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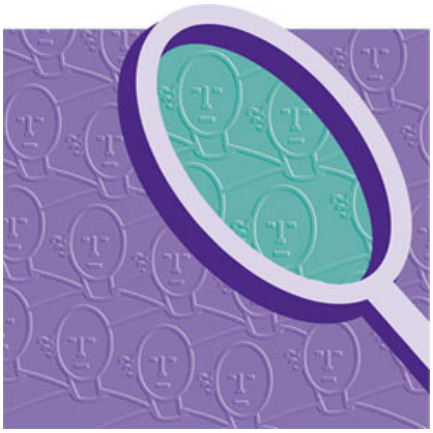
Analytical Paper

Life Tables, Canada, Provinces and Territories, 1980/1982 to 2017/2019



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LIFE TABLES, CANADA, PROVINCES AND TERRITORIES 1980/1982 TO 2017/2019[1]

For the periods from 1980/1982 to 2017/2019,[1] complete life tables for Canada, Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia are available in Table 13-10-0114-01.

Abridged life tables for Prince Edward Island, Yukon,[2] Northwest Territories and Nunavut are available in Table 13-10-0140-01.

A full set of life tables is also available in Excel format on this publication's website: https://www150.statcan.gc.ca/n1/pub/84-537-x/84-537-x2020001-eng.htm

The life tables include various indicators that can be used to describe mortality in a population at a given point in time: life expectancy, death probabilities, probabilities of survival, survivors at various ages and years lived. It answers many statistical needs, especially in the health, epidemiology and actuarial sectors, and allows for comparisons to be made between regions or cohorts.

Complete life tables, by single years of age and sex, are available for Canada as a whole and for nine provinces: Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia.

For Prince Edward Island, Yukon,[2] the Northwest Territories and Nunavut, abridged life tables (by five-year age groups) by sex were computed. The population size of this province and the three territories were too small to allow the calculation of complete life tables with enough accuracy. Northwest Territories and Nunavut are treated separately in the construction of 1998/2000 and 1999/2001 mortality tables, even though Nunavut was officially created on April 1, 1999.

Changes for this release

Description	Effective period
New life tables	2017/2019[1]
Updates on population estimates	2015/2017 and 2016/2018
Adjustments for missing data in Yukon[2]	2015/2017, 2016/2018 and 2017/2019

1 Life tables for the periods 2015/2017, 2016/2018 and 2017/2019 are considered "preliminary". These tables will be updated at a later time to take into account deaths that could have occurred between 2017 and 2019 but have not yet been recorded (late registrations).

2. Data on deaths that occurred in Yukon and deaths of residents of Yukon that occurred in other provinces or territories are not available for 2017, 2018 and 2019. Owing to that lack, life tables have not been calculated for Yukon for the 2015/2017, 2016/2018 and 2017/2019 reference periods. Additionally, data for Yukon was not included in the calculation of life tables for Canada, as well as in the imputation process (used when the population or death numbers were insufficient for a combination of either sex, age and province (or territory) for these periods).

Methods

The methods used for the life tables are described in the document *Methods for Constructing Life Tables for Canada, Provinces and Territories*, catalogue no. 84-538. All of the Statistics Canada life tables computed in this series are based on this revised methodology which takes into account recent progress in the field of mortality studies.

Definitions of the elements included in the life tables

The following elements are available in all life tables included in this document.

Age (age interval):

The major visual difference between the complete and abridged life tables lies in the age groupings for which the estimates have been produced.

In complete life tables, there is only one age value per row, which indicates the exact age for the number of survivors, the cumulative number of life years lived and the life expectancy. For the number of deaths, death and survival probabilities, as well as the number of life years lived, the interval in the life table represent the interval between two exact ages. For example, death at age 30 means that the death occurred on or after the 30th birthday but before reaching the 31st birthday.

The presentation is the same in abridged life tables, but the age intervals are of the form (x, x+(n−1)); that is, both ages x and x+(n−1) are included in the interval. For example, the age interval 40 to 44 comprises deaths occurring among 40 to 44 year-olds. Most age intervals in abridged life tables span five years. The exceptions occur in the first two rows of these tables and for the last row: the first row (age 0) represents a one-year interval and the second row, a four-year interval (ages 1 to 4). The last row is an open age interval, 90 years and over.

l_x (number of survivors at age x):

Number of persons in an initial cohort of 100,000 live births who are still alive at the beginning of each subsequent age interval. The number of survivors decreases as age increases, under the effect of mortality.

It is possible to compute, from the number of survivors, probabilities of survival between two ages. For example, if the number of survivors is 99,297 at age 10 and 98,935 at age 20, the probability of surviving from age 10 to age 20 is 98,935 / 99,297, that is, 0.99635.

d_x (number of deaths between age x and x+n):

Number of deaths which occur in each age interval among the initial cohort of 100,000 live births at age 0.

q_x (death probability between age x and x+n):

Probability that a person of age x dies before reaching age x+n.

m.e. (q_x) (margin of error associated with the death probability):

Margin of error associated with the death probability. For example, a margin of error of 0.00020 for a death probability at age 0 of 0.00556 enables the construction of a 95% confidence interval with lower and upper limits of 0.00536 and 0.00576. In other words, the death probability is precise within a range of 0.00020, 19 times out of 20.

p_x (probability of survival between age x and x+n):

Probability that a person of age x survives up to year x+n.

L_x (number of life years lived between age x and x+n):

Number of life years lived by persons between age x and x+n. Life years lived are also considered as the stationary population of the life table. Except for ages from 0 to 4 where a separation factor is computed (see the document *Methods for Constructing Life Tables for Canada, Provinces and Territories*, catalogue no. 84-538), the assumption made is that the deaths are distributed evenly over time within the age interval.

T_x (cumulative number of life years lived beyond age x):

Total number of life years lived by persons of age x and all those included in subsequent age intervals.

e_x (life expectancy at age x):

Average number of years remaining to be lived by persons at age x if these persons would experience, during their life, the mortality observed over the reference period.

m.e. (e_x) (margin of error associated with the life expectancy):

Margin of error associated with the life expectancy at age x. For example, a margin of error of 0.2 on a life expectancy at birth of 81.9 years enables the construction of a 95% confidence interval with lower and upper limits of 81.7 years and 82.1 years.