

Fertility for those born in different years, England and Wales, quality and methods guide

What our fertility statistics cover, how we produce them, and their quality and comparability. Includes definitions and past, latest, and upcoming changes.

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1 . Overview

This guide provides quality and methods information for our [Fertility for those born in different years, England and Wales bulletin series](#).

We produce annual statistics on fertility for those born in different years in England and Wales. The historical data are derived from statistics recorded when a live birth is registered as part of a civil registration. It is a legal requirement to register births within a certain time and with correct information. Where relevant data are missing, birth registrations are linked with NHS birth notifications. This means the data are generally complete.

Validation checks are built into the registration online system. The Office for National Statistics (ONS) also carries out thorough validation and quality assurance checks on the relevant variables, to ensure our statistics are as accurate as possible.

We also include projected data for cohorts of women yet to complete childbearing. These data are derived from the fertility assumptions produced biannually as part of the national population projections.

These are a combination of accredited official statistics and official statistics in development. Our fertility statistics for women are accredited official statistics. Some information on male cohort fertility is also available from our 2024 publication onwards, and these statistics are official statistics in development. Projected data for men are not available. More information about the designation of these statistics is available in [Section 6: Quality of the statistics](#).

2 . Latest changes to quality and methods

We updated this guide on 10 June 2026. Important changes to quality and methods, since the previous release, include:

- providing data on male fertility for the first time, including data on completed family size, achieved family size by age, and age-specific male fertility rates; completed family size (CFS) is available from the 1949 born cohort of men and the latest CFS data are for the 1959 cohort
- changing the title of our statistical release from "Childbearing for women born in different years" to "Fertility for those born in different years" because of the addition of male fertility data

For more information on these latest changes, as well as any past and upcoming changes, go to [Section 7: Changes and their effects on comparability over time](#).

3 . What the statistics cover

We present statistics on fertility for those born in different years for England and Wales. The data are based on live births in a particular calendar year, and include:

- the average number of live-born children by age and year of birth of women (observed and projected data) and men (observed data)
- the proportion of women who have had at least one live birth, by age and year of birth of women (observed data only)
- the percentage distribution of women of childbearing age by the number of live-born children by age and year of birth of women (observed data only)
- age-specific fertility rates by age and year of birth of women (observed and projected data) and men (observed data only)

Live births to women whose usual residence is outside England and Wales, where the birth occurred and was registered in England or Wales, are included in the data. These data will also include births in England and Wales, whose father is resident elsewhere.

Breakdowns in the datasets

Statistics for women are broken down by:

- single year of age – for women aged 15 to 45 years on a completed-years basis and for women aged 16 to 45 years on an exact-years basis
- year of birth of women
- number of children – no children, one child, two children, three children, and four or more children

Statistics for men are broken down by:

- single year of age – for men aged 15 to 65 years on a completed-years basis and for men aged 16 to 65 years on an exact-years basis
- year of birth of men

What the statistics exclude

In this release, the number of children is based solely on the number of live-born children. Stillbirths, adopted or fostered children, and stepchildren are not included, as these statistics are based on live-birth registration data.

Births to women who are usually resident in England or Wales who gave birth abroad are not included. These data also exclude births to those residents of England and Wales who have fathered a child born abroad.

4 . Where the data come from

Birth registrations

Figures are compiled from information supplied when births occurring in England and Wales are registered with the Local Registration Service, in partnership with the General Register Office (GRO). This civil registration process is a legal requirement and must be done within 42 days of the birth. Further information on the data source is available in our [Births quality and methodology information \(QMI\)](#).

Birth notifications

Birth registration data can be supplemented by linking to the NHS birth notification (submitted by midwifery staff that are present at the birth) when a birth is registered. This linkage is conducted by the Office for National Statistics (ONS) to obtain the age of the mother, where this was missing on the birth registration.

5 . How we produce the statistics

Birth statistics present data on births that have occurred and have been registered in England and Wales. More detailed information on the production of birth statistics can be found in our [User guide to birth statistics](#).

To be able to analyse trends in the number of births women or men have had, we make several calculations to obtain fertility data, such as the cumulative average number of live-born children by age of mother or father, and age-specific fertility rates. Data available for women only also include the cumulative proportions of women who have had one or more live-born children and the percentage distributions of women by the number of children they have had.

These calculations are made using the most up-to-date, consistent mid-year estimates of the resident female population aged between 15 and 45 years and male population aged 15 to 65 years. Occasionally, population estimates are revised. We update the birth rates that are affected by these revisions when the next annual publication is released; we also include footnotes in tables to alert users to any revisions. For further information on revisions, go to our [Population estimates webpage](#).

Year of birth of mother and father

We report on those women giving birth from the ages of 15 to 45 years and men fathering children from ages 15 to 65 years because, while some women and men do have children before the age of 15 years and after the age of 45 or 65 years, the numbers are small and do not affect the overall patterns.

We use an increased age range for male completed family size because a man's reproductive span is not as well defined as a woman's, in terms of the upper age at which a man can father a child. This means we need a longer time series to calculate cohort measures.

Births to women aged 46 years and over and to men aged 66 years and over are included in the completed family size statistics by using a proxy. This is based on the number of births in the reporting year to women aged 46 years and older and to men aged 66 years and older born in previous years. While births to those women aged 46 years and above are increasing, these remain a small proportion of overall births and do not affect the overall patterns.

A small number of women/men start their childbearing before the age of 15 years, but these do not affect the overall patterns. Births to women/men under the age of 15 years are included in the age 15 years completed family size statistics.

Fertility statistics are calculated on a cohort basis (by the year of birth of the mother/father), rather than the year of birth of the child. The year of birth of the mother is by necessity approximate because, before 1963, data are available only by calendar year of occurrence and the age of mother at childbirth. For instance, women aged 32 years who gave birth to children in 2012 could have been born in either 1979 or 1980. For convenience, such women are regarded as belonging to the 1980 cohort. Father's age (from 1964) is treated in the same way as mother's age.

Imputation

Where the number of previous children is missing for the women's data, a random number is allocated to that record based on the average number of previous children 99% of women in the latest year's data, and who are of the same age, have had. This means that as age increases, the maximum number of previous children allocated to missing values also increases. If a mother's age is less than 15 years, the number of previous children is zero.

The advantages of imputation are that all records can be published by these variables, while time and money is not spent trying to obtain missing information. The disadvantage is that the data are not exact. We do not have data on the number of previous children for men, as this is not asked during the registration process.

When calculating parity of birth, an adjustment is made to the tables for any multiple births to ensure the births are not treated as one parity.

Father's age is more frequently not available, as births can be registered solely by the mother. To estimate father's age for sole-registered births, it has been assumed that for each age of mother, a suitable distribution for father's age can be provided by births outside marriage/civil partnership that are jointly registered.

A separate "father's age distribution" is therefore calculated for each age of mother (in single years) for all births outside marriage/civil partnership that are jointly registered. These distributions are then applied to the number of sole-registered births by each age of mother. For more information on the methodology used for estimating age of father, see Section 6: Calculating birth and fertility rates in our [User guide to birth statistics](#).

Tables 1 to 3 and 5 in our accompanying dataset refer to age in exact years, and Tables 4 and 6 refer to completed age.

Age-specific fertility rates

Age-specific fertility rates (ASFR) are a measure of fertility that are specific to the age of the mother/father. They are useful for comparing the reproductive behaviour of women or men at different ages. They are calculated by dividing the number of live births to mothers or fathers of each age by the number of females or males in the population of that age, and then expressed per 1,000 women or men of that age.

Male fertility rates are available for births occurring in 1964 onwards, as birth registration data are not available digitally before this year. Completed family size requires a full history of cumulative fertility over the course of a man's life. This means that cohorts of men without a full history (those born before 1949) are not available. ASFR are available for all cohorts of men at each age for which births data are available.

6 . Quality of the statistics

Statistical designation

Accredited official statistics

The Office for Statistics Regulation (OSR) independently reviewed the "childbearing for women born in different years" statistics (now known as "fertility for those born in different years" statistics) in September 2011. They comply with the standards of trustworthiness, quality and value in the [Code of Practice for Statistics](#) and should be labelled "accredited official statistics".

Official statistics in development

The male fertility statistics within this publication are labelled as "official statistics in development". Like the female statistics, they are based on data from birth registration and mid-year population estimates.

We are developing how we produce the statistics to improve their quality. Once we have completed the developments, we will review the statistics with the Statistics Head of Profession.

If the statistics meet trustworthiness, quality and value standards based on user feedback, we will remove the "official statistics in development" label to publish under the "official statistics" label.

If they do not meet trustworthiness, quality and value standards, we will further develop them and might stop producing them.

We will inform users of the outcome of our, and any OSR, review and any changes.

How we quality assure the data and statistics

Information supplied is believed to be correct, since wilfully supplying false information may render the informant (the person registering the birth) liable to prosecution for perjury. However, several checks are done on the data at different stages of the process. These include:

- validation checks that are carried out by the registrar at the point of registration
- validation checks that have been built into the Registration Online system to flag any issues
- checks on variables done by the Office for National Statistics (ONS), which includes checks on the age of the mother and the age of the father (where poor data quality would have a greater effect on published tables)
- when looking at multiple births, checks such as ensuring the number of triplets is divisible by three and that there is one maternity recorded for each set of triplets; any inconsistent birth records are queried with the General Register Office (GRO) monthly

Strengths and limitations

Strengths

- The number of births provided by birth registrations and birth notifications are generally complete and accurate because it is a legal requirement to submit these with the correct information and within a certain time period; in addition to this, both the ONS and registrars carry out validation checks.
- There is a large degree of comparability in birth statistics between countries within the UK; all figures are based on the details collected when births are registered.
- We publish complete cohort fertility data for women born in 1920 onwards and for men born in 1949 onwards.

Limitations

- Sometimes revisions to records and late registrations can happen after the dataset has been finalised, but these will not be reflected in statistics.

Revisions and late registrations

The annual births dataset used for our fertility release is a static file of birth registration records available at the time the dataset is taken. Revisions to records and late registrations can happen after the dataset has been finalised, but these will not be reflected in statistics. This is a trade-off with timeliness – if we waited for these late changes to come through, then the statistics would have to be published later. Since 2001, the number of late registrations that miss the cut-off date and end up in the following year's statistics has been fewer than 400.

Between 2001 and 2019, our annual births dataset included:

- births occurring in the reference year that were registered by 25 February the following year (parents are allowed 42 days to register a birth)
- births occurring in the year before the reference year but were registered late (after the previous 25 February cut-off) and therefore, were not included the previous year's statistics

There were delays in birth registrations in 2020 because of the coronavirus (COVID-19) pandemic. To get a more representative dataset of the births in 2020, a later cut-off point was taken to include more late registrations. Registration delays and how they affect births statistics are discussed in more detail in our [Births in England and Wales explained: 2020 article](#).

To achieve a balance between timeliness and completeness, we have used the following cut-off dates for our datasets:

- 12 August 2021 for the 2020 annual birth registrations dataset
- 16 May 2022 for the 2021 annual birth registrations dataset
- 18 April 2023 for the 2022 annual birth registrations dataset
- 28 March 2024 for the 2023 annual birth registrations dataset

From 2024, we returned to the cut-off date of 25 February the following year.

European Statistical System Quality Dimensions

This Quality and Methods Guide contains information on the quality characteristics of the data. This includes the [European Statistical System five dimensions of quality](#) as explained on Eurostat's website, as well as the methods used to create it.

The information in this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- reduce the risk of misusing data
- help you to decide suitable uses for the data
- understand the methods used to create the data

We have integrated these considerations into the guide.

7 . Changes and their effects on comparability over time

Over the years, we have changed how we produce the fertility for those born in different years statistics. Sometimes this is to improve the statistics, and sometimes it is because of external changes (such as software advancements, changes to policy, or changes to legal definitions).

Changes can sometimes affect comparability of the statistics over time.

Latest changes

Inclusion of male fertility

Male fertility on a cohort basis has been included for the first time in our 2024 release.

It is not possible to produce all tables for male fertility because of the differences in questions asked of men and women at the point of registration. Men are not asked how many previous children they have had. Without this information it is not possible to produce estimates of the proportion of men who have not fathered a child.

We produce male cumulative fertility tables on the average number of live-born children by age and year of birth of man (Table 5 in our accompanying dataset), and age-specific fertility rates by age and year of birth of man (Table 6 in our accompanying dataset). Before this, male fertility rates were only available on a period basis in our [Births in England and Wales bulletins](#).

Past changes

These changes are ordered by date, with the most recent first.

Inclusion of projection data

In our 2023 release, we included projected achieved fertility and completed family size data for the first time. This was based on data from the 2022-based national population projections (NPPs) principal projection for England and Wales; this was done so that we could provide insights into possible future fertility for different cohorts.

Information on the national population projections can be found in our [National population projections quality and methods guide](#). National population projections are updated every two years. The most recent 2024 release is based on the [2024-based national population projections](#).

Revisions

Mid-2023 population estimates released in July 2024 included revisions to the mid-2022 population estimates for England and Wales. These revisions included updated subnational disaggregation of international migration. Changes to the mid-2022 population estimates, which are used to calculate fertility rates, resulted in no differences to the 2022 data previously published in our 2021 and 2022 combined release. For more information on revisions to the mid-year population estimates please see our [Mid-year population estimates quality and methodology information \(QMI\)](#).

Population estimates based on Census 2021 were used to calculate the 2021 childbearing statistics. Rebased population estimates were also calculated for 2012 to 2020 because of the intercensal differences highlighted between the 2021 population estimates that were rolled forward and the Census 2021-based population. This process is carried out every 10 years following a census.

As a result, revisions were made to the 2012 to 2020 fertility estimates published in our 2021 and 2022 combined release. The 2021 and 2022 data were combined and published for the first time because of delays receiving the rebased 2012 to 2021 population data that feed into them. More information can be found in our [Rebasing of mid-year population estimates following Census 2021, England and Wales bulletin](#).

Terminology changes

For the 2021 release, we included changes to the terminology based on feedback from previous releases. We reviewed the terminology used within previous publications and communication around them. We specifically considered the use of the words "childless", "women" and phrases around "the assumption of the completion of childbearing". For the 2021 and all future releases we have:

- tailored the language used for different formats (for example, our bulletin and our social media accounts)
- reduce the use of the word "childless" where possible
- completely avoid the use of the phrase "remain childless"
- avoid the use of the phrase "assumed to have completed their childbearing years" where possible
- increase the visibility of links to the male period fertility data

Discontinuation of imputation of missing ages/duration of marriage

For 2018 data and onwards, we discontinued the imputation of any missing mother's or father's age for joint registrations. This was done because the number of missing values has been negligible since the introduction of the Registration Online system (RON), and stopping imputation would improve efficiency in processing. More information on the method used for imputation is available in our [User guide to birth statistics](#).

Changes to the Registration Online system

Changes to RON were made in early 2016 to ensure the birth being registered is excluded from the number of previous children born to the mother.

We assessed the impact of this change on birth registrations in England and Wales in 2016. The results of this assessment suggested that the change to the wording of the question was having a positive effect on the quality of the data on previous children. More information can be found in our [Quality assurance of data from the number of previous children question at birth registrations, England and Wales: 2016 methodology](#).

Changes to the title of the release

For the 2024 release, the name of our bulletin was changed to "Fertility for those born in different years". From 2013 to 2023, it was known as "Childbearing for women born in different years" and before 2013, it was known as "Cohort fertility".

Registration question changes

Changes were made to the Population (Statistics) Act in May 2012. Since then, all women are now asked how many previous live-born and stillborn children they have had at the point of registration. Before this, only women with a current or former husband were asked. Any missing values for the number of previous children are imputed using a random number generation method.

Information relating to whether the mother has been previously married, and the duration of marriage or civil partnership, is also now collected at all birth registrations. Previously, these data were only collected if the mother was married at the time of each birth. The changes improve the accuracy of childbearing statistics by birth order.

The difference in the proportion of married women reporting previous births was larger than expected, purely from the question change. More information can be found in our [Quality assurance of new data on birth registrations, as a result of changes to the Population Statistics Act – from May 2012 onwards report \(PDF, 652KB\)](#).

Before May 2012, we imputed missing data collected under the Population (Statistics) Acts, 1938 and 1960, that were required for the production of birth statistics.

Details on the method and level of imputation for each year are available in our [User guide to birth statistics](#).

The Births and Deaths Registration Act 1836 made it a legal requirement for all births to be registered from 1 July 1837.

Upcoming changes

To improve quality and value of the outputs, we plan to review the methods used to produce male fertility data, including reviewing the approach to imputation.

8 . Comparability and coherence with other statistics producers

We quality assure and publish birth statistics for England and Wales. Similarly, National Records of Scotland (NRS) and Northern Ireland Statistics and Research Agency (NISRA) quality assure and publish birth statistics for their own countries. NRS and NISRA statistics are broadly comparable to ours.

NISRA's [annual birth statistics](#) (which include cumulative fertility by cohort data), and NRS's [cumulative fertility by cohort data](#), are broadly comparable with ours because of the following differences.

Office for National Statistics

- Our fertility statistics are based on date of birth occurrence.
- The number of live births in a reference period provides a more accurate representation of births in a given year and helps track trends over time.
- Where a birth is registered too late in the year of occurrence, it will be included in the following year.

