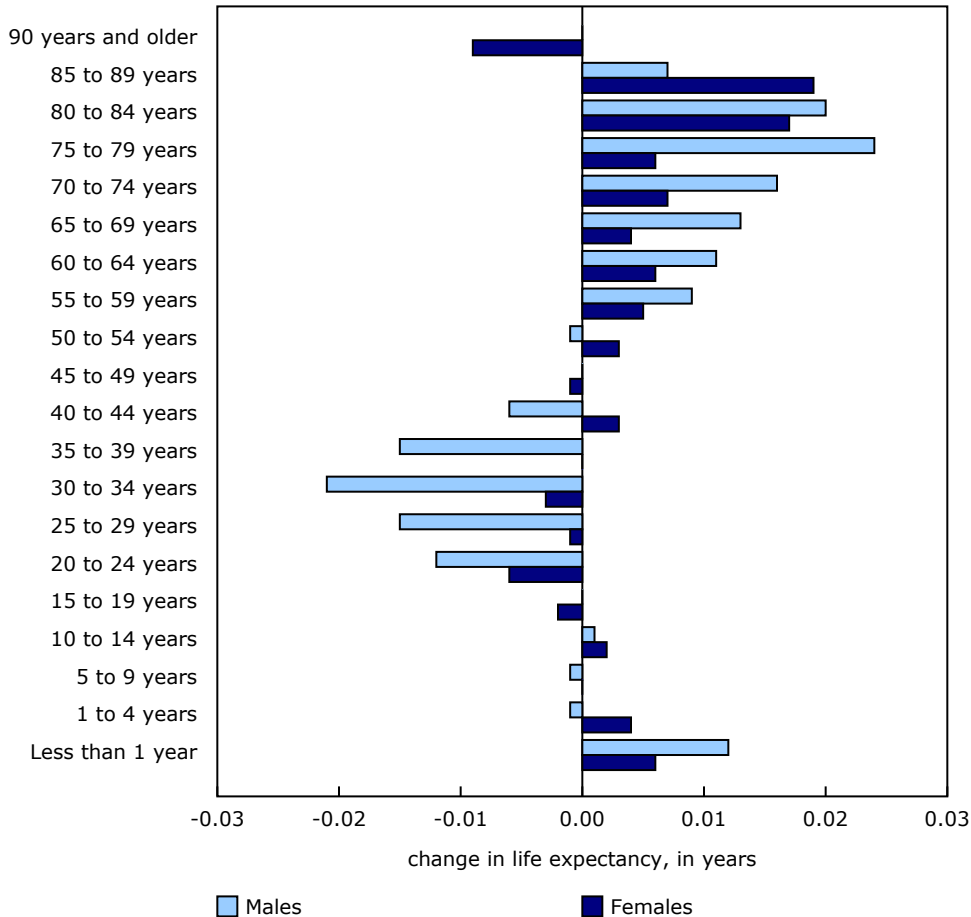
### More deaths among younger adult men offset life expectancy gains in older men

Canadians aged 55 to 89 years died at a slower rate in 2017 than in 2016, indicating that older adults are living longer. In 2017, 65 year old men could expect to live for an additional 19.3 years (to age 84.3), while 65 year old women could expect to live for an additional 22.1 years (to age 87.1). Both figures were up 0.1 years from 2016.

In contrast, young adults in Canada were dying at a higher rate in 2017 than in 2016. This was especially noticeable among Canadian men aged 20 to 44 years.

Although older men are living longer, the increase in deaths among young men almost completely offset these gains. A similar pattern occurred among women, although to a lesser extent.

**Chart 2**  
**Contribution of all-cause age-specific mortality rates to the change in life expectancy at birth from 2016 to 2017, by sex**



Source(s): Canadian Vital Statistics: Death Database (3233) and population estimates (3604).

### Improved outcomes for cancer and circulatory diseases increase life expectancy

Among various causes of death, fewer or later deaths due to cancer and circulatory diseases had the most positive effect on life expectancy in Canada. In 2017, fewer or later deaths due to cancer led to a 0.07 year gain in life expectancy for men, and a 0.05 year gain in life expectancy for women. Additionally, fewer or later deaths due to circulatory diseases (such as ischaemic heart disease) led to a 0.06 year gain in life expectancy for both men and women.

