

Statistical bulletin

# National population projections: 2022-based

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.

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# 1 . Main points

- Over the 10 years between mid-2022 and mid-2032, the population of the UK is projected to increase by 4.9 million (7.3%) from an estimated 67.6 million to 72.5 million; this increase is projected to arise from net migration of 4.9 million compared with 6.8 million births and 6.8 million deaths.
- The population projections for the UK are based on an assumption of long-term net international migration of 340,000 per year from year ending mid-2028 onwards; there is always uncertainty in estimates and projections of migration, meaning actual levels of future migration and the resulting population may be higher or lower than assumed in these projections.
- Between mid-2022 to mid-2032, it is projected that there will be a similar number of deaths and births in the UK; although births are projected to increase slightly, deaths are projected to rise because of the relatively large number of people born in the post-World War 2 period reaching older ages.
- Between mid-2022 and mid-2032, the number of people at state pension age is projected to increase by 1.7 million from an estimated 12.0 million to 13.7 million people (13.8% increase); this takes into account the planned increases in State Pension age to 67 for both sexes.
- England's population is projected to grow more quickly than other UK nations between mid-2022 and mid-2032: by 7.8%, compared with 5.9% for Wales, 4.4% for Scotland and 2.1% for Northern Ireland.
- These projections assume higher long-term international migration than in the previous (2021-based) national population projections; the projections also assume lower future fertility and life expectancy improvement.

National population projections are not forecasts and do not attempt to predict potential changes in international migration. Migration assumptions do not directly account for recent and future policy or economic changes. Demographic assumptions for future fertility, mortality and migration are based on observed demographic trends.

The projected population of the UK and its constituent countries for mid-2023 – within the 2022-based national population projections (NPPs) - does not match official mid-2023 population estimates, which were published in 2024. This is because, in the NPPs for England, Wales, and Scotland, figures for mid-2023 use migration statistics from our [Long-term international migration, provisional: year ending June 2024 bulletin](#) and other data which were not part of the population estimates when they were last produced for mid-2023. For Northern Ireland, the NPPs differ from the mid-year population estimates. This is because of the application of demographic assumptions in the NPPs from the base year, especially where cross-border migration between Northern Ireland and the rest of the UK is based on rates and informed by a five-year average of the years before mid-2022.

We recommend the continued use of [Population estimates for the UK, England, Wales, Scotland and Northern Ireland: mid-2023](#) for years up to, and including, mid-2023, for the UK and each of its constituent countries, until the mid-year estimates are revised as part of the mid-year population estimates publication for mid-2024, later in 2025.

