

Statistical bulletin

# National life tables – life expectancy in the UK: 2020 to 2022

Trends in period life expectancy, a measure of the average number of years people will live beyond their current age, analysed by age and sex for the UK and its constituent countries.



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# 1 . Main points

- Life expectancy at birth in the UK in 2020 to 2022 was 78.6 years for males and 82.6 years for females; compared with 2017 to 2019, life expectancy has fallen by 38 weeks from 79.3 years for males and by 23 weeks from 83.0 years for females.
- Life expectancy improvements have been slow for the last decade, and the latest estimates of life expectancy at birth are back to the same level as 2010 to 2012 for females and slightly below the 2010 to 2012 level for males.
- Life expectancy at age 65 years in the UK in 2020 to 2022 was 18.3 years for males and 20.8 years for females; this is a fall of 22 weeks for males and 15 weeks for females compared with life expectancy at age 65 in 2017 to 2019.
- The coronavirus (COVID-19) pandemic led to increased mortality in 2020 and 2021, and the impact of this is seen in the life expectancy estimates for 2020 to 2022.
- A fall in period life expectancy does not mean that a baby born in 2020 to 2022 will go on to live a shorter life; average lifespan will be determined by changes in mortality rates across their lifetime – if mortality rates improve, then period life expectancy will go back up.

Life expectancy estimates for 2010 to 2012 onwards for England, Wales and Northern Ireland have been updated to reflect the results of the 2021 Census; life expectancy estimates for Scotland and the UK for this period are provisional and will be updated once rebased population estimates are available from Scotland's 2022 Census.

## 2 . Life expectancy at birth

Over the last 40 years, life expectancy in the UK has generally been increasing (Figure 1). These improvements have been primarily because of reductions in mortality at older ages driven by advances in health care, and improvements in living and working conditions.

Since approximately 2011, the rate of increase in life expectancy has slowed. More recently the coronavirus (COVID-19) pandemic led to increased mortality in 2020 and 2021, and the impact of this is seen in the life expectancy estimates for 2020 to 2022.

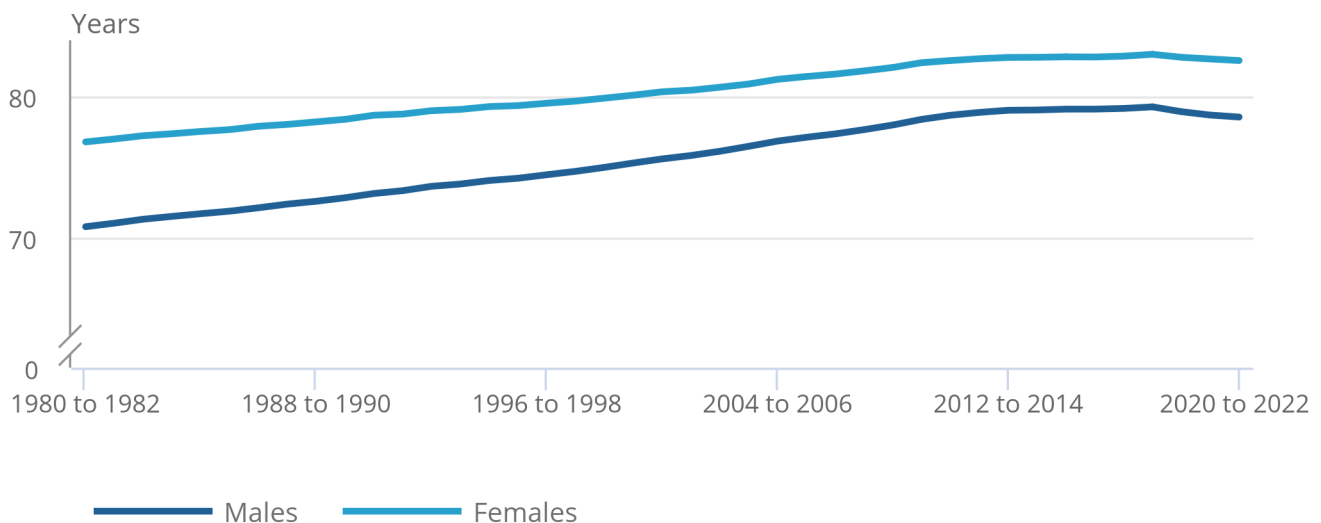
In this period, life expectancy at birth in the UK was 78.6 years for males and 82.6 years for females. This is 38 weeks (or 0.7 years) lower for males and 23 weeks (or 0.4 years) lower for females compared with 2017 to 2019, which is the latest non-overlapping period, and the most recent period before the start of the coronavirus pandemic.

