

Births QMI

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

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1 . Methodology background

- National Statistic: Yes
- Frequency: Annual
- How compiled: Based on third-party data
- Last revised: 23 February 2024

2 . About this Quality and Methodology Information Report

This quality and methodology report contains information on the quality characteristics of the data (including the [European Statistical System five dimensions of quality](#)) 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

3 . Important points

- Birth statistics for England and Wales are derived from information recorded when live births and stillbirths are registered as part of civil registration, a legal requirement; these data represent the most complete data source available.
- The registration of births is a service carried out by the Local Registration Service in partnership with the General Register Office (GRO), in England and Wales.
- Birth statistics represent births that occurred in England and Wales in a calendar year, the birth registration dataset includes a very small number of late registrations from the previous year.
- Where relevant, birth registrations are linked to their corresponding NHS birth notification (referred to as the linked births dataset) to enable analysis of further factors, such as gestation of live births and ethnicity of the baby.
- [National Records of Scotland](#) (NRS) and [Northern Ireland Statistics and Research Agency](#) (NISRA) publish regular birth statistics for their own countries; [Section 7: Other information](#) provides more detail about the comparability with our figures for England and Wales.
- Our birth statistics adhere to the [disclosure control guidance for birth and death statistics](#).

4 . Quality summary

Overview

Birth statistics represent births that occur and are then registered in England and Wales. Figures are compiled from information supplied when births are registered as part of civil registration, a legal requirement.

Birth registration data are then supplemented to obtain birthweight data by linking the birth registration to the NHS birth notification when a birth is registered. Further linkage of the birth registration to the NHS birth notification is conducted within the Office for National Statistics (ONS) to obtain the age of the mother where this was missing on the birth registration and to enable the analysis of further characteristics such as ethnicity of the baby and gestation of live births.

Annual datasets are released in a series of five themed packages each year. Following our [consultation on proposed changes to birth statistics](#) in 2017, changes were made to birth statistics for the 2017 data year onwards.

Explorable datasets, providing detailed birth statistics from 2013 to the most recent year, are now available on the [NOMIS website](#). These datasets are updated as soon as possible after the first release of annual birth data.

Given the availability of these explorable datasets, some changes were also made to our published datasets; these changes were outlined in the [consultation response](#) published on 4 December 2017. Information on the different birth packages that are published is covered under the Relevance section.

Annual birth statistics for the UK and its constituent countries are published in the [Vital statistics in the UK: births, deaths and marriages](#).

Uses and users of births data

Local authorities and other government departments use birth statistics for planning and resource allocation. For example, local authorities use birth statistics to decide how many school places will be needed in a given area. The Department for Work and Pensions uses detailed birth statistics to feed into statistical models for pensions and benefits. The Department of Health and Social Care uses the data to plan maternity services and inform policy decisions.

Other users include academics, demographers and health researchers, who conduct research into trends and characteristics. Lobby groups use birth statistics for their cause. For example, campaigns against school closures or midwife shortages. Charities, such as the Twins and Multiple Births Association provide advice and support to multiple-birth parents and use the data to monitor trends.

Organisations such as [Eurostat](#) and the [United Nations Statistics Division](#) use our birth statistics. For example, to monitor progress towards global indicators as part of the [UN's Sustainable Development Goals](#) and for international comparison purposes. The media also report on our statistics.

5 . Quality characteristics of births data

Relevance

(The degree to which statistical outputs meet users' needs.)

Birth registration is a legal requirement under the Births and Deaths Registration Act 1836. The registration of births occurring in England and Wales is a service carried out by the Local Registration Service in partnership with the General Register Office (GRO). Information collected at birth registration is recorded on the Registration Online (RON) system by registrars. Most of the information is usually supplied by the parent(s). For live births, details of the birthweight are obtained from the NHS birth notification.

Birth statistics represent births that occurred in England and Wales in a calendar year, but the birth registration dataset includes a very small number of late registrations from the previous year.

Birth statistics do not include births to women usually resident in England or Wales who give birth abroad. They do include births to women whose usual residence is outside England and Wales where the birth occurred in England or Wales (such births are included in total figures for England and Wales but excluded from any subdivision of England and Wales).

We produce five statistical releases each year about births. These releases include statistics about births that occurred during the calendar year. Five [explorable datasets, published on the NOMIS website](#), are updated as soon as possible after the first release providing detailed birth statistics from 2013 to the most recent year.