## 2 . UK population

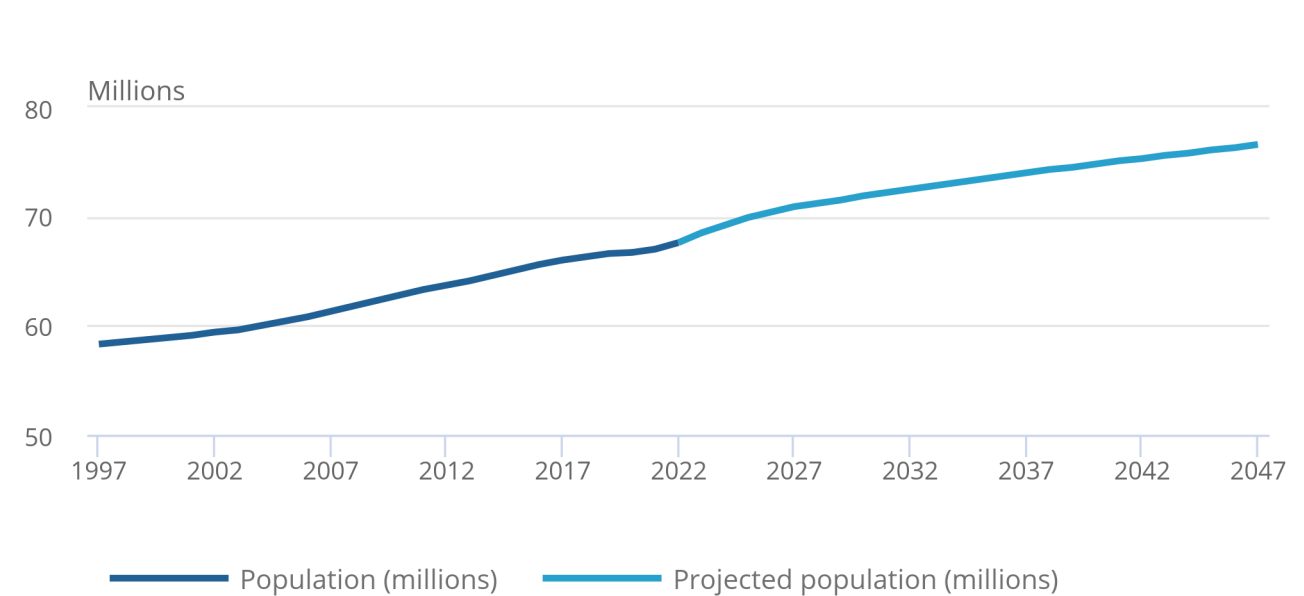
Over the first 10 years of the projections period, the UK population is projected to rise by 4.9 million from 67.6 million in mid-2022 to 72.5 million in mid-2032 (7.3% increase). In comparison, between 2012 and 2022, the population is estimated to have grown by 3.9 million (6.1% increase).

**Figure 1: UK population is projected to rise to 72.5 million by mid-2032 and to 76.6 million by mid-2047**

UK population estimates mid-1997 to mid-2022 and projections to mid-2047

Figure 1: UK population is projected to rise to 72.5 million by mid-2032 and to 76.6 million by mid-2047

UK population estimates mid-1997 to mid-2022 and projections to mid-2047



**Source: Mid-year population estimates and 2022-based national population projections from the Office for National Statistics**

**Notes:**

1. Some cells in this table are empty because data are not available for these time points.

Projected growth over the 10-year period between mid-2022 and mid-2032 varies between the four countries of the UK. England's population is projected to grow by 7.8%, Wales by 5.9%, Scotland by 4.4%, and Northern Ireland has the lowest projected growth at 2.1%.

Over the 25 years between mid-2022 and mid-2047, the total projected growth for the UK population (Table 1), is 8.9 million (13.2%). In comparison, the population growth for the last 25 years between 1997 to 2022, was estimated to be 9.3 million (15.9%). Population growth over the next 25 years is projected to be slower than the 25 years to mid-2022.

Table 1: Estimated and projected population of the UK and constituent countries, mid-2022 to mid-2047, millions (persons)

	<b>2022</b>	<b>2027</b>	<b>2032</b>	<b>2037</b>	<b>2042</b>	<b>2047</b>
<b>UK</b>	67.6	70.9	72.5	74.0	75.3	76.6
<b>England</b>	57.1	60.0	61.6	62.9	64.2	65.4
<b>Wales</b>	3.1	3.3	3.3	3.4	3.4	3.5
<b>Scotland</b>	5.4	5.6	5.7	5.7	5.8	5.8
<b>Northern Ireland</b>	1.9	1.9	2.0	1.9	1.9	1.9

