

OECD Health Statistics 2014

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 (accessed in November 2014) 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. Deaths, Australia. 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 in November 2014.

Until 1969: Statistics Austria.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Belgium

Source: Eurostat database. Data extracted in November 2014.

Break in time series in 2011 due to a change in population estimates.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Canada

Source: Statistics Canada, Canadian Vital Statistics, Birth and Death Databases; Demography Division population estimates.

Methodology:

- From 2007, a revision to the methodology was undertaken. 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).

The method of smoothing age-specific death probabilities is now 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>.

- From 1994 to 2006, life expectancy at birth and at age 65 can be found in CANSIM Table 102-0512 at <http://www.statcan.gc.ca/>. Life expectancy at ages 40, 60 and 80 are special tabulations. Life expectancies are calculated with three years of data using Greville's method for abridged life tables with the reporting year being the last year of the three year span.

- Prior to 1994, life expectancy estimates of Census years (1961, 1966, 1971, 1976, 1981, 1986, 1991) 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, 82-003S Supplement no. 13, and 84-537; the latest edition of 84-537-XIE, with a complete description of the methodology used, is available at <http://www.statcan.ca/>).

- Life expectancy estimates of non-Census years (1979 to 1992, except for those listed above) are calculated by Greville's method for abridged life tables, using annual mortality rates with five-year age groupings of population and mortality rates. The methodology used is described in the latest edition of the Life Tables publication 84-537-XIE (see link above).

- Rates used in this table for the calculation of life expectancy are calculated with data that excludes: 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.

Further information: <http://www.statcan.gc.ca/pub/84f0211x/84f0211x2007000-eng.htm>.

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://databank.worldbank.org/data/home.aspx>.

Methodology: Life expectancy at birth data from 1990 to 2000 were obtained from the estimated population and vital statistics. Those of 2001-2011 were calculated based on the updated population as well as vital statistics of the corresponding year. Life expectancy in 2012 is an estimation based on the extrapolation of the number of deaths from the mortality time series of 2002-2011. Therefore, the estimation provides a projection of the number of deaths and the associated mortality rates and life expectancies for 2012.

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

Czech Republic

Source: Eurostat database. Data extracted in November 2014.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Denmark

Sources:

From 1974: Eurostat database. Data extracted in November 2014.

Until 1973: Statistics Denmark.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Estonia

Sources:

From 1989: Eurostat database. Data extracted in November 2014.

Until 1988: Statistics Estonia.

Methodology: Until 1988, the life expectancy at birth is calculated on the bases of two years, after that it is based on one year data.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Finland

Sources:

From 1980: Eurostat database. Data extracted in November 2014.

Until 1979: Statistics Finland.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

France

Sources:

From 1998: Eurostat database. Data extracted in November 2014.

Until 1997: Institut national de la statistique et des études économiques (Insee).

Coverage: France excluding Mayotte.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Germany

Source: Eurostat database. Data extracted in November 2014.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).


Greece

Source: Eurostat database. Data extracted in November 2014.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Hungary

Source: Eurostat database. Data extracted in November 2014.

 **Break in time series** in 2012 due to a change in population estimates.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Iceland

Source: Eurostat database. Data extracted in November 2014.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Ireland

Sources:

From 1986: Eurostat database. Data extracted in November 2014.


Until 1985: Statistics Ireland.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (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/shnaton64/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 in November 2014.

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

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (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.

- Note that 1966 was the year of “Hinoe-Uma” (an old superstitious belief in Japan saying that females born in the year of “C-Horse” are doomed to ominous destiny).

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

Korea

Source: National Statistical Office.

From 1970: 2012 Life Tables for Korea.

1960: Economic and social changes in Korea, 1998.

Methodology:

- 1960: Average for the period 1955-60.

- Before 1993, the figures at age 80 refer to age 80 years old and over.

- Chiang’s method was used.


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

Luxembourg

Sources:

From 1968 (for women) and from 1971 (for men): Eurostat database. Data extracted in November 2014.

1960: Ministry of Health.


 **Break in time series** in 2012 due to a change in population estimates.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Mexico

Source: National Population Council, Mexico 2013: Population projections 2010-2050.

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 Population Projections 2010-2050.

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

Netherlands

Sources:

From 1985: **Eurostat database.** Data extracted in November 2014.

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

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (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 2007 to 2012 are from abridged life tables (provisional).
- Life expectancy data for 1961, 1966, 1971, 1976, 1981, 1986, 1991, 1996, 2001 and 2006 are from complete life tables. From 1962 to 2005, the OECD Secretariat estimated the missing intermediate years using a simple linear interpolation between the available years.

Further information: http://www.stats.govt.nz/browse_for_stats/health/life_expectancy/abridged-period-life-tables.aspx.

Norway

Source: Eurostat database. Data extracted in November 2014.


Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Poland

Sources:

From 1990: **Eurostat database.** Data extracted in November 2014.

Until 1989: **Central Statistical Office**, Demographic yearbooks.

 **Break in time series** in 2011 due to a change in population estimates.

Methodology:

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

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Portugal

Source: Eurostat database. Data extracted in November 2014.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Slovak Republic

Source: Eurostat database. Data extracted in November 2014.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Slovenia

Sources:

From 1982: **Eurostat database.** Data extracted in November 2014.

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

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Spain

Sources:

From 1975: **Eurostat database.** Data extracted in November 2014.

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

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Sweden

Sources:


From 1968: **Eurostat database.** Data extracted in November 2014.

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

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Switzerland

Source: Eurostat database. Data extracted in November 2014.


 **Break in time series** in 2011 due to a change in population estimates.

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (demo_mlexpec).

Turkey

Source: Turkish Statistical Institute (TURKSTAT).

Methodology: The values of age 40, age 60, age 65, and age 80 are estimates that have been calculated indirectly according to the result of population projections made with the cohort-component method.

 **Break in time series in 1990:** New projected life expectancy data have been released by TURKSTAT in a preliminary report in March 2009, however the complete time series are not available yet. Between 1990-2009 the values of $e(0)$ are based on population projections according to the Address Based Population Registration System, 2009 and The Turkey Demographic and Health Survey, 2008 that were calculated with the cohort-component method.

Further information: <http://www.turkstat.gov.tr>.

United Kingdom

Sources:

From 1993: **Eurostat database.** Data extracted in November 2014.

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

Further information: <http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database> > Demography - National data (demo) > Mortality (demo_mor) > Life expectancy by age and sex (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.

- 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>.

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<http://www.oecd.org/health/healthdata>.