For information on what is included in each of the statistical releases, please see our [User guide to birth statistics](#).

Accuracy

(The degree of closeness between an estimate and the true value.)

During the birth registration process, the registrar asks the informant to verify that all data provided are accurate, before the registrar submits the data through the Registration Online (RON) system. The registrar is then able to correct any errors. There are some validation checks built into RON to help the registrar with this process. Information supplied at birth registration is generally believed to be correct since wilfully supplying false information may render the informant liable to prosecution for perjury.

When we receive birth registrations, a number of checks are carried out on records to ensure that they are valid. Checks are more frequent on variables (such as age of mother and age of father) where poor data quality would have a greater impact on published tables. When looking at multiple births, there are 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 GRO monthly.

The annual dataset used for publications 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.

Between 2001 and 2019, the annual dataset has 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 did not make it into the previous year's statistics

There have been delays in birth registrations in 2020 because of the coronavirus (COVID-19) pandemic. To get a more representative dataset of the births in 2020, we have taken a later cut-off point to include more late registrations. We discuss registration delays and how it affects our statistics in more detail in [Births in England and Wales explained: 2020](#).

In 2020, the annual dataset included:

- births occurring in 2020 that were registered by 12 August 2021
- births occurring in the year before the reference year but were registered late (after the previous 25 February 2020 cut-off) and therefore did not make it into the previous year's statistics

In 2021, the annual dataset included:

- births occurring in 2021 that were registered by 16 May 2022
- births occurring in the year before the reference year but were registered late (after the previous 12 August 2021 cut-off) and therefore did not make it into the previous year's statistics

In 2022, the annual dataset included:

- births occurring in 2022 that were registered by 18 April 2023
- births occurring in the year before the reference year but were registered late (after the previous 16 May 2022 cut-off) and therefore did not make it into the previous year's statistics

Any proposed changes to the recording and collection of birth registration data are carefully managed and involve the Office for National Statistics (ONS), GRO and other stakeholders. This ensures that any implications for birth statistics are considered before changes are made.

The population figures used to calculate birth and fertility rates are the ONS mid-year estimates of the resident population of England and Wales. We use the [population estimates](#) that are the most up-to-date when rates are produced. The specific population estimates we use are detailed alongside published tables. Occasionally population estimates are revised. Birth rates affected by these revisions are updated when the next annual publication is released, and notes are added to tables to alert users to any revisions.

[Population estimates by marital status](#) for the years 2002 to 2010 were revised and published in July 2015 alongside new population estimates by marital status for the years 2011 to 2014. The differences resulting from the change in methodology are explained in the bulletin [Population estimates by marital status and living arrangements - England and Wales, 2002 to 2014](#).

[Population estimates by marital status](#) for the years 2012 to 2020 were revised and published in January 2024 alongside new population estimates by marital status for the years 2021 and 2022.

Before May 2012, missing data items collected under the Population (Statistics) Acts 1938 and 1960 required for the production of birth statistics were imputed (age of mother, age of father, number of previous children both live-born and stillborn, and duration of marriage or civil partnership). Details on the method and level of imputation for each year is available in our [User guide to birth statistics](#). Following changes to the Population (Statistics) Act 1938 in May 2012, data on previous children have not been imputed as only a small number of records are missing this information.

Prior to March 2018, duration of marriage and age of mother and father were imputed. Since the introduction of RON, less than 1% of mothers' and fathers' ages are not available from the birth registration. As a result, imputation was discontinued in March 2018 to improve efficiency in processing, given there is negligible impact on accuracy. This affects birth statistics for the 2018 data year onwards.

Information on occupation of the father and the mother is only coded on 10% of births. This has been shown to give a good approximation to the actual data while being cost effective. As a result, birth statistics that use these data, such as breakdowns by [National Statistics Socio-economic Classification \(NS-SEC\)](#) are weighted to known totals of all birth registrations by mother's age and birthweight. Standard errors are published alongside the statistics by NS-SEC. Numbers of live births for each NS-SEC class may differ between tables because they are based on a 10% sample and the weighting method used. More information on how birth statistics by socio-economic classification are compiled can be found in our [User guide to birth statistics](#).

In 2020, our methodology towards birthweights was adjusted. From the 2019 data year onwards, implausible birthweights have been removed from individual categories but are included in the total "all weights". The change in methodology improves the accuracy of our birthweight statistics. More information can be found in our [User guide to birth statistics](#).

Output quality trade-offs

(Trade-offs are the extent to which different dimensions of quality are balanced against each other.)

Until March 2018, any birth records that were still missing an age of mother, age of father or duration of marriage after attempting to draw this information from the birth notification, were imputed.

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. However, imputation was discontinued in March 2018 as the number of missing values was negligible. This makes processing more efficient. For more information on the method used for imputation, please see our [User guide to birth statistics](#).

Each year a certain number of births are not included in the published figures because they have been registered later than the date on which the annual dataset is taken. Since 2001, with the exception of 2021 and 2022, the number of late registrations that miss the cut-off date and end up in the following year's statistics has been less than 400. In 2021 and 2022, the number of late registrations from the previous year included in the dataset was higher than usual but still accounted for less than 1% of all births and does not affect the headline trends discussed. There are also some very late registrations that have still not been registered some 14 months after the end of the reference year. These records are not included in any birth statistic. Since 2001, there have been fewer than 70 of these each year. Although this means that some births are not included in the statistics, it is a compromise that must be taken in order to publish timely data.

Coherence and comparability

(Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain, for example, geographic level.)

The Births and Deaths Registration Act 1836 made it a legal requirement for all births to be registered from 1 July 1837. Registration requirements have changed over the years, for example, the introduction of the Population (Statistics) Acts 1938 and 1960 allowed for more detailed information to be requested from the informant. Where possible, historical data are provided for comparison, with some tables providing data back to 1837. Changes to methodology and registration requirements, which mean that figures are not directly comparable, are footnoted on the data tables.

The [Stillbirth Definition Act 1992](#) changed the definition of a stillbirth from a child being born after 28 weeks to a child being born after 24 weeks (which did not breathe or show any other signs of life). This means that stillbirth statistics for 1992 onwards are not directly comparable with statistics for before 1992.

The [Human Fertilisation and Embryology Act 2008](#) contained provisions enabling two females in a same-sex couple to register a birth from 1 September 2009 onwards. In addition, the [Marriages \(Same Sex Couples\) Act 2013](#) enabled same-sex couples to get married in England and Wales from 29 March 2014. There are a small number of births registered to same-sex couples. As a result:

- births to same-sex couples who are married or in a civil partnership are included with marital births
- births to same-sex couples who are not married or in a civil partnership are included with births outside marriage

The number of births to same-sex couples is published in Table 5 of our [User guide to birth statistics](#).

In 2010 and 2023, we changed the country groupings for our [Parents' country of birth dataset](#). The new groupings are in line with our [National Statistics Country Classification](#).

From the 2012 data year, we changed the method used for reporting National Statistics Socio-economic Classification (NS-SEC) for birth statistics. We now use the combined method, which uses the most advantaged NS-SEC of either parent rather than just the father's NS-SEC. These changes were detailed in [Proposed changes to birth statistics by Socio-economic Classification](#). The impact of switching to the combined approach was assessed in [A combined approach to National Statistics Socio-economic Classification](#).

Following changes to the Population (Statistics) Act 1938 in May 2012, information is now collected at all birth registrations on the total numbers of previous live births and previous stillbirths that the mother has had (not just those with the current or former husband). This has simplified the question asked by registrars and provides improved coverage.

Whether the mother has been previously married is also now collected at all birth registrations. Previously, these data items were only collected from married women. The changes improve the accuracy of birth statistics by birth order and feed into estimates for family size and measures of fertility. A number of published tables were changed; these changes were detailed in [How changes to the Population Statistics Act will affect birth statistics](#).

The difference, between the old and new data, in the proportion of married women reporting previous births was larger than expected purely from the question change. More information can be found in [Quality assurance of new data on birth registrations, as a result of changes to the Population Statistics Act - from May 2012 onwards](#). This article also provides background to the changes and provides high-level findings from the new data collected in 2012 and 2013. As a result of these findings, changes were made to the Registration Online (RON) system in January 2016 to ensure the birth being registered is excluded from the number of previous children born to the mother.

Numbers and birth rates by mother's usual area of residence are based on geographic boundaries in place when the area derivation was conducted, with the exception of the 2020 data year. Boundaries for 2020 births are based on the May 2021 National Statistics Postcode Lookup. This is for consistency with previous years and with the deaths registrations data rather than the latest available National Statistics Postcode Lookup because of the delay in publishing 2020 data. Boundaries for 2021 births are based on the May 2022 National Statistics Postcode Lookup. The postcode of the birth mother's address at the time of the birth is used to determine the local authority she was living in.