Source: National population projections from the Office for National Statistics

#### Notes

1. Figures may not sum because of rounding.

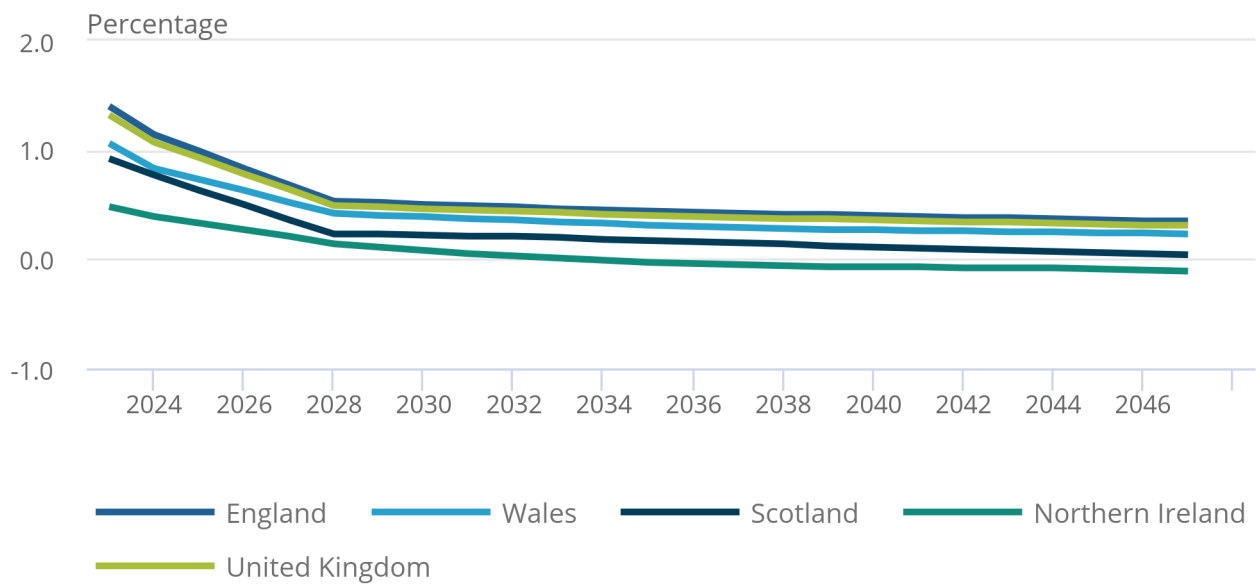
Over the 25-year period between mid-2022 and mid-2047, England's population is projected to increase by 14.5%. The projected increase over the same period is 10.3% for Wales and 1.1% for Northern Ireland. Scotland is projected to increase by 6.2% over the same 25-year period. Northern Ireland's population is projected to increase until mid-2033, and decline thereafter, making its 10-year projected growth (2.1%) larger than its 25-year projected growth (1.1%). Figure 2 shows the population growth of the UK and its constituent countries is projected to decline between mid-2023 and mid-2047, with population growth in Northern Ireland projected to be negative from mid-2034 onwards.

**Figure 2: Population growth rate of the UK and its constituent countries is projected to decline**

Projected annual population growth of the UK and its constituent countries, between mid-2023 and mid-2047

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Projected annual population growth of the UK and its constituent countries, between mid-2023 and mid-2047



Source: National population projections from the Office for National Statistics

The population of the UK is projected to pass 70.0 million by mid-2026 and 75.0 million by mid-2041. These dates align with those in the previous (2021-based) projections.

### 3 . Births, deaths, and migration

Over the 10 years from mid-2022 to mid-2032, the population of the UK is projected to increase by 4.9 million. During this period, it is projected that:

- 6,790,000 people will be born
- 6,807,000 people will die
- 9,914,000 people will immigrate long term to the UK
- 4,978,000 people will emigrate long term from the UK

Please note these figures may not sum because of rounding.

Over the 10 years between mid-2022 and mid-2032, there are projected to be around 17,000 more deaths than births. In recent years the balance between births and deaths has narrowed as we have seen a low number of births and higher number of deaths; this is projected to continue and by 2029, it is projected that there will be more deaths than births in the UK. Net international migration is the difference between immigration and emigration. During the same decade, it is projected that net migration will be 4.9 million people.

Net migration is projected to be the only source of population growth in the UK over the next 25 years. Over the 25-year period between mid-2022 and mid-2047 it is projected that there will be 1.1 million more deaths than births. During this period, it is projected that the population will grow by 8.9 million, with projected net migration totalling 10.0 million.

