

# Conception statistics QMI

Quality and methodology information for conception statistics produced for England and Wales, detailing the strengths and limitations of these data, methods used and data uses and users.

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# 1 . Output information

- National Statistics: yes
- Frequency: annual
- How compiled: based on third party data
- Geographic coverage: England and Wales
- Last updated: 14 April 2022

## 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 Services five dimensions of quality) as well as the methods used to create it.

The information in this document 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

### Important points about conception statistics

- Conception statistics are estimates of all pregnancies of women usually resident in England and Wales.
- Figures are derived from combining numbers of maternities and abortions using information recorded at birth registration and abortion notification; there is a legal requirement to record these data, making them the best and most complete data sources available.
- Maternities are pregnancies that result in the birth of one or more children, including stillbirths; abortions are pregnancies terminated under the [Abortion Act \(1967\)](#).
- Conception statistics do not include conceptions resulting in miscarriages or illegal abortions; [the NHS estimates](#) that one in eight confirmed pregnancies will end in miscarriage.
- Conception statistics for Scotland are published for women aged under 20 years by [Public Health Scotland](#).
- In Northern Ireland [termination of pregnancy statistics](#) are available but conception statistics are not produced.

## 4 . Quality summary

### Overview of the output

Conception statistics are estimates that bring together records of birth registrations collected under the [Births and Deaths Registration Act \(1953\)](#) and of abortions under the [Abortion Act \(1967\)](#), amended by the [Human Fertilisation and Embryology Act \(2008\)](#). They include all the pregnancies of women usually resident in England and Wales that lead to one of the following outcomes:

- a maternity at which one or more live births or stillbirths occur, which is registered in England and Wales
- a termination of a pregnancy by abortion under the 1967 Act, which took place in England and Wales

Conception statistics do not include conceptions resulting in miscarriages or illegal abortions. Maternities that result in one or more live births or stillbirths are counted once only.

To meet users' needs, timely but provisional [Quarterly conceptions to women aged under 18 years](#) are published by area of usual residence. Quarterly conception rates and rolling annual rates are also provided where area of usual residence is within England.

The annual [Conception statistics release](#) provides figures by age, marital status and area of usual residence. The datasets show the latest year's figures with some also showing historical data for comparison. A statistical bulletin is published alongside the datasets.

Our [User guide to conception statistics](#) provides further information on data quality, legislation and procedures relating to conception statistics.

### Uses and users of the conceptions data

The Department of Health and Social Care (DHSC) leads for the government on reducing conceptions to women under 18 years, and is an important user of conception statistics. The DHSC monitors the rate of conceptions to women under 18 years under the [Public Health Outcomes Framework](#) as part of the measures of health improvement. The DHSC uses the numbers of conceptions at all ages as a marker for the success of policies on access to contraception (and other sexual health services).

Conception statistics by age are of use to maternity service providers, particularly during the antenatal period, to allow them to plan for the level of demand for antenatal services. In Wales, teenage conception rates are used as outcome indicators in the [Public Health Outcomes Framework for Wales](#).

Formerly [Public Health England \(PHE\)](#), now the Office for Health Improvement and Disparities (OHID) is an important user of conception statistics. OHID has a role in providing information and evidence to local areas, as well as more tailored advice and support. PHE's [A framework for supporting teenage mothers and young fathers \(PDF, 5.2MB\)](#) provides a tool for local decision-makers to help plan and commission effective services for teenage parents.

Local authorities use the data, particularly the number and rate of conceptions to women under 18 years to feed into their [Joint Strategic Needs Assessment](#) and to inform their commissioning decisions. They also use the statistics to make comparisons with other local areas, the county, region and country.

Sexual health charities, which provide the public with information, advice and support services, use the statistics to promote services that contribute to the reduction in conceptions.

## 5 . Quality characteristics of the conceptions data

## Relevance

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

Throughout the year we release provisional [Quarterly conceptions to women aged under 18 years](#). This release contains numbers and rates of conceptions by area of usual residence.