Until the 2016 data year, annual birth statistics by mother's usual area of residence were produced using the boundaries that were in place during the year the birth occurred. Changes in boundaries can affect the comparability of statistics over time. For 2017 data onwards, figures produced in annual publications are based on the latest boundaries available at the time of the first release of birth statistics for that year and the same boundaries are used throughout the annual releases. Figures produced in ad hoc publications will be based on the latest boundaries available and therefore may differ slightly to previous publications.

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 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.

For England and Wales, birth statistics are based on the number of births occurring in the reference period. However, Scotland and Northern Ireland statistics relate to the number of births registered in the reference period. In England and Wales, where a birth is registered too late to be included in the count for the year of occurrence, it will be included in the count for the following year.

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

The definitions and classifications used across the UK in the production of birth statistics are consistent (for example, the definition of a stillbirth and the use of the Standard Occupational Classification) but there are some differences in the methods used. For example, we code only 10% of job titles whereas NRS and NISRA code 100% of job titles and use different coding tools.

[The National Statistics Socio-economic classification \(NS-SEC\)](#) and [Standard Occupational Classification \(SOC\)](#) are used in our birth statistics. NISRA publishes birth statistics by father's NS-SEC. NRS does not publish birth statistics by father's NS-SEC but such information is available upon request.

To aid comparison across the UK and internationally, annual birth statistics for the UK and its constituent countries, and the birth rate for international countries are published in the [Vital statistics in the UK: births, deaths and marriages reference tables](#).

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

We publish several internationally-recognised indicators such as the crude birth rate, age-specific fertility rates and the total fertility rate (although there is some international variation in the age groupings used to derive this). We also publish a standardised average (mean) age of mother to enable comparisons to be made over time and between different areas. Information on the calculation of these measures is available in our [User guide to birth statistics](#).

Concepts and definitions

(Concepts and definitions describe the legislation governing the output and a description of the classifications used in the output.)

For information on UK legislation relating to birth statistics and for definitions of terms please see our [User guide to birth statistics](#).

Birthweight categories in our birth statistics conform to low birthweight definitions set by the World Health Organisation (WHO). The lowest category for our published birthweight statistics is under 1,500 grams. Figures are also published for 1,500 to 1,999 grams and 2,000 to 2,499 grams.

The WHO definitions of low birthweights are:

- low birthweight: less than 2,500 grams
- very low birthweight: less than 1,500 grams
- extremely low birthweight: less than 1,000 grams

We publish birth statistics by [National Statistics Socio-economic Classification \(NS-SEC\)](#), which is derived using the [Standard Occupational Classification \(SOC\)](#) and employment status. SOC is revised every 10 years. The NS-SEC classification is not used internationally; however, it is based on an internationally accepted classification. More information on how birth statistics by socio-economic classification are compiled can be found in our [User guide to birth statistics](#).

Accessibility and clarity

(Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.)

Our recommended format for accessible content is a combination of HTML web pages for narrative, charts and graphs, with data being provided in usable formats such as Excel spreadsheets and comma-separated values (CSV) files. [Explorable datasets](#) provide more detailed statistics for a particular calendar year. Our website also offers users the option to download the narrative in PDF format. In some instances, other software may be used, or may be available on request. Available formats for content published on our website that we do not produce, or is referenced on our website but stored elsewhere, may vary. For further information please refer to the contact details at the beginning of this report.

Following [guidance from the Government Statistical Service guidance \(GSS\) to improve digital accessibility of statistical spreadsheets](#), our published datasets for birth statistics from the 2020 data year now incorporate and adhere to this guidance. This is to help improve the usability, accessibility, and machine readability of our statistical spreadsheets.

For information regarding conditions of access to data, please refer to:

- [Terms and conditions \(for data on the website\)](#)
- [Accessibility](#)

Special extracts and tabulations of births data for England and Wales are available to order (subject to legal frameworks, disclosure control, resources and our [charging policy](#), where appropriate). Enquiries should be made via email to Health.Data@ons.gov.uk or by telephone on +44 1329 444110. We publish [user requested data](#).