Figure 3 shows that net international migration is projected to decline until year ending mid-2028, at which point it is assumed to remain constant at 340,000 annually as a long-term average. This is the long-term assumption, which is based on average annual net-international migration over the preceding 10-year period to mid-2023 and provides a potential long-term average level of future net international migration. Demographic behaviour is inherently uncertain, so it is not possible to predict future migration trends. The long-term assumption should not be viewed as a forecast, but as a scenario where long-term net migration averages out at a certain level.

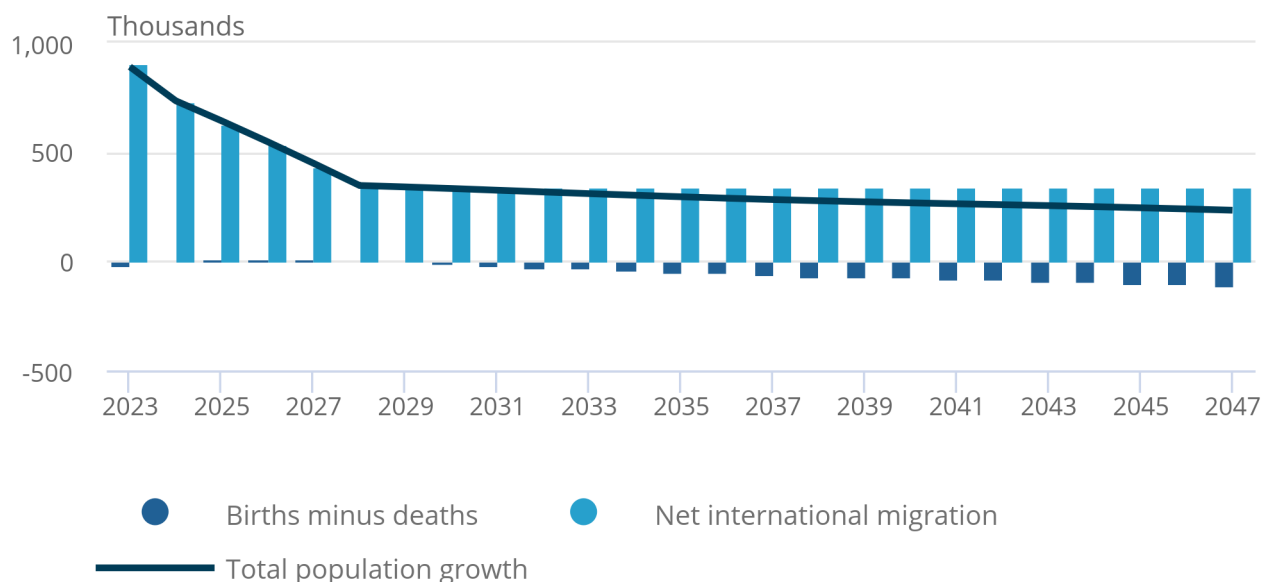
Figure 3 shows that in the year to mid-2023, there were more deaths than births in the UK. Between year ending mid-2024 and mid-2028, it is projected that births will outnumber deaths. In contrast, from the year to mid-2029, it is projected that there will be more deaths than births, increasing each year, with 107,000 more deaths than births projected in the year to mid-2047.

**Figure 3: By mid-2029 deaths will outnumber births, while net international migration will become the only source of population growth**

Projected births minus deaths and net international migration, UK, years ending mid-2023 to mid-2047

**Figure 3: By mid-2029 deaths will outnumber births, while net international migration will become the only source of population growth**

Projected births minus deaths and net international migration, UK, years ending mid-2023 to mid-2047



Source: National population projections from the Office for National Statistics

## 4 . Changing age structure

The population pyramid in Figure 4 shows the age structure of the population in mid-2022 and the projected age structure in mid-2032.

In mid-2022, there were more females than males at older ages, reflecting their higher life expectancy. The spike at age 75 years reflects the baby boom after World War 2 and the second peak around age 57 years reflects the baby boom of the 1960s. The decreases in the late teenage years are because of lower birth rates around the turn of the millennium.