**Figure 1: Life expectancy in the UK in 2020 to 2022 fell to approximately the level of a decade earlier (2010 to 2012) for males and for females**

Life expectancy at birth for males and females, UK, between 1980 to 1982 and 2020 to 2022

Figure 1: Life expectancy in the UK in 2020 to 2022 fell to approximately the level of a decade earlier (2010 to 2012) for males and for females

Life expectancy at birth for males and females, UK, between 1980 to 1982 and 2020 to 2022



Source: National life tables - life expectancy in the UK: 2020 to 2022 from the Office for National Statistics

Notes:

1. The 2020 to 2022 life tables for Scotland are provisional. The figures for the 2010 to 2012, to 2020 to 2022 for Scotland and for the UK will be superseded once rebased populations are available from Scotland's 2022 Census. The impact of these revisions is likely to be small for estimates of life expectancy for the UK because of the relative size of Scotland's population compared with the UK.

In the first decade of this century, we saw consistent improvements in period life expectancy for females and even stronger improvements for males (Figure 2). Improvements for males never fell below 40 weeks compared with the previous non-overlapping period, and occasionally were as much as one year (2009 to 2011 compared with 2006 to 2008, for males).

Since 2011, while we have still seen improvements from one three-year period to the next, the rate of these improvements slowed considerably. Notably, excess mortality due to winter flu led to low improvements in 2015 to 2017, of around four weeks for males and less than two weeks for females compared with the previous non-overlapping period.

The national life tables provide estimates of period life expectancy. When producing the national life tables we average mortality seen over three years to smooth out fluctuations caused by events such as a flu epidemic on reported life expectancy.

Across the UK in 2020, age-standardised mortality rates (ASMRs) for both males and females increased in comparison with the previous year during the coronavirus (COVID-19) pandemic. ASMRs for both males and females then decreased in 2021 and continued to decrease in 2022, although they remained higher than in 2019. For more information, see [death rates in England and Wales](#), [death rates in Scotland](#) and [death rates in Northern Ireland](#).

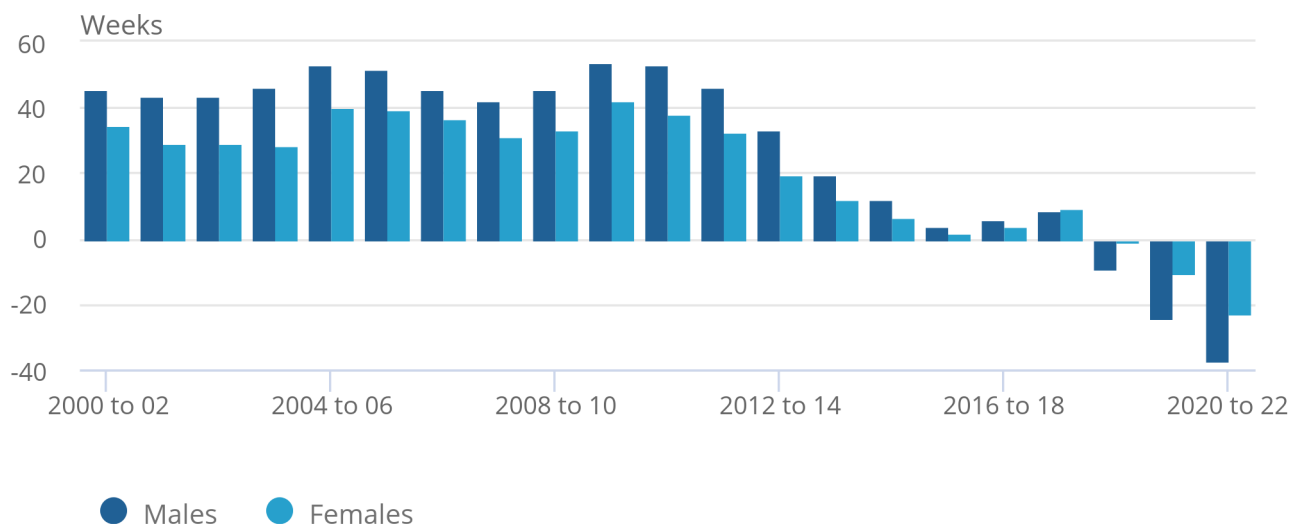
This increased mortality seen since 2020 has led to a fall in period life expectancy for the UK in the three most recent periods, when compared with their respective previous non-overlapping periods.