Northern Ireland Statistics and Research Agency

- NISRA's statistics are based on date of birth registration.
- NISRA's statistics do not capture late registrations; this reduces the delay in producing statistics, but results in less complete statistics.

National Records of Scotland

- NRS's data are based on date of birth registration.
- NRS do not capture late registrations; this reduces the delay in producing statistics, but results in less complete statistics.

Reporting occurrences and registrations

The differences between reporting occurrences and registrations are relatively minor and figures are broadly comparable. For example, between 2014 and 2017, the differences between registrations and occurrences of live births in England and Wales was less than 0.2% each year.

Annual birth statistics for the UK and its constituent countries, and the birth rates for international countries, are published in our [Vital statistics in the UK: births, deaths and marriages dataset](#). This allows for comparison across the UK, and internationally.

Internationally, we provide data to the [Human Fertility Database](#) each year to allow publication of UK birth figures alongside those for other countries.

9 . Users and uses of these statistics

A range of organisations use our fertility statistics to inform services and policies. For example:

- our observed data are used to inform expert panels when advising on the setting of the fertility assumptions underlying [population projections](#)
- academics use our data for projecting and modelling fertility trends
- demographers and health researchers use our data for conducting research into characteristics and trends
- organisations such as [Eurostat](#) and the [United Nations Statistics Division](#) use birth statistics to report on a range of indicators for international comparison purposes
- our data feed into the [Human Fertility Database](#), which is a leading scientific data resource allowing access to detailed and high-quality cohort and period fertility data for international comparison

Other users of our statistics include charities, and the media, who use the data to inform public debate around fertility.

10 . Definitions

Cohort

A group of women or men with the same year of birth.

Completed family size

The average number of live-born children for women, who are assumed to have completed their childbearing.

Our final "completed family size" rates for women include births to mothers up to and including the age of 45 years, and births occurring at those aged 46 years and over for women who were born in earlier years. This means that births to mothers aged 46 years and over in earlier cohorts are used as a proxy for births to be included in the final rates. Births to mothers aged 46 years and over remain a small proportion of total births.

Equivalent completed family size rates for men include births to fathers up to and including the age of 65 years, and births occurring to those aged 66 years and over for men who were born in earlier years.

Completed childbearing

For this analysis we look at women aged 15 to 45 years. While some women have children before the age of 15 years, and after the age of 45 years, the numbers are small and do not affect the overall patterns. Births to younger women are included at the age of 15 years. Births to women aged 46 years and over are included by using a proxy based on the number of births to women aged 46 years and over who were born in previous years. As the age range for men fathering children is less clearly defined, we include men aged 15 to 65 years.

Completed or exact age

Where ages are presented as "completed years", fertility rates should be interpreted as the number of live births per 1,000 women or men at their last birthday. For example, rates for those aged 40 years will include any births up to the day before they turn 41 years of age.

Where ages are presented in exact years, figures should be interpreted as the average number of children up to that birthday. Fertility up to the exact age of 30 years includes cumulative fertility through a person's lifetime, up to the day before they turn 30 years of age.

Parity

The number of live births a woman has had. A woman who has one child has a parity of one. If a woman has had multiple births in one pregnancy, each child represents one parity.

Standardised mean age

The standardised mean (average) age is a measure that removes the impact of any changes in the distribution of the population by age, enabling trends over time to be analysed. Standardised means are calculated using rates per 1,000 female or male population by single year of age of mother or father.

Definitions of terms relating to birth statistics and information on UK legislation are available in our [User guide to birth statistics](#).

11 . Related links

[Fertility for those born in different years](#)

Bulletin | Released 10 June 2026

The changing composition of families over time, comparing the fertility of those of the same age and the number of children they have had.

[Fertility for those born in different years](#)

Dataset | Released 10 June 2026

Annual analysis of fertility in England and Wales by cohort.

[User guide to birth statistics](#)

Methodology | Last revised 27 May 2026

Supporting information for birth statistics, which present figures on births that occur and are then registered in England and Wales. Figures are based on information collected at birth registration.

[Births quality and methodology information \(QMI\)](#)

QMI | Released 27 May 2026

Quality and methodology information for births occurring and registered in England and Wales. Data strengths and limitations, methods, and data uses and users.

[Births in Scotland](#)

Web page | Updated frequently

National Records of Scotland's (NRS's) statistics on births.

[Births in Northern Ireland](#)

Web page | Updated frequently

Birth statistics for Northern Ireland from 1887 onwards.

12 . Cite this page

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