In mid-2032, there are still projected to be more females than males at older ages. The post-World War 2 spike represents 85-year-olds, and the 1960s baby boom peak represents those aged around 67 years. The decrease found in the late teenage years in mid-2022 is reduced by mid-2032 because of projected net migration in these age groups.

**Figure 4: Age structure of the UK population, mid-2022 and mid-2032**

## **More people at older ages**

In mid-2022 there were 1.7 million people aged 85 years and over, making up 2.5% of the population. By mid-2047, this is projected to have nearly doubled to 3.3 million, representing 4.3% of the total UK population. There are projected to be many more people at older ages by 2047, in part because of larger cohorts from the 1960s now being aged over 80 years, as well as general increases in life expectancy.



## Fewer children

There are projected to be fewer children in the UK by mid-2032 and mid-2047, compared with mid-2022. This reflects the assumed fertility rates in the 2020s and 2030s being lower than those around 2001 when UK fertility was at a record low.

Figure 5 shows the changing age structure in mid-2022, mid-2032, and mid-2047 by life stage: children, working age, and pensionable age. By mid-2032, the number of children (those aged from 0 to 15 years) is projected to decrease by 797,000 (negative 6.4%), from 12.4 million to 11.6 million. Conversely, the number of working-age people is projected to increase by 4.1 million (9.4%), from 43.2 million to 47.3 million, over the same period. Similarly, the number of people of pensionable age is projected to increase by 1.7 million (13.8%), from 12.0 million to 13.7 million. This takes into account the planned increases in State Pension age to 67 years for both sexes.

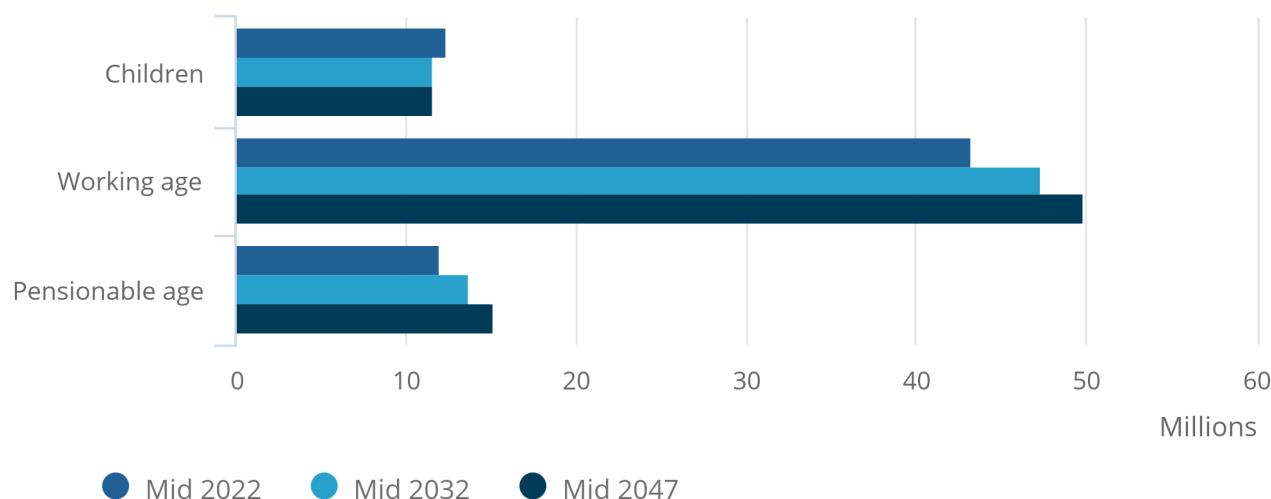
By mid-2047, the number of children is projected to remain around the mid-2032 levels. During the same period, the number of working-age people is projected to grow to 49.9 million, an increase of 15.5% on the level in 2022. The number of people of pensionable age is projected to increase by 25.5%, to 15.1 million. Therefore, the percentage of people of pensionable age is projected to grow the most of any life stage between mid-2022 and mid-2047.

**Figure 5: The number of working-age people is projected to increase the most of any life stage**

UK population by life stage, mid-2022, mid-2032 and mid-2047

Figure 5: The number of working-age people is projected to increase the most of any life stage

UK population by life stage, mid-2022, mid-2032 and mid-2047



Source: National population projections from the Office for National Statistics

**Notes:**

1. Children are defined as those aged 0 to 15 years.
2. Working age and pensionable age populations are based on State Pension age for the stated year according to current legislation.

The numbers of people in each life stage are important when considering dependency ratios, which inform government financial planning. A common measure is the old-age-dependency ratio (OADR), which is the number of people of pensionable age for every 1,000 people of working age. It is projected that OADR will increase from 278 in mid-2022 to 289 in mid-2032, reaching 302 by mid-2047.

## Interactive population pyramids

Explore in more detail how the UK population is projected to change over time in our interactive population pyramids.

**Figure 6: Use our interactive population pyramids to explore our projections**

## 5 . Changes since the 2021-based interim projections

The 2022-based national population projections are based on the population estimates from mid-2022 and use the latest data on births, deaths, and migration along with updated assumptions of potential future fertility, migration, and mortality. Assumptions for future fertility, mortality, and migration have been updated and details of these can be found in the following articles:

- [National Population projections, fertility assumptions: 2022-based](#)
- [National Population projections, mortality assumptions: 2022-based](#)
- [National Population projections, migration assumptions: 2022-based](#)

### Net international migration

Compared with the 2021-based interim national population projections (NPPs), we have assumed higher net international migration. The 2022-based NPPs long-term net international migration assumption is 340,000, up by 25,000 from 315,000 in the 2021-based projections. This assumption is based on 10 years of international migration data and expert advice, including insights from our [Long-term international migration, provisional: year ending June 2024 bulletin](#). We are using the latest available admin-based international migration data in the projections, including where this exists beyond the base year.

### Fertility

We have assumed a lower fertility rate than in the 2021-based interim NPPs. In the 2022-based NPPs the long-term total fertility rate is 1.45, down by 0.14 from 1.59 in the 2021-based projections. This reflects the long-term trends seen in fertility and input from our Expert Advisory Panel.

## Life expectancy

We have assumed a slightly different life expectancy rate for males, decreasing by 0.5 from 82.5 years in the 2021-based projections to 82 years in the 2022-based projections. Life expectancy for females remained stable at 85.6 years. This reflects the latest data and expert advice.

Table 2 contains details of the long-term assumptions for fertility, mortality, and international net migration (the difference between immigration and emigration). These assumptions should not be interpreted as predictions of the future, but as plausible scenarios based upon what has happened in the past.

Table 2: UK long-term assumptions for 2022-based national population projections compared with 2021-based

	2021-based	2022-based
<b>Net annual long-term international migration (year ending mid 2025 onwards)</b>	315,000	340,000
<b>Long-term average number of children per woman</b>	1.59	1.45
<b>Life expectancy at birth, males, 2047 (years)</b>	82.5	82.0
<b>Life expectancy at birth, females, 2047 (years)</b>	85.6	85.6

Source: National population projections from the Office for National Statistics

### Notes

1. Life expectancies are period expectations of life for the start of 2047. They do not account for future improvements in mortality projected after that point.
2. 2021-based NPPs reused mortality and fertility assumptions from 2020-based NPPs.
3. Fertility and mortality assumptions have been changed from the 2021-based interim national population projections with new assumptions based on recent data.
4. Net international migration does not include cross-border migration between the countries of the UK.

Table 3 shows headline statistics from the 2022-based NPPs compared with the previous 2021-based interim NPPs. At the total population level, there are no major differences between the 2021-based and 2022-based projected outcomes.

Table 3: Summary of UK projected outcomes, 2022-based and 2021-based NPPs

	2021-based interim	2022-based
<b>Projected UK population in mid-2032</b>	72.4 million	72.5 million
<b>Projected UK population in mid-2047</b>	76.8 million	76.6 million
<b>UK population projected to pass 70 million</b>	mid-2026	mid-2026
<b>UK population projected to pass 75 million</b>	mid-2041	mid-2041
<b>Projected old-age-dependency ratio (OADR) in mid-2047</b>	304	302

Source: National population projections from the Office for National Statistics

## 6 . Data on national populations

[National population projections table of contents](#)

Dataset | Released 28 January 2025

Tools to locate the dataset tables and supporting documentation for the 2022-based, 2021-based interim and 2020-based interim national population projections. Contains links to the principal and (where available) variant projections for the UK and constituent countries for 100 years ahead.

## 7 . Glossary

### Long-term assumptions

The 2022-based national principal projections are based on a set of long-term assumptions considered to best reflect recent patterns of future fertility, mortality, and net migration. These assumptions are based on past trends and input from an independent panel of experts. The assumptions are:

- by mid-2047, the average UK completed family size will be 1.45 children per woman
- by 2047, the annual improvement in UK mortality rates will be 1.1% for both males and females aged 0 to 90 years
- from year ending mid-2028 onwards, average annual net international migration to the UK will be 340,000

### Life expectancies

Life expectancies at birth are period expectations of life; this is the average number of years that a newborn baby could expect to live if the mortality rates at the time of their birth stayed constant throughout their lives. For example, life expectancy in the year between mid-2047 and mid-2048 reflects that projected for the start of 2048. It does not account for the continuing decline in mortality rates projected after that point.

### Old-age-dependency ratio (OADR)

The number of people of pensionable age for every 1,000 people of working age.

### Population projections

Population projections provide statistics on potential future population levels of the UK and its constituent countries by age and sex. These are based on assumptions of future levels of births, deaths, and migration.

### Total fertility rate

The total fertility rate (TFR) represents the average number of children born per woman if women experienced the age-specific fertility rates (ASFRs) of the year in question throughout their childbearing lives.

### Variant projections

Variant projections are based on alternative assumptions of fertility, mortality, and migration compared with the principal projection. These provide an indication of uncertainty in, and the outcomes of, alternative demographic assumptions but do not represent upper or lower limits of future demographic behaviour.

## 8 . Data sources and quality

National population projections (NPPs) provide an indication of the potential future population size of the UK and its constituent countries. These statistics are widely used in planning, for example:

- economic and fiscal forecasts
- health
- education
- pensions

The Office for National Statistics (ONS) normally produces NPPs for the UK and its constituent countries every two years, although this has changed around the time of the census and in response to user needs. This release supersedes the 2021-based NPPs release, published in January 2024 that followed 2020-based interim releases published in January 2023 and January 2022.

The 2022-based projections have been produced using a new set of demographic long-term assumptions for fertility, mortality, and migration, which are derived from analysis of past trends and through consultation with independent academic experts. The mid-year population estimate for mid-2022 is used as the start point of the projection. This release is based upon the 2022 mid-year estimate for the UK and a revised back series from the 2021 (England, Wales, and Northern Ireland) and 2022 (Scotland) censuses. Births and deaths are constrained to mid-2023 data available in published sources. The 2021-based interim NPPs reused fertility and mortality assumptions, only changing the migration assumptions.

This release provides a principal national population projection and 14 different variants, for example:

- high fertility
- low fertility
- high life expectancy
- low life expectancy
- high migration
- low migration
- zero net migration

These are single component variants, which show the effect of varying one assumption while keeping other assumptions in line with the principal projection. Others are combination variants, for example, old age structure and young age structure, which look at the effect of varying two or more assumptions. Information on the full range of variants is available in our [National population projections variant projections: 2022-based](#).