**Figure 2: The period 2020 to 2022 saw the largest decrease in life expectancy at birth for males and females since the data series began in 1980 to 1982**

Change in life expectancy at birth for each period, in weeks, compared with previous non-overlapping time period, UK, 2000-02, to 2020-22

Figure 2: The period 2020 to 2022 saw the largest decrease in life expectancy at birth for males and females since the data series began in 1980 to 1982

Change in life expectancy at birth for each period, in weeks, compared with previous non-overlapping time period, UK, 2000-02, to 2020-22



Source: National life tables - life expectancy in the UK: 2020 to 2022 from the Office for National Statistics

A fall in period life expectancy does not mean that a baby born in 2020 to 2022 will go on to live a shorter life; average lifespan will be determined by changes in mortality rates across their lifetime – if mortality rates improve, then period life expectancy will go back up.

We have also published [single year life tables](#) for the UK and its constituent countries. These show that life expectancy at birth was 79.0 years for males and 82.9 years for females in 2022, an increase from 78.5 years and 82.5 years for males and females, respectively, in 2021. It remains below the peak of 79.5 years and 83.2 years for males and females, respectively, estimated in 2019. This reflects that mortality rates were generally lower in 2022 than in 2021 but remained higher than in 2019.

Single year life tables are volatile and a less robust indicator of mortality trends than three-year life tables; for more information see [Section 8: Strengths and limitations](#).

Another measure of lifespan are [cohort life expectancies](#), which allow for projected improvement in mortality over time.

### **3 . Life expectancy at birth in UK countries**

Of the four UK nations, England consistently has the highest life expectancy at birth for males and females, and Scotland the lowest (Figure 3). Life expectancy at birth in 2020 to 2022 was estimated to be:

- in England, 78.8 years for males and 82.8 years for females
- in Scotland, 76.5 years for males and 80.7 years for females
- in Wales, 77.9 years for males and 81.8 years for females
- in Northern Ireland, 78.4 years for males and 82.3 years for females

Estimates for England, Wales and Northern Ireland from 2010 to 2012 onwards have been revised to reflect rebased population estimates using 2021 Census data and are comparable with each other. Estimates for Scotland are provisional and not currently comparable with the rest of the UK; they will be revised later in 2024 when rebased population estimates from Scotland's 2022 Census are available.

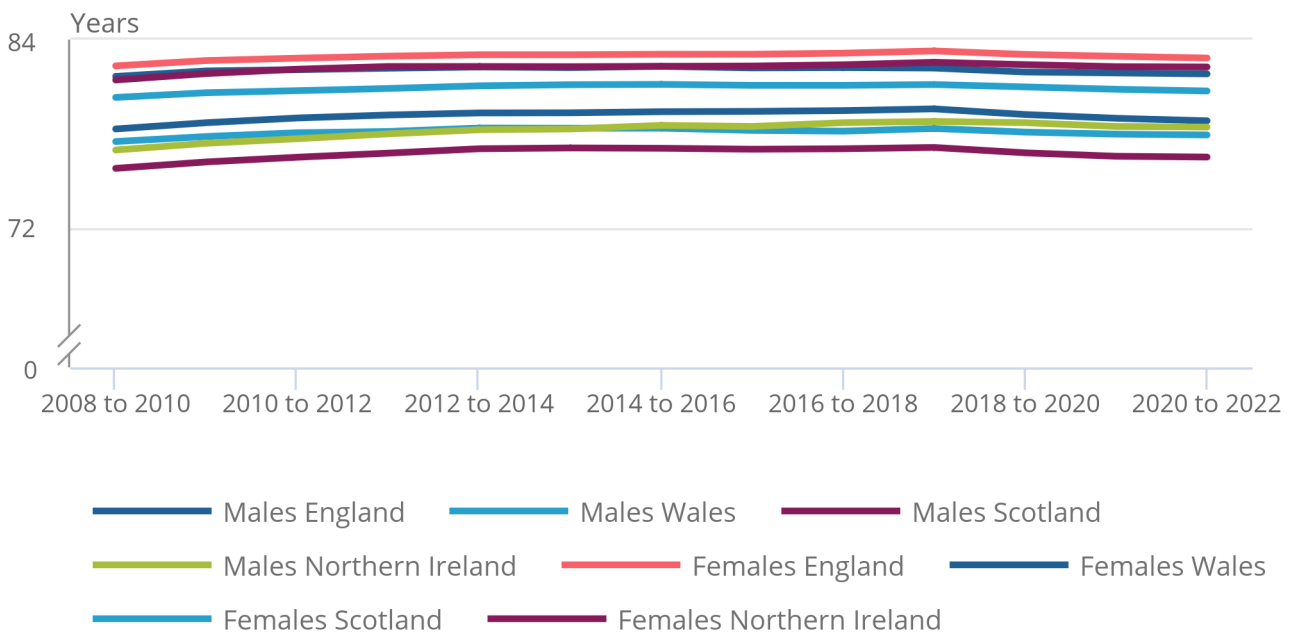
As well as variation between the UK countries, [life expectancy at birth varies sub-nationally](#) and is affected by other factors [including levels of deprivation](#).