Births data are available in our Secure Research Service (SRS) and the UK Data Service secure lab. These services provide access to unpublished, de-identified data; that is, access to data that have the potential to identify an individual record requires the approval of the independent Research Accreditation Panel (RAP) before access can be provided. Access to such data requires [Approved Researcher accreditation](#).

Timeliness and punctuality

(Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates).

Since 2010, we have published birth statistics in a series of themed statistical releases to ensure the timely release of data. Annual summary figures are published first, usually seven months after the end of the reference year, following the full quality assurance of the data. These are presented to Parliament in line with Section 19 of the [Registration Services Act 1953](#), as amended by the [Statistics and Registration Service Act 2007](#). More detailed tables are then released.

Following changes in 2018 to the way that birth statistics are published, five [explorable datasets](#) are now released in July alongside the first release of annual births data. This means more detailed birth data are now available in a timelier manner.

Prior to 2010, all detailed tables, with the exception of parents' country of birth figures, were published on a single date in December. This was part of an annual reference volume [FM1: Birth statistics](#), which was required to be laid before Parliament. Figures by parents' country of birth were made available in August alongside the annual release of migration statistics.

Prior to 2020, parents' country of birth was a stand-alone publication. From the 2019 data year, the parents' country of birth release has been made available alongside the first release of annual births data. Prior to the 2019 data year, the births by parents' country of birth publication was released approximately a month after the first release.

For the data years 2020 to 2022, there were delays in birth registrations that meant we could not publish as normal. We delayed finalising the births dataset to increase the amount of late birth registrations that we would include. We rescheduled our publications to accommodate this. The release of each births publication is announced on the [GOV.UK release calendar](#) at least four weeks before publication and on [our own release calendar](#).

For more details on related releases, [our release calendar](#) provides 12 months' notice of release dates. In the unlikely event of a change to the pre-announced release schedule, public attention will be drawn to the change. The reasons for the change will be explained fully at the same time, as set out in the [Code of Practice for Statistics](#).

6 . Methods used to produce the births data

How the output is created

Birth statistics present data on births that occur and are then registered in England and Wales. For more detailed information on the production of birth statistics, see our [User guide to birth statistics](#) and our [flow chart \(PDF, 70KB\)](#).

7 . Other information

National Statistics status for Births statistics

[National Statistics status](#) means that our statistics meet the highest standard of trustworthiness, quality, and public value, and it is our responsibility to maintain compliance with these standards.

Date of [most recent full assessment: September 2011](#).

Most recent [compliance check, which confirms National Statistics status: September 2011](#).

Improvements since last review include that:

- revisions to the way statistics are produced are explained in the user guide, detailing the year the change took place and reason why
- in cases where corrections were implemented, they were accompanied by explanations of the change and the reasons why
- where applicable, we added additional background information into our [User guide to birth statistics](#) and our [Births QMI](#) to inform the user of the differences in methods between the UK countries, and the reasons underlying these differences
- following [a consultation on proposed changes to statistics](#), we made changes in 2018 to the way that birth statistics are published, and five [explorable datasets](#) are now released alongside the first release of annual births data; this means more detailed births data (including small area geographies) are now available in a timelier manner

Assessment of user needs and perceptions

(The processes for finding out about uses and users, and their views on the statistical products.)

We conducted a consultation between 19 July 2017 and 26 September 2017 on [proposed changes to birth statistics](#). [The responses we received](#) generally supported the proposed changes to make detailed births data available as [explorable datasets](#) in NOMIS and making consequential changes to published tables. Birth statistics for 2017 onwards are therefore made available as outlined in our [consultation response](#).

We welcome feedback on the content, format and relevance of our releases and encourage users to send feedback via email to Health.Data@ons.gov.uk.

Feedback is requested with all emails sent by our customer service teams. Feedback is also received through our regular attendance at user group meetings and conferences.

Useful links

For information on data quality, legislation and procedures relating to birth statistics, as well as links to our statistical releases, please see our [User guide to birth statistics](#).

For births data for other UK countries, please see [the latest birth statistics for Northern Ireland](#) and [the latest birth statistics for Scotland](#).

8 . Cite this methodology

Office for National Statistics (ONS), released 23 February 2024, ONS website, methodology, [Births Quality and Methodology Information](#)

Related publications

- [Births in England and Wales: 2022](#) (refreshed populations).

You might also be interested in:

- [User guide to birth statistics](#)