From reviewing expert advisory feedback and our own research, the National Population Projections Committee (NPP) comprising the Office for National Statistics (ONS), National Records of Scotland (NRS), Northern Ireland Statistics and Research Agency (NISRA) and the Welsh Government agreed to base the long-term assumptions on an average of 10 years of historical international migration data including the years ending mid-2022 and mid-2023. The long-term net migration assumption set out in our [National population projections, migration assumptions: 2022-based](#) is 340,000 from year ending mid-2028. This is slightly higher than the 315,000 assumption used in the [2021-based interim population projections](#).

The short-term assumptions are calculated by use of a three-year interpolation from the latest provisional estimate for mid-2024 to reach the long-term assumption in the year ending mid-2028. Please see our [National population projections table of contents](#) for a dataset providing the underlying international migration estimates which have informed the assumptions, and the assumptions for each year and country. There remains uncertainty over future directions and levels of international migration. Over recent years, there have been differences in international migration arising from:

- free movement ending for EU nationals as part of the introduction of the new immigration system in January 2021
- the easing of travel restrictions following the coronavirus (COVID-19) pandemic
- external developments such as the war in Ukraine and the Hong Kong scheme

Potential future changes in international migration are not directly accounted for in the migration assumptions used in these projections.

## Proposed timing of next projections

We plan to publish the 2022-based subnational population projections for England at local authority and health level on 9 May 2025. Updates on this and our other projections releases will be communicated in our quarterly Migration and Population Statistics Newsletter. To sign up to this, please contact us at [pop.info@ons.gov.uk](mailto:pop.info@ons.gov.uk).

## Strengths and limitations

National population projections (NPPs) are used both within and outside of government as the definitive set of NPPs. These are produced on a consistent basis for the constituent countries of the UK using the internationally accepted cohort component methodology. They help to inform fiscal projections, identifying future demand for health and education services, and estimating the future cost of state pensions.

The projections are based on the latest mid-year population estimates for each UK country and the latest births, deaths, and migration data. Projections are not forecasts and will differ from actual future outcomes to a greater or lesser extent. There is a margin of error in the underlying data, for example, estimates of the current population and past migration flows. In addition, the assumptions we have made about the future cannot be certain as patterns of births, death, and migration can change and are influenced by many factors. In most cases, each set of projections is superseded when the next scheduled release is published.

Many factors such as geopolitical, economic and policy change can impact fertility, mortality, and migration. However, it is not possible to consider all possible factors or to know in advance what impacts these might have. Therefore, the projections do not attempt to predict the impact of events such as the UK leaving the EU or the lasting effect of the coronavirus pandemic. However, the projections of people of State Pension age (SPA) do reflect future changes under existing legislation.

This bulletin focuses on the first 25 years of the projections, up to mid-2047. The data files include projections going forward 100 years, up to mid-2123. However, such long-term projections are subject to considerable uncertainty as much change can occur over that timescale.

## More quality and methodology information

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in our [National population projections QMI](#).

## 9 . Related links

[National population projections, background, methodology and assumption setting: 2022- based](#)

Methodology | Released 28 January 2025

Information on the data, methods, and assumption-setting process used to produce the 2022-based national population projections.

[UK population projection explorer](#)

Tool | 28 January 2025

An interactive tool that shows how changes in life expectancy, net migration, and fertility could affect the population over the next 50 years.

[National population projections QMI](#)

Methodology | Released 28 January 2025

Quality and methodology information (QMI) for national population projections, detailing the strengths and limitations of the data, methods used and data uses and users.

[National population projections, mortality assumptions: 2022-based](#)

Methodology | Released 28 January 2025

The data sources and methodology used to produce mortality assumptions in the 2022-based national population projections.

[National population projections, fertility assumptions: 2022-based](#)

Methodology | Released 28 January 2025

The data sources and methodology used to produce fertility assumptions in the 2022-based national population projections.

[National population projections, migration assumptions: 2022-based](#)

Methodology | Released 28 January 2025

The data sources and methodology used to produce migration assumptions in the 2022-based national population projections.

## 10 . Cite this statistical bulletin

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