The numbers are produced for both England and Wales, whereas the conception rates and rolling annual rates are only produced for England. The rolling annual rates are calculated using the last four quarters' conception numbers, and the populations used are mid-year population estimates and projections from the corresponding years, weighted accordingly.

Annual [Conception statistics](#) are published by age of woman at conception, marital or civil partnership status at time of conception, and outcome (maternity or abortion). Conception statistics for local authorities are published for women aged under 16 years, under 18 years and all ages.

Data for local authority are available, which allow trends in rates of conception to women under 18 years since 1998 to be analysed.

Conception statistics do not include:

- conceptions leading to a maternity for women usually resident in England and Wales who give birth abroad
- conceptions leading to a maternity for women whose usual residence is outside England and Wales where the birth took place within England and Wales
- abortions to women whose usual residence is outside England and Wales
- miscarriages or illegal abortions (more information is available in the Accuracy section)

Following the implementation of the [Human Fertilisation and Embryology Act \(2008\)](#), same-sex female couples have been able to register the birth of a child as mother and second parent since 1 September 2009. Abortion notifications also contain information about whether the woman was in a civil partnership or marriage with a female partner.

Because of the relatively small numbers of conceptions to same-sex couples, conceptions to same-sex couples who are married or in a civil partnership are included with conceptions to opposite-sex couples who are married. Conceptions to same-sex couples not in a marriage or civil partnership are included with conceptions to opposite-sex couples who are not married. Given the relatively small number, the impact on statistics is negligible.

Conception figures are covered by the [Disclosure control protocol for abortion statistics \(PDF, 258KB\)](#). In June 2015 this protocol was revised. The requirement to suppress counts and rates is determined by the number of women in the underlying population. Occasionally it is necessary to apply secondary suppression to avoid the possibility of disclosure by differencing. More information on previous disclosure control policies can be found in our [User guide to conception statistics](#).

On 13 September 2019, the disclosure control protocol for abortion statistics was withdrawn. While a new protocol is being created 2019 conception statistics still abide by the June 2015 protocol.

## Accuracy and reliability

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

Conception statistics are estimates derived by combining numbers of maternities and abortions. Maternities data are derived from information recorded at birth registration, a service carried out by the General Register Office (GRO). These data represent the legal record under the [Births and Deaths Registration Act \(1953\)](#), making it the best and most complete data source. The information is normally supplied by the parent(s).

Birth registrations are then linked to the birth notification (completed by the midwife or doctor in attendance at the birth) to obtain mother's date of birth when it has not been recorded at birth registration. Details on data processing and quality checks for birth registrations can be found in the [Births QMI](#) and our [User guide to birth statistics](#).

Abortion data are supplied by the Department of Health and Social Care (DHSC) and are based on abortion notifications provided by abortion clinics. These data represent the legal record under the [Abortion Act \(1967\)](#), making it the best and most complete data source.

Abortion notifications go through an [agreed series of checks](#) and values for missing items, which are imputed at the DHSC before being supplied to us. This ensures the data are of sufficient quality. Each quarter there are also updates on previous quarters that have not been previously finalised. These updates will contain records where the DHSC raised queries that have been resolved.

There is potentially an undercount of recorded abortions that take place on the grounds of "substantial risk that the child might be born seriously handicapped". Analysis of 2013 data has suggested that abortion notifications were only made for about 54% of such cases reported to the National Down's Syndrome Cytogenetic Register (NDSCR). The DHSC has worked closely with the NDSCR to explore this discrepancy and make recommendations, and continues to work closely with relevant organisations in implementing the recommendations where possible.

During the compilation of the DHSC's 2017 Abortion Statistics publication, it was found that the date of termination used to assign an abortion to a given year had not been identified for some records by the abortions notification system (ANS). This caused a shortfall of around 3,000 cases (1.5% of the total) missing from the official figures. