Statistical bulletin

Past and projected period and cohort life tables: 2024-based, UK, 1981 to 2074

Period and cohort life tables, including expectations of life, using past and projected mortality data from the 2024-based national population projections.

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1 . Main points

- Girls born in the UK in 2024 can expect to live to age 90.2 years on average, and boys to age 86.9 years based on projections of cohort life expectancy, which take into account assumed future improvements in mortality.
- Cohort life expectancy at birth in the UK is projected to reach 92.4 years for girls and 89.6 years for boys born in 2049, an increase of 2.2 years and 2.6 years, respectively from 2024.
- The gap between female and male cohort life expectancy at birth in the UK has fallen from 4.4 years in 1981 to 3.3 years in 2024, and is projected to be 2.9 years in 2049.
- Females aged 65 years in the UK in 2024 can expect to live a further 22.7 years on average, and males a further 20.0 years based on cohort life expectancy, with this projected to rise to 24.6 years for females and 22.0 years for males in 2049.
- 26.3% of girls and 18.3% of boys born in 2049 in the UK are expected to live to at least 100 years of age, an increase from 19.1% of girls and 12.0% of boys born in 2024.
- The 2024-based cohort life expectancy projections are very similar to the 2022-based projections, with differences of less than 0.1 years for cohort life expectancy at birth in 2049 for both males and females.

2 . Life expectancy calculator

Use our interactive calculator to find out average life expectancy and the likelihood of living to age 100 years for someone of your age and sex, given assumed future mortality improvements.

This is average cohort life expectancy, which does not consider other factors that may affect life expectancy such as lifestyle or health conditions.

The life expectancy calculator is available for ages 0 to 100 years. Expectations of life at the oldest ages are highly uncertain and have not been included in the life expectancy calculator or accompanying data tables.

Life expectancy calculator

Source: Past and projected period and cohort life tables: 2024-based, UK, 1981 to 2074 from the Office for National Statistics

The average life expectancy values are age as at last birthday. For example, if the average life expectancy was 87.95 years, the age provided by the life expectancy calculator would be 87 years.

3 . Principal projections of period and cohort life expectancy

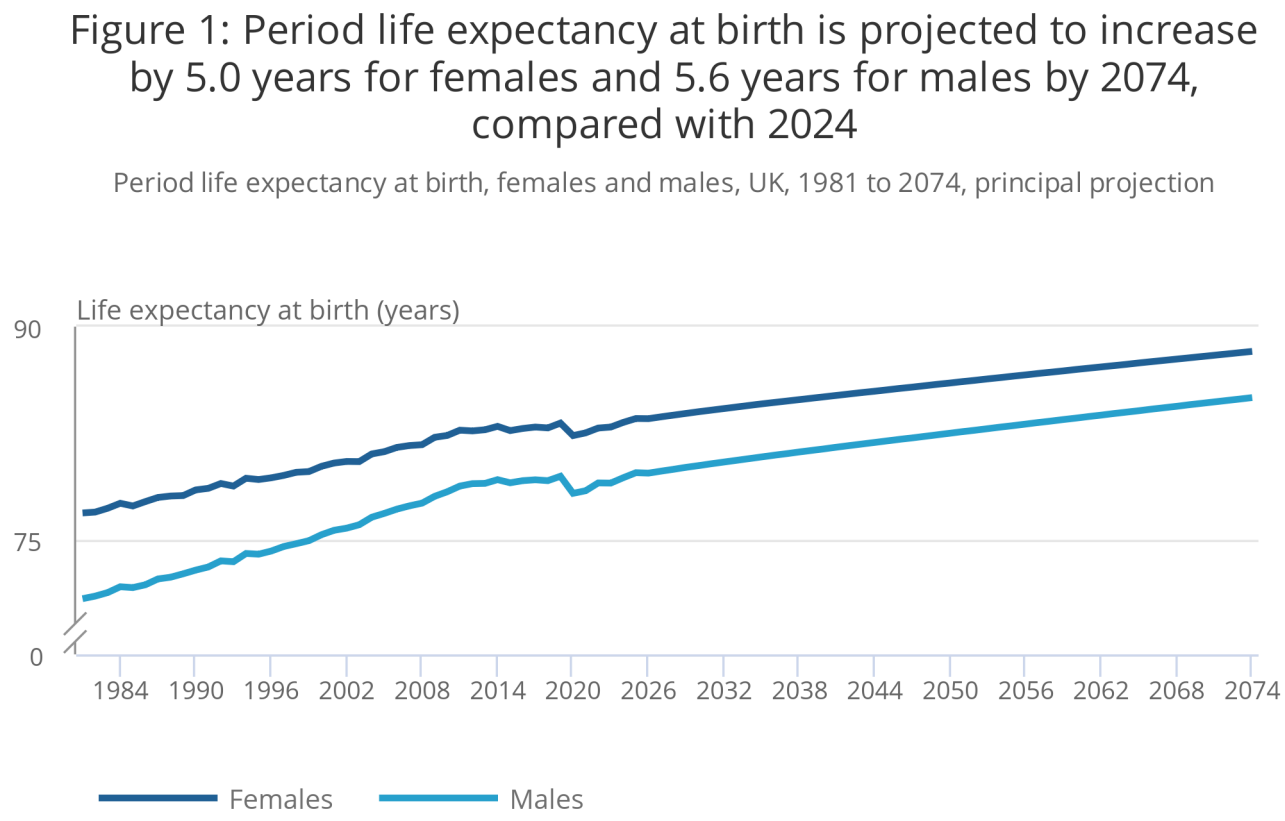
Life expectancy projections are based on assumptions about future changes in mortality rates by age and sex, which are informed by trends in historical data and expert opinion.

Period life expectancy tells us how much longer (on average) a person of a given age is expected to live based on the mortality rates in a specific year (or group of years). It assumes that these age-specific mortality rates will apply throughout the remainder of a person's life and is produced separately for males and females For the definition of period life expectancy, please see Section 8: Glossary.

Figure 1 shows that period life expectancy at birth in the UK is projected to reach 88.3 years for females and 85.0 years for males in 2074. This is a projected increase of 5.0 years for females and 5.6 years for males compared with 2024 (83.3 years for females and 79.4 for males).

Figure 1: Period life expectancy at birth is projected to increase by 5.0 years for females and 5.6 years for males by 2074, compared with 2024

Period life expectancy at birth, females and males, UK, 1981 to 2074, principal projection



Source: Past and projected period and cohort life tables: 2024-based, UK, 1981 to 2074 from the Office for National Statistics

Cohort life expectancy is seen as a more realistic measure of how long a person can expect to live for because it accounts for future projected improvements in mortality. Cohort life expectancy is the average number of additional years a person would live allowing for assumed future changes in mortality for their cohort over the remainder of their life. A cohort refers to people with the same year of birth. For the definition of cohort life expectancy, please see Section 8: Glossary.

Example

Chloe and Jack are twins who were born in the UK in the year 2000.

In 2026, Chloe and Jack are 26 years old.

Period life expectancy for a female aged 26 years in 2026 is 58.0 additional years and for a male is 54.3 additional years, a difference of 3.6 years. These life expectancies are calculated using the mortality rates for 2026 for age 26 years, age 27 years, age 28 years, and so on.

Cohort life expectancy for a female aged 26 years in 2026 is 62.6 additional years and for a male is 59.2 additional years, a difference of 3.4 years. These life expectancies are calculated using the mortality rates for age 26 years in 2026, age 27 years in 2027, age 28 years in 2028, and so on.

As we project that mortality rates at each age will improve over time, cohort life expectancy is longer than period life expectancy.

A more detailed explanation of the difference between period and cohort life expectancies can be found in our methodology article Period and cohort life expectancy explained.

Figure 2 shows that cohort life expectancy at birth in the UK was 90.2 years for females and 86.9 years for males in 2024. This is projected to rise to 92.4 years for females in 2049 (an increase of 2.2 years) and to 89.6 years for males in 2049 (an increase of 2.6 years). For the UK, the difference between female and male cohort life expectancy at birth has fallen from 4.4 years in 1981 to 3.3 years in 2024, and is projected to be 2.9 years in 2049.

Figure 2: The 2024-based projections of cohort life expectancy at birth are similar to the 2022-based projections for both females and males

Cohort life expectancy at birth, females and males, UK, 1981 to 2074, principal projection

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The 2024-based principal projections of cohort life expectancy are similar to the 2022-based principal projections, with differences of less than 0.1 years for cohort life expectancy at birth in 2049 for both males and females. This reflects the fact that the same long-term mortality improvement rates were used for the 2024-based principal projections as for the 2022-based principal projections. Additionally, other than in the youngest and oldest ages, the mortality rates observed in 2024, the base year, were similar to the projected rates for 2024 in the 2022-based projections.

More information on how our mortality projections have changed over time can be found in Section 4 of our National populations, mortality assumptions: 2024-based methodology article.

4 . High and low life expectancy variant projections

Variant projections show how life expectancy may change under different future scenarios. For example, the low life expectancy variant assumes lower levels of annual mortality improvement, and results in lower projected life expectancies over the projection period. More information on the variant projections is available in Section 5 of our National populations, mortality assumptions: 2024-based methodology article.

Figure 3 shows that for the high life expectancy variant, cohort life expectancy at birth in the UK was 94.0 years for females and 91.2 years for males born in 2024. This is projected to reach 96.9 years for females and 94.8 years for males born in 2049, an increase of 2.9 years and 3.6 years, respectively.

For the low life expectancy variant, cohort life expectancy at birth in the UK was 87.1 years for females and 83.5 years for males born in 2024. This is projected to increase to 88.3 years for females and 84.9 years for males born in 2049, an increase of 1.2 years and 1.4 years, respectively.

Figure 3: Cohort life expectancy is projected to increase for the principal projection and both variants, for females and males

Cohort life expectancy at birth, females and males, UK, 1981 to 2074, principal projection, high life expectancy variant and low life expectancy variant

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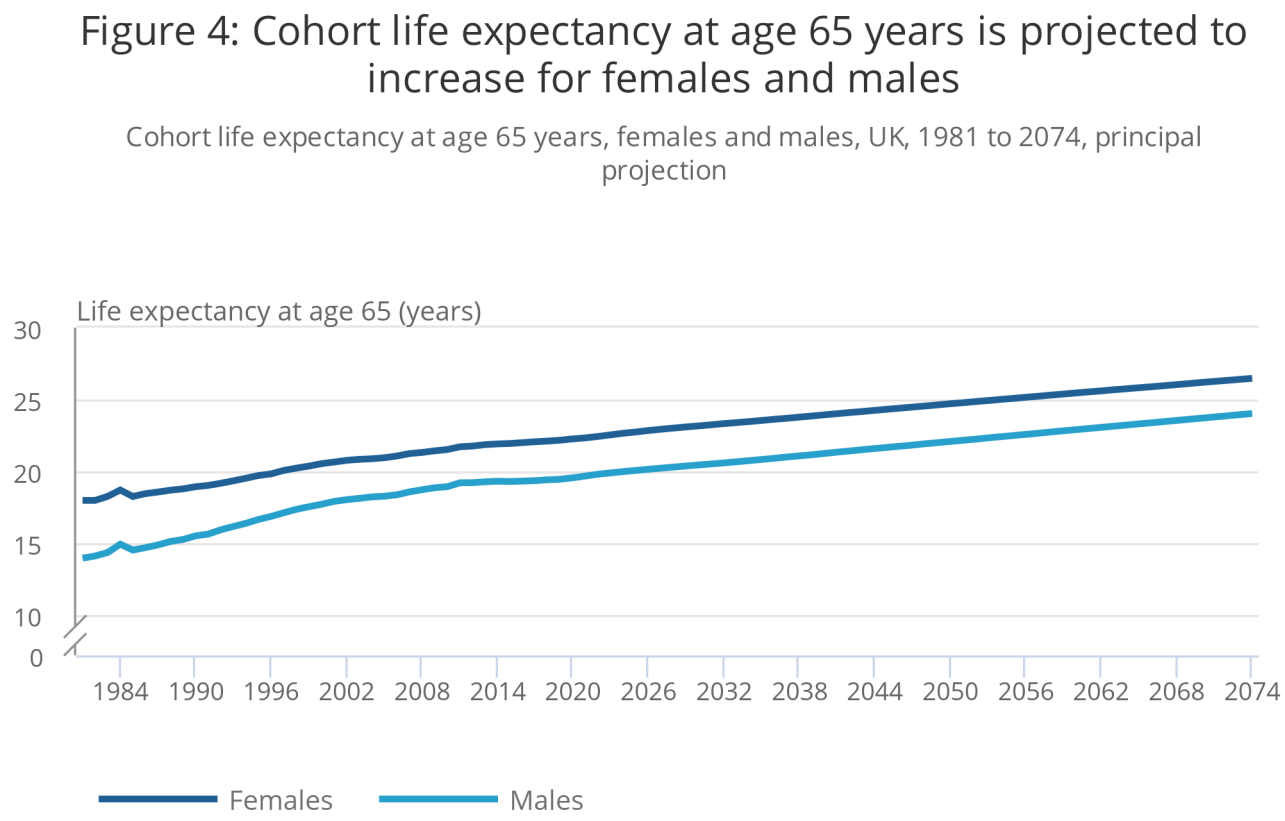
5 . Projected life expectancy at older ages

This section looks at the effect of projected mortality rates on cohort life expectancy at older ages and on chances of survival to at least age 100 years. These allow us to understand the size of the projected population at older ages, which is important for policy making and service planning.

In 2024, females aged 65 years in the UK are expected to live a further 22.7 years on average, compared with 20.0 years for males (Figure 4). By 2049, this is projected to increase to 24.6 additional years for females and 22.0 additional years for males, an increase of 2.0 years for both sexes. These cohort life expectancy projections account for assumed improvements in mortality rates at older ages over time.

Figure 4: Cohort life expectancy at age 65 years is projected to increase for females and males

Cohort life expectancy at age 65 years, females and males, UK, 1981 to 2074, principal projection



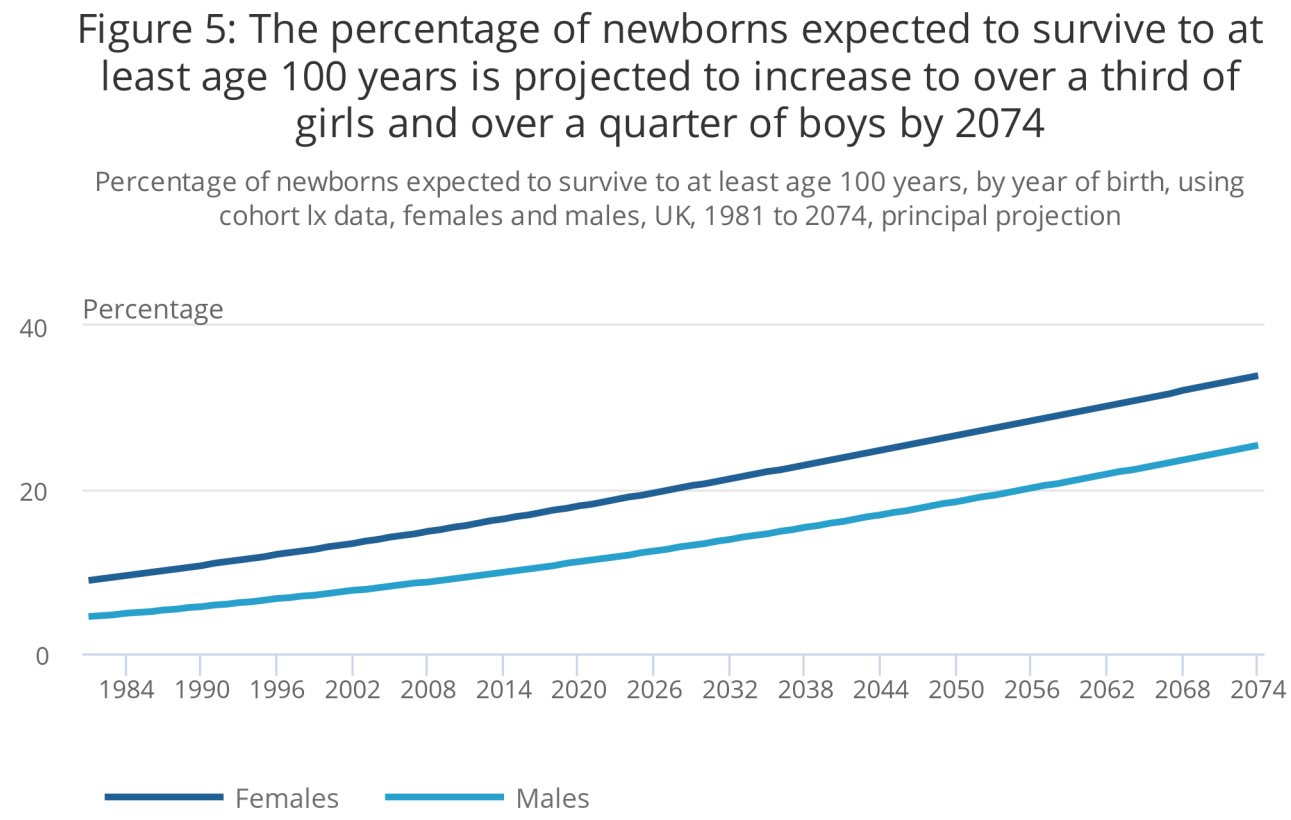
Source: Past and projected period and cohort life tables: 2024-based, UK, 1981 to 2074 from the Office for National Statistics

Mortality projections also allow us to analyse the probability of individuals from each cohort surviving to reach a particular age. To do this we use the Numbers surviving at exact age (lx), principal projection, UK datasets, which are published as part of this release.

Figure 5 shows that 19.1% of girls and 12.0% of boys born in 2024 are expected to live to at least age 100 years. These percentages are projected to increase to 26.3% of girls and 18.3% of boys born in 2049. By 2074, 33.9% of baby girls and 25.4% of baby boys are expected to live to age 100 years or over.

Figure 5: The percentage of newborns expected to survive to at least age 100 years is projected to increase to over a third of girls and over a quarter of boys by 2074

Percentage of newborns expected to survive to at least age 100 years, by year of birth, using cohort lx data, females and males, UK, 1981 to 2074, principal projection



Source: Past and projected period and cohort life tables: 2024-based, UK, 1981 to 2074 from the Office for National Statistics

6 . Projected life expectancy across UK countries

Among the constituent countries of the UK, historically, England has had the highest cohort life expectancy at birth and Scotland the lowest. For Northern Ireland and Wales, life expectancy at birth has been similar.

Figure 6: Differences in life expectancy at birth within the UK are projected to narrow

Cohort life expectancy at birth for UK constituent countries, females and males, 1981 to 2074, principal projection

Figure 6 shows that cohort life expectancy at birth is projected to remain highest in England and lowest in Scotland, but the gap in cohort life expectancy between the countries is projected to narrow over time. In 2024, the gap in cohort life expectancy at birth between England and Scotland was 1.8 years for females and 1.9 years for males. By 2074, because life expectancy in Scotland is projected to increase more than in the other UK countries, this gap is projected to narrow to 1.3 years for both females and males.

Table 1: Cohort life expectancy at birth for selected years, females and males, UK and constituent countries, principal projection

	Females			Males		
Year	**2024**	**2049**	**2074**	**2024**	**2049**	**2074**
UK	90.2	92.4	94.3	86.9	89.6	91.8
England	90.4	92.6	94.5	87.1	89.7	91.9
Wales	89.7	92.0	93.9	86.3	89.0	91.3
Scotland	88.6	91.0	93.1	85.3	88.2	90.6
Northern Ireland	89.9	92.2	94.1	86.5	89.2	91.5

Source: Past and projected period and cohort life tables: 2024-based, UK, 1981 to 2074 from the Office for National Statistics

7 . Data on past and projected period and cohort life tables

Expectation of life (ex), principal projection, UK
Dataset | Released 15 May 2026
Period and cohort expectation of life in the UK using the principal projection by single year of age 0 to 100.

Expectation of life (ex), high life expectancy variant, UK
Dataset | Released 15 May 2026
Period and cohort expectation of life in the UK using the high life expectancy variant, by single year of age 0 to 100.

Expectation of life (ex), low life expectancy variant, UK
Dataset | Released 15 May 2026
Period and cohort expectation of life in the UK using the low life expectancy variant, by single year of age 0 to 100.

Life tables, principal projection, UK
Dataset | Released 15 May 2026
Life tables for the UK, period and cohort, from the principal projection, single year of age 0 to 100. Historical data before 1966 are not accredited official statistics.

Mortality rates (qx), principal projection, UK
Dataset | Released 15 May 2026
Period and cohort mortality rates (qx) for the UK using the principal projection, by single year of age 0 to 100.

Numbers surviving at exact age x (lx), principal projection, UK
Dataset | Released 15 May 2026
Period and cohort numbers surviving at exact age x (lx) in the UK using the principal projection, by single year of age 0 to 100.

8 . Glossary

Period life expectancy

The average number of additional years a person would live if he or she experienced the age-specific mortality rates of a given area and time period for the rest of their life.

Cohort life expectancy

The average number of additional years a person would live considering assumed future changes in mortality for their cohort over the remainder of their life. A cohort is a group of people with the same year of birth.

Mortality improvement rate

The percentage change in the age-specific mortality rate from one year to the next.

Number of persons surviving (lx)

The number of survivors to exact age x of 100,000 live births of the same sex who are assumed to be subject throughout their lives to the mortality rates experienced in the year or years to which the life table relates.

Probability of death (qx)

The probability that a person aged x exactly will die before reaching age (x plus 1).

9 . Data sources and quality

We produce period and cohort life tables biennially for the UK based on assumptions for future mortality from the national population projections (NPPs). The life tables provide historical and projected life expectancies (ex) by single year of age and sex, as well as probabilities of death (qx) and numbers of persons surviving (lx).

This bulletin and the accompanying data tables relate to our 2024-based national population projections bulletin published on 28 April 2026. The life tables cover the period 1981 to 2074 for the principal population projection and two mortality variants. They are based on observed population and deaths data for all years up to 2024, and projected population and deaths data for 2025 onwards.

The estimates in this bulletin are rounded to one decimal place. Calculations in this bulletin have been made using unrounded data. Estimates to two decimal places are available in the accompanying data tables.

Mortality projections are based on assumptions about future changes in mortality rates by age and sex, which are informed by trends in historical data and expert opinion. To produce the mortality assumptions, we model age-specific mortality improvements from the base year and assume they will converge to a long-term mortality improvement rate in the 25th year of the projection. All future years' mortality improvements by age beyond the 25th year are assumed to be at the level of the long-term rate for that age.

For our 2024-based mortality assumptions methodology, we used an Age-Period-Cohort (APC) model. The model used calendar year death registrations and mid-year population estimates from 1975 to 2024 to project future mortality rates and improvement rates by age and sex. We first used this model for the 2022-based mortality assumptions.

The long-term mortality improvement rates were set as follows:

- principal projection: 1.1% for ages 0 to 90 years, reducing linearly between the ages of 91 and 110 years to 0% for ages 110 years and over
- high life expectancy variant: 1.9% for ages 0 to 90 years, reducing linearly between the ages of 91 and 110 years to 0% for ages 110 years and over
- low life expectancy variant: 0.5% for ages 0 to 90 years, reducing linearly between the ages of 91 and 110 years to 0% for ages 110 years and over

The long-term improvement rates for the principal projection and low life expectancy variant are the same as those used in the 2022-based projections. The long-term improvement rate for the high life expectancy variant is higher than that used in the 2022-based projections (1.5%), reflecting the continued uncertainty around future mortality trends and to provide a greater range to illustrate sensitivity.

Long-term improvement rates were assumed to be the same for females and males and for England, Wales, Scotland, and Northern Ireland.

More information on the mortality assumptions is available in our National population projections, mortality assumptions: 2024-based methodology.

Further explanation and guidance on how to use the data published in the past and projected period and cohort life tables is available in our Guide to interpreting past and projected period and cohort life tables.

A more detailed explanation of the difference between period and cohort life expectancies can be found in our Period and cohort life expectancy explained article.

Further information on data quality and methods is available in our National life tables Quality and Methodology Information report and our National population projections quality and methods guide.

Accredited official statistics

These accredited official statistics were independently reviewed by the Office for Statistics Regulation in April 2011. They comply with the standards of trustworthiness, quality, and value inthe Code of Practice for Statistics and should be labelled “accredited official statistics”.

10 . Related links

Guide to interpreting past and projected period and cohort life tables
Methodology | Updated 15 May 2026
Explanation and guidance on how to use the data published in the past and projected period and cohort life tables.

National population projections, mortality assumptions: 2024-based
Methodology | Released 28 April 2026
The data sources and methodology used to produce mortality assumptions in the 2024-based national population projections.

National population projections: 2024-based
Bulletin | Released 28 April 2026
The potential future population size of the UK and its constituent countries. These statistics are widely used in planning, including fiscal projections, health, education and pensions.

National life tables – life expectancy in the UK: 2022 to 2024
Bulletin | Released 10 December 2025
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.

Life expectancy for local areas of the UK: between 2001 to 2003 and 2022 to 2024
Bulletin | Released 10 December 2025
Subnational trends in period life expectancy, a measure of the average number of years people will live beyond their current age.

Period and cohort life expectancy explained
Methodology | Released 19 January 2023
A guide to the two types of life table – cohort and period – used to calculate past and projected life expectancy.

11 . Cite this statistical bulletin

Office for National Statistics (ONS), released 15 May 2026, ONS website, statistical bulletin, Past and projected period and cohort life tables: 2024-based, UK, 1981 to 2074