### Accidental drug poisoning deaths offset gains in life expectancy in other areas

While developments in treatments for cancer, circulatory disease and other causes of death led to improvements in life expectancy, these gains were offset by losses in life expectancy from other causes. In particular, the drug overdose crisis occurring in Canada was a major contributing factor in the changes seen in life expectancy from 2016 to 2017, especially for men.

Death rates due to overdose were 1.6 times higher for women and 2.1 times higher for men in 2017 than they were in 2015. Accidental drug poisoning deaths tend to occur among young adults, and therefore have a greater impact on life expectancy. In 2017, out of 4,108 drug overdose deaths in Canada, 571 occurred among people aged 30 to 34 years old and 525 occurred among people 35 to 39 years old.

The increase in accidental drug poisoning deaths led to a 0.12 year loss in life expectancy for men, and a 0.03 year loss in life expectancy for women in 2017. However, this was likely an underestimation because, in some cases, the cause of death has not yet been determined due to ongoing investigations. These deaths are recorded as 'unknown cause.' Deaths involving drugs are often under investigation, and therefore could account for a large portion of this unknown cause category. Deaths of unknown cause led to a further loss of 0.05 years of life expectancy for men and 0.06 years for women.

Combined, accidental drug poisoning deaths and deaths of unknown cause offset nearly all the gains in life expectancy from other causes, resulting in life expectancy at birth remaining stable in Canada from 2016 to 2017.

**Table 2**  
**Contribution of selected causes of death to the change in life expectancy at birth from 2016 to 2017, in Canada, by sex**

	Males	Females
	contribution to change in life expectancy	
Accidental drowning	-0.002	0.001
Accidental drug poisoning	-0.122	-0.027
Alzheimer's disease	0.000	0.007
Assault (homicide)	0.000	0.001
Cancers	0.069	0.054
Dementia	-0.020	-0.036
Diabetes mellitus	0.008	0.013
Falls	0.006	0.007
Circulatory disease	0.055	0.062
Infectious and parasitic diseases	0.019	0.010
Intentional self-harm (suicide)	0.007	0.002
Parkinson's disease	-0.006	-0.004
Respiratory diseases	0.011	-0.007
Transport accidents	0.017	0.003
Unknown cause	-0.052	-0.060

Source(s): Canadian Vital Statistics: Death Database (3233) and population estimates (3604).

Among all provinces and territories, the largest loss in life expectancy from the increase in accidental drug poisoning deaths was experienced by men in British Columbia, which amounted to a loss of 0.29 years from 2016 to 2017, followed by men in Alberta with a loss of 0.24 years in life expectancy due to accidental drug poisoning deaths.

Life expectancy for women in Canada was also lowered by accidental drug poisonings, but generally at a slower pace than for men. Loss of life expectancy for women due to accidental drug poisoning deaths was largest in Alberta at 0.10 years, followed by British Columbia at 0.05 years.

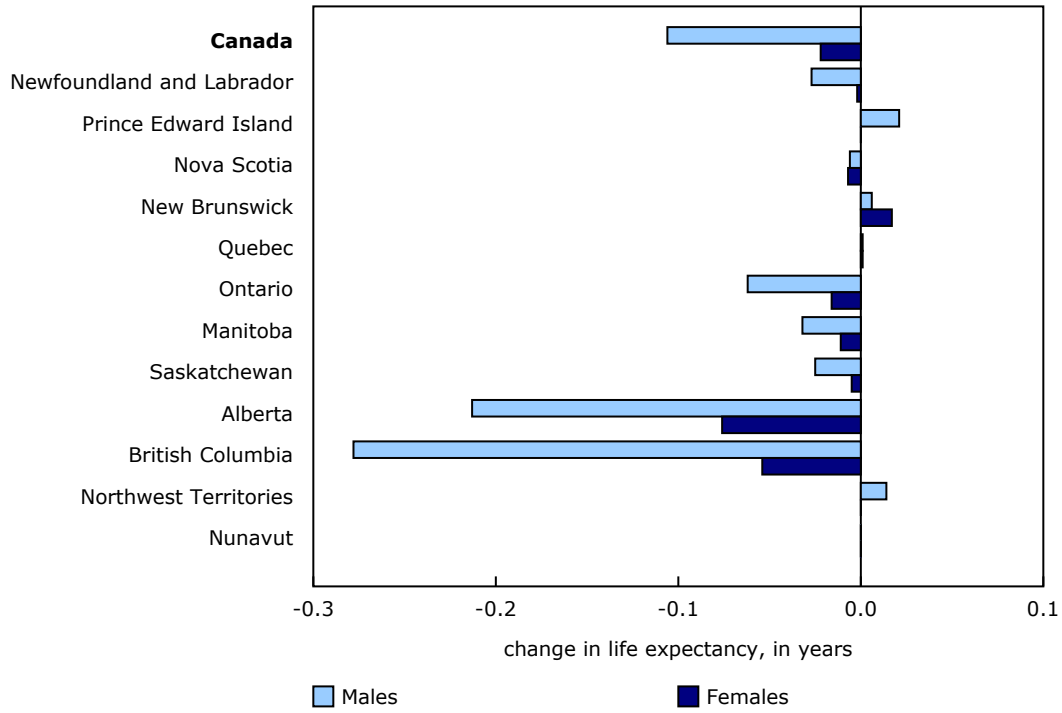
### Lower life expectancy due to accidental drug poisonings is largely related to opioids

