

OECD Health Statistics 2017

Definitions, Sources and Methods

Life expectancy at birth and at various ages (40, 60, 65, and 80 years old)

Life expectancy at birth and at ages 40, 60, 65 and 80 years old is the average number of years that a person at that age can be expected to live, assuming that age-specific mortality levels remain constant.

Sources and Methods

The **Eurostat database** (dataset Life expectancy by age and sex [demo_mlexpec] accessed in May 2017) is the main data source for all European countries, except Turkey. Time series are also completed with national data for selected years, see details below.

Note: Life expectancy at birth for the total population is estimated by the OECD Secretariat for all countries, using the unweighted average of life expectancy of men and women.

Australia

Source: Australian Bureau of Statistics. Life Tables, States, Territories and Australia. ABS Cat. No. 3302.0.55.001. Canberra: ABS.

Methodology: From 1995 onwards, data represent 3-year averages, e.g. 1995 is actually 1993-95. Farr's method has been used to calculate life expectancies.

Further information: <http://www.abs.gov.au/>.

Austria

Sources:

From 1970: Eurostat database. Data extracted on May 18, 2017.

Until 1969: Statistics Austria.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Belgium

Source: Eurostat database. Data extracted on May 18, 2017.

Break in time series in 2011 due to a methodological change in the process of measuring population and demographic events.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.


Canada

Source: Statistics Canada, Canadian Vital Statistics, Birth and Death Databases; Demography Division population estimates. CANSIM table 053-0003 available at

<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=0530003>.

Methodology:

- Life expectancy is calculated for a three year period. From 1982, the data year in the table relates to the last year of that period (e.g. data for 2012 in the table are from the 2010-2012 period).

 **Break in time series in 1982:** A revision to the methodology was undertaken in 2013. First, a logistic model based on the work of Kannisto (1992) replaced the quadratic model of Coale-Kisker (1990) first used in the construction of the tables for the period 1995 to 1997. This change was made because studies showed that in countries with high-quality data, the increase, from one age to the next, in mortality rates tended to follow a logistic curve (Kannisto et al. 1994; Thatcher et al. 1998). Second, the method of smoothing age-specific death probabilities was replaced by a method based on spline curves. The full methodology is described in the publication: *Methods for Constructing Life Tables for Canada, Provinces and Territories* (84-538) available at

<http://www5.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=84-538-XWE&lang=eng>. Life expectancy estimates from 1982 have been revised using this methodology.

- Prior to 1982, life expectancy estimates of Census years (1961, 1966, 1971, 1976 and 1981) are based on three years of mortality data around that year. The methodology is described in each edition of the Life Tables publication (catalogue numbers 84-516, 84-527, 84-532). Life expectancy estimates of non-Census years (1979 to 1980) are calculated by Greville's method for abridged life tables, using annual mortality rates with five-year age groupings of population and mortality rates.

- Rates used in this table for the calculation of life expectancy are calculated with data that exclude births to mothers not resident in Canada, births to mothers resident in Canada for which province or territory of residence is unknown, deaths of non-residents of Canada, deaths of residents of Canada whose province or territory of residence was unknown, and deaths for which age or sex of decedent was unknown.

Chile

Sources:

From 1990: **National Statistics Institute** ("Instituto Nacional de Estadísticas"), Sub-Department of Demographic Statistics.

1970: **World Bank**, World Development Indicators and Global Development Finance online, <http://www.databank.worldbank.org>.

Methodology:

- Life expectancy at birth data from 1990 to 2000 were obtained from the estimated population and vital statistics. Those of 2001 were calculated based on the updated population from CENSUS 2002 as well as vital statistics of the corresponding year.

- Population projections for 2002-2012 were updated and new population projections for 2013-2020 were performed in 2014. For the updated period (2002-2012), we used: 1) data of numbers of births and deaths from Vital registries 2002-2012; 2) information about international immigration from the Department of Immigration of the Ministry of Interior; 3) Socioeconomic characterisation survey (CASEN) and employment survey about internal migration.

- For the population projection period (2013-2020), estimations of future evolution of the level and structure of the three components of population growth - Fertility, Mortality and Migration - were performed.

- 2013-2014 data updated based on new population projections 2000-2020. 2015 and 2016 data are estimates.