**Figure 3: Life expectancy at birth fell in all four UK nations in 2020 to 2022 compared with 2017 to 2019**

Life expectancy at birth, males and females, UK countries, between 2008 to 2010 and 2020 to 2022

Figure 3: Life expectancy at birth fell in all four UK nations in 2020 to 2022 compared with 2017 to 2019

Life expectancy at birth, males and females, UK countries, between 2008 to 2010 and 2020 to 2022



Source: National life tables - life expectancy in the UK: 2020 to 2022 from the Office for National Statistics

Notes:

1. The 2020 to 2022 life tables for Scotland are provisional. The figures for the 2010 to 2012, to 2020 to 2022 for Scotland will be superseded once rebased populations are available from Scotlands 2022 Census.

## 4 . Life expectancy at older ages

The increased mortality seen since the start of the coronavirus (COVID-19) pandemic has also led to a decline in period life expectancy at age 65 years compared with 2017 to 2019. In 2020 to 2022, this was estimated to be 18.3 years for males and 20.8 years for females in the UK. These estimates are approximately the same as the level of life expectancy at age 65 in 2011 to 2013 for both males and females.

Period life expectancy at age 90 years in the UK was 3.8 years for males and 4.5 years for females in 2020 to 2022. Life expectancy at age 90 fluctuates slightly each year. While improvements in life expectancy at age 90 have been low for several years, previous improvements in mortality over many decades, as well as historical peaks in birth rates notably around 1920 to 1921, have resulted in an increasing number of people reaching the very oldest ages. Further analysis on this topic is available in our statistical bulletin [Estimates of the very old, including centenarians, UK: 2002 to 2022](#).

## 5 . National life tables – life expectancy in the UK: 2020 to 2022 data

### [National life tables: UK](#)

Dataset | Released 11 January 2024

Period life expectancy by age and sex for the UK. Each national life table is based on population estimates, births and deaths for a period of three consecutive years. Tables are published annually.

### [National life tables: England](#)

Dataset | Released 11 January 2024

Period life expectancy by age and sex for England. Each national life table is based on population estimates, births and deaths for a period of three consecutive years. Tables are published annually.

### [National life tables: Wales](#)

Dataset | Released 11 January 2024

Period life expectancy by age and sex for Wales. Each national life table is based on population estimates, births and deaths for a period of three consecutive years. Tables are published annually.

### [National life tables: Scotland](#)

Dataset | Released 11 January 2024

Period life expectancy by age and sex for Scotland. Each national life table is based on population estimates, births and deaths for a period of three consecutive years. Tables are published annually.

### [National life tables: Northern Ireland](#)

Dataset | Released 11 January 2024

Period life expectancy by age and sex for Northern Ireland. Each national life table is based on population estimates, births and deaths for a period of three consecutive years. Tables are published annually.

View all data used in this statistical bulletin on the [related data page](#).

## 6 . Glossary

### Life table

A life table is a demographic tool used to analyse death rates and calculate life expectancies at various ages. We calculate life tables separately for males and females because of their different mortality patterns.

## Life expectancy

This is a population-based statistical measure of the average number of years a person has before death. Life expectancies can be calculated for any age and give the further number of years a person can on average expect to live given the age they have attained.

## Life expectancy improvements

These refer to the differences in life expectancy by age and sex calculated between one year and the next.

# 7 . Measuring the data

National life tables are period life tables and are based on three consecutive years of data (in this case 2020, 2021 and 2022) to reduce the effect of annual fluctuations in the number of deaths caused by seasonal events such as "flu".

Period life expectancy is the average number of additional years a person would expect to live if he or she experienced the age-specific mortality rates of the given area and time period for the rest of their life. Further explanation of the methodology used to create the national life tables is available in our [guide to calculating national life tables](#).

The national life tables from 2010 to 2012 onwards for England, Wales, Northern Ireland, Great Britain and the UK have been updated to include rebased mid-year population estimates for mid-2012 onwards following the 2021 Census in England and Wales, and Northern Ireland. Estimates for Scotland (and for Great Britain and the UK) will be revised in the next release when rebased population estimates for Scotland for mid-2012 onwards following the 2022 Census in Scotland become available.

There are some differences in the method for producing estimates of the very old across the UK, which have fed into this release. Please see the notes in the datasets for more information.

Figures in the commentary in this bulletin are rounded to one decimal place. Calculations in this bulletin have been made using unrounded figures and life expectancy estimates to two decimal places can be found in the datasets for this release.

The [National life tables Quality and Methodology Information report](#) contains important information on:

- the strengths and limitations of the data
- the quality of the output: including the accuracy of the data and how it compares with related data
- uses and users
- how the output was created



## 8 . Strengths and limitations

The national life tables use a complete life table methodology and should be used by anyone making national comparisons of life expectancy. We also publish sub-national life expectancies, which use an abridged life table method. National life expectancy estimates are produced as part of the [sub-national life expectancy release](#). These will differ slightly to those published in the national life tables because of the different methodologies used and are published to allow users to compare sub-national and national life expectancies produced on the same basis. This [guide](#) provides more information on the various ONS life expectancy releases and their uses and [this guide describes the two types of life expectancy, period and cohort](#).

We have also published [single year life tables](#) alongside our three-year life tables. These have been published as a result of evidence of user need for single year data. Single year life tables are suited for analyses that require annual data and need more detailed information about mortality patterns. They can give a more granular and up-to-date perspective on whether mortality patterns are improving, worsening or staying in equilibrium than three-year average life tables.

However, single year life tables show figures that are typically more volatile than three-year average life tables. This is particularly the case recently because of the mortality associated with the coronavirus (COVID-19) pandemic. This makes single year life tables a less robust indicator of mortality trends. For this reason, they should not be used alone to draw conclusions about longer-term trends. Furthermore, smaller populations such as the UK constituent nations other than England are more prone to short-term volatility as single events can have a large effect on an already small population.

## 9 . Related links

### [Estimates of the very old \(including centenarians\), UK: 2002 to 2020](#)

Bulletin | Released 23 September 2021

Annual mid-year population estimates for people aged 90 years and over by sex and single year of age (90 to 104 years, and 105 years and over) and comparisons between UK countries.

### [Deaths registered in England and Wales: 2022](#)

Bulletin | Released 15 December 2023

Registered deaths by age, sex, selected underlying causes of death and the leading causes of death. Contains death rates and death registrations by area of residence and single year of age.

### [Life expectancy for local areas of the UK: between 2001 to 2003 and 2018 to 2020](#)

Bulletin | Released 23 September 2021

Subnational trends in the average number of years people will live beyond their current age measured by "period life expectancy".

### [Life expectancy in Scotland](#)

National Records of Scotland webpage

The latest statistics on life expectancy in Scotland, council areas, health boards and other areas.

### [Past and projected data from the period and cohort life tables, 2020-based, UK](#)

Bulletin | Released 12 January 2022

Life expectancy (e), probability of dying (q) and number of persons surviving (l) from the period and cohort life tables, using past and projected mortality data from the 2020-based interim national population projections (NPPs), for the UK and constituent countries.

### [Life expectancy calculator](#)

Interactive | Released 12 January 2022

Use our interactive calculator to find out your life expectancy and your chance of living to 100 years old.

## 10 . Cite this statistical bulletin

Office for National Statistics (ONS), released 11 January 2024, ONS website, statistical bulletin, [National life tables – life expectancy in the UK: 2020 to 2022](#)