Of all accidental drug poisoning deaths, opioid-related deaths are responsible for a large share of the loss of life expectancy in Canada in 2017. Opioid-related accidental drug poisoning deaths led to a 0.11 year loss of life expectancy for men, and a 0.02 year loss for women.

Life expectancy for both men and women in British Columbia and Alberta was particularly impacted by opioid-related deaths. As a result of increasing accidental opioid-related poisoning deaths, life expectancy for men decreased by 0.28 years in British Columbia and by 0.21 years in Alberta. For women, the decrease was largest in Alberta at 0.08 years, followed by British Columbia at 0.05 years.

**Chart 3**

**Contribution of opioid-related accidental drug overdoses to the change in life expectancy at birth from 2016 to 2017, by sex and province or territory**



Source(s): Canadian Vital Statistics: Death Database (3233) and population estimates (3604).

### Note to readers

*Life expectancy is an estimate of the average duration of life of a population at a given age, if this population would experience mortality rates observed during a given period of time.*

*Life tables, from which life expectancy at different ages is drawn, are computed using death records from the Canadian Vital Statistics Death Database and Statistics Canada's population estimates.*

*Statistics Canada's life tables are produced using three years of death records in order to provide stable results, especially for provinces and territories with smaller population sizes. Thus, the life expectancy for 2017 is computed using 2015, 2016 and 2017 death records.*

*Due to improvements in methodology and timeliness, the duration of data collection has been shortened compared with previous years. As a result, there may have been fewer deaths captured by the time of the release. The 2017 data are therefore considered preliminary. In addition, death records for Yukon are not available. Thus, it was not possible to compute a life table for Yukon for the 2015 to 2017 reference period. For the calculation of life tables for Canada, Yukon data from 2017 were imputed using death records from Yukon in 2016.*

*The life tables released today include recent revisions to the population estimates by age and sex, in addition to a change in the methodology used to estimate the population at ages above 99.*

*Life expectancy calculations for Canada and all provinces except for Prince Edward Island use complete life tables. Life expectancy calculations for the territories, Prince Edward Island and sub-provincial geographies, such as health regions, use abridged life tables. However, for the life expectancy analysis in this article, abridged life tables are used for all geographies. This results in small differences in the changes in life expectancy from 2016 to 2017 for Canada and all provinces except for Prince Edward Island.*

*Deaths are categorized based on the underlying cause of death. The underlying cause of death is coded using the tenth revision of the World Health Organization International Statistical Classification of Diseases and Related Health Problems Tenth Revision (ICD-10). Accidental drug poisoning (X40-X44), suicides by drug poisoning (X60-X64) and drug poisonings of undetermined intent (Y10-Y14) make up the drug poisoning category of deaths. Drug poisoning deaths are considered opioid-related when one of T400, T401, T402, T403, T404 or T406 are found in the multiple cause database.*

*Further information on overdose-related deaths is available in "[Causes of death](#)," also released in today's Daily.*

*For more information on illicit drug overdose deaths, please see "[Illicit drug overdose deaths, 2011 to 2016, British Columbia and Surrey](#)."*

### Definitions, data sources and methods: survey numbers [3233](#) and [3604](#).

**Available tables:** [13-10-0114-01](#), [13-10-0140-01](#), [13-10-0389-01](#), [13-10-0432-01](#), [13-10-0434-01](#), [13-10-0437-01](#), [13-10-0446-01](#) and [13-10-0516-01](#).

The publication *Health Indicators*, 2019 ([82-221-X](#)), is now available.

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