Further information: <http://www.ine.cl> (in Spanish).

Czech Republic

Source: Eurostat database. Data extracted on May 18, 2017.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Denmark

Sources:

From 1974: **Eurostat database**. Data extracted on May 18, 2017.

Until 1973: **Statistics Denmark**.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Estonia

Source: Eurostat database. Data extracted on May 18, 2017.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Finland

Sources:

From 1980: Eurostat database. Data extracted on May 18, 2017.

Until 1979: Statistics Finland.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

France

Sources:

From 1986: Eurostat database. Data extracted on May 18, 2017.

Until 1985: Institut national de la statistique et des études économiques (Insee).

Coverage: Metropolitan France.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Germany

Source: Eurostat database. Data extracted on May 18, 2017.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.


Greece

Source: Eurostat database. Data extracted on May 18, 2017.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Hungary

Source: Eurostat database. Data extracted on May 18, 2017.

 **Break in time series in 2012** due to a methodological change in the process of measuring population and demographic events.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Iceland

Source: Eurostat database. Data extracted on May 18, 2017.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Ireland

Sources:

From 1986: Eurostat database. Data extracted on May 18, 2017.


Until 1985: Statistics Ireland.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Israel

Source: Central Bureau of Statistics. Based on birth and death registrations.

Methodology: Life expectancy data are based on abridged life tables (by five-year age groups) which are produced for every calendar year using MORTPAK software package.

 **Break in time series in 2009:** Life tables were calculated based on mortality rates up to age 95 and over after the 2008 census. Previously, the highest age rate was 85 and over.

Further information:

http://www.cbs.gov.il/reader/shnatonenew_site.htm. http://www.cbs.gov.il/shnaton66/st_eng03.pdf.

Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Italy

Sources:

From 1985: Eurostat database. Data extracted on May 18, 2017.

Until 1984: ISTAT, Istituto Nazionale di Statistica (National Institute of Statistics),

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Japan

Source: Ministry of Health, Labour and Welfare, Complete Life Tables and Abridged Life Tables.

Methodology: Figures every 5 years from 1960 are complete life tables. Intervening years are abridged life tables.

Further information: <http://www.mhlw.go.jp/english/database/db-hw/vs02.html>.

Korea

Source: National Statistical Office. 2015 Life Tables for Korea.

Methodology: Chiang's method was used.

Further information: <http://kosis.kr/eng/>.

Latvia

Source: Eurostat database. Data extracted on May 18, 2017.


Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Luxembourg

Sources:

From 1968 (for women) and from 1971 (for men): Eurostat database. Data extracted on May 18, 2017.

1960: Ministry of Health.


 **Break in time series in 2012** due to a methodological change in the process of measuring population and demographic events.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Mexico

Source: National Population Council (CONAPO), Mexico 2016: Population projections 2010-2030.

Methodology:

 The method used for calculating mortality tables is derived from an exercise performed by the National Population Council (CONAPO). The method is not directly based upon the death records. The method uses the II Population and Housing Count of 2005, as well as information from the Population and Housing Census from 1960 to 2010 and the socio-demographic surveys carried out in the country since the 1970s such as:

- ENADID, National Dynamic Demographic Survey, 1992, 1997. National Institute of Statistics and Geography (INEGI).
- ENADID, National Dynamic Demographic Survey, 2006 and 2009. National Institute of Public Health (INSP).
- ENFES, National Fertility Survey, 1976-1977. National Institute of Statistics and Geography. National Population Council.
- ENFES, National Fertility Survey, 1987. National Institute of Statistics and Geography. National Population Council.

In addition the method uses since 1990 information from births database of the National Institute of Statistics and Geography,

- Data were updated from 1990, with the Demographic estimations 1990-2009 and Population projections 2010-2030 (CONAPO 2013).

Further information: <http://www.conapo.gob.mx/> (in Spanish).

Netherlands

Sources:

From 1985: Eurostat database. Data extracted on May 18, 2017.

Until 1984: Statistics Netherlands, Maandstatistiek van de bevolking (Monthly bulletin of population statistics).

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

New Zealand

Source: Statistics New Zealand.

Methodology:

- Life expectancy data are calculated from data based on a three-year period centered on the reference year.

- Figures for 1961, 1966, 1971, 1976, 1981, 1986, 1991, 1996, 2001, 2006, 2013, 2014 and 2015 are from complete life tables.

- From 1962 to 2012, figures for intermediate years were estimated by the OECD Secretariat and Statistics New Zealand using a simple linear interpolation between those available from life tables.

Further information:

http://www.stats.govt.nz/browse_for_stats/health/life_expectancy.aspx.

Norway

Source: Eurostat database. Data extracted on May 18, 2017.


Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Poland

Sources:

From 1990: Eurostat database. Data extracted on May 18, 2017.

Until 1989: Central Statistical Office, Demographic yearbooks.

 **Break in time series in 2000 and 2009** due to a methodological change in the process of measuring population and demographic events.

Methodology: 1960-1989 figures are from abridged life tables calculated using Chiang's method.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Portugal

Source: Eurostat database. Data extracted on May 18, 2017.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Slovak Republic

Source: Eurostat database. Data extracted on May 18, 2017.


Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Slovenia

Sources:

From 1982: Eurostat database. Data extracted on May 18, 2017.

1970: World Bank, World Development Indicators and Global Development Finance online, <http://www.databank.worldbank.org>.

 **Break in time series in 2008** due to a methodological change in the process of measuring population and demographic events.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Spain

Sources:

From 1975: **Eurostat database**. Data extracted on May 18, 2017.

Until 1974: **National Statistics Institute**. Deaths statistics.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Sweden

Sources:


From 1968: **Eurostat database**. Data extracted on May 18, 2017.

Until 1967: **Statistics Sweden**, Life tables on population in Sweden.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Switzerland

Source: **Eurostat database**. Data extracted on May 18, 2017.


 **Break in time series in 2011** due to a methodological change in the process of measuring population and demographic events.


Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Turkey

Source: **Turkish Statistical Institute (TURKSTAT)**.

Methodology: Until 2012, data based on population projections using the cohort-component method. From 2013, data are based on administrative records.

 **Break in time series in 2013:** From 2013, data are based on the results of the "Life Tables" study, which has been implemented for the first time in Turkey and which is based on administrative registers.

 **Break in time series in 1990:** New projected life expectancy data released by TURKSTAT. Data for the period 1991-2012 are based on population projections (cohort-component method) that are calculated using the 2008 results of Address Based Population Registration System (ABPRS) and the 2008 results of Demographic and Health Survey. The values of $e(0)$, $e(40)$, $e(60)$, $e(65)$ and $e(80)$ have been calculated based on $e(5)$ value by using Coale-Demeny Model Life Tables.

Further information: <http://www.turkstat.gov.tr>, <http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=18522> and <http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=18618>, and <http://www.turkstat.gov.tr/PreHaberBultenleri.do?id=21509>.

United Kingdom

Sources:

From 1993: **Eurostat database**. Data extracted on May 18, 2017.

Until 1992: **Office of National Statistics (ONS)**.

Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

United States

Source: **U.S. Department of Health and Human Services/Centers for Disease Control and Prevention/National Center for Health Statistics**. National vital statistics reports (several years).

Coverage: National. National Vital Statistics Registration System.

Methodology:

Estimates were calculated to represent the U.S. civilian non-institutionalised population for each time period.

- For data years 1997-1999, complete life tables were constructed by single years of age extending to age 100 years using a revised methodology similar to that of the 1989-1991 decennial life tables. The revised methodology offers comparability with decennial life table methodology, greater accuracy, and finer age detail. A comparison of the two methods shows small differences in resulting values for life expectancy. Although the revised method produces complete life tables (by single years of age), the life table data shown in this report are summarised in 5-year age groupings. To calculate the probability of dying at each age, the revised methodology used vital statistics death rates for ages under 85 years, and mortality data from the Medicare program for ages 85 years and over. The Medicare data are shown to be significantly more reliable than vital statistics data when modeling the probability of dying at the oldest ages.

- Data for 2001-2007 have been updated to reflect the actualisation of the revised US intercensal population estimates. More information can be found at the NCHS Vital Statistics website.

- Life table data shown in this report for data years 2000-2006 are based on the newly revised methodology and may differ from figures previously published. Complete life tables by single years of age extending to age 100 years were constructed using a methodology similar to that developed for the 1999-2001 decennial life tables. To calculate the probability of dying at each age, the newly revised methodology used vital statistics death rates for ages under 66 years, and modeled probabilities of death for ages 66 to 100 based on blended vital statistics and Medicare probabilities of dying. Complete life tables for 2000-2006 based on the newly revised methodology, along with a more comprehensive description of the methodology, are published elsewhere (Wei R. Curtin LR, Arias E, Anderson RN. United States decennial life tables for 1999-2001, methodology of the United States life tables. National vital statistics reports; vol. 57, no 4. Hyattsville, MD: National Center for Health Statistics. 2008).

Further information: NCHS Vital Statistics website, <http://www.cdc.gov/nchs/nvss.htm>.

NON-OECD ECONOMIES

Brazil

Sources:

Life expectancy at birth: **The World Bank, World Development Indicators online** (accessed on 16 June 2017). <http://databank.worldbank.org/data/>.

Data are from: (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

- Life expectancy at birth for total population is derived from male and female life expectancy at birth.

- Data for life expectancy at age 65 and 80 are not available.

Life expectancy at ages 65 and 80: **Instituto Brasileiro de Geografia e Estatística (IBGE)**, Tabuas completas de mortalidade. http://www.ibge.gov.br/home/estatistica/populacao/tabuadevida/2015/defaulttab_xls.shtm.

China

Source: The World Bank, World Development Indicators online (accessed on 16 June 2017).

<http://databank.worldbank.org/data/>.

Data are from: (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

- Life expectancy at birth for total population is derived from male and female life expectancy at birth.

- Data for life expectancy at age 65 and 80 are not available.

Colombia

Source: The World Bank, World Development Indicators online (accessed on 16 June 2017).

<http://databank.worldbank.org/data/>.

Data are from: (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations

Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

- Life expectancy at birth for total population is derived from male and female life expectancy at birth.
- Data for life expectancy at age 65 and 80 are not available.

Costa Rica

Source: The World Bank, World Development Indicators online (accessed on 16 June 2017).

<http://databank.worldbank.org/data/>.

Data are from: (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

- Life expectancy at birth for total population is derived from male and female life expectancy at birth.
- Data for life expectancy at age 65 and 80 are not available.

India

Source: The World Bank, World Development Indicators online (accessed on 16 June 2017).

<http://databank.worldbank.org/data/>.

Data are from: (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

- Life expectancy at birth for total population is derived from male and female life expectancy at birth.
- Data for life expectancy at age 65 and 80 are not available.

Indonesia

Source: The World Bank, World Development Indicators online (accessed on 16 June 2017).

<http://databank.worldbank.org/data/>.

Data are from: (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

- Life expectancy at birth for total population is derived from male and female life expectancy at birth.
- Data for life expectancy at age 65 and 80 are not available.

Lithuania

Source: Eurostat database. Data extracted on May 18, 2017.


Further information: http://ec.europa.eu/eurostat/data/database?node_code=demo_mlexpec.

Russian Federation

Source: Federal State Statistics Service (ROSSTAT).

Methodology:

- Life expectancy at birth: Statistical Compendium "Demographic Yearbook of the Russian Federation", 2015.
- Life expectancy at 65 and 80 years old: data calculated from tables of mortality in Russia, available in Statistical Compendium "Demographic Yearbook of the Russian Federation", Table 5.3. "Main Indices of Mortality Tables".

 **Break in time series in 2014:** Since 2014, the Russian Federation includes Krime Federal Okrug (Crimea).

Further information: http://www.gks.ru/bgd/regl/B15_16/Main.htm for life expectancy at birth; and http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1137674209312 for life expectancy at 65 and 80 years old.

Note: This statistical data is supplied by and under the responsibility of the relevant statistical authorities. The use of such data by the OECD is without prejudice to the status of or sovereignty over any territory, or to the delimitation of international frontiers and boundaries.

South Africa

Sources:

Life expectancy at birth: **The World Bank, World Development Indicators online** (accessed on 16 June 2017).
<http://databank.worldbank.org/data/>.

Data are from: (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

- Life expectancy at birth for total population is derived from male and female life expectancy at birth.

- Data for life expectancy at age 65 and 80 are not available.

Life expectancy at age 65: **Actuarial Society of South Africa** (ASSA model 2008).

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<http://www.oecd.org/health/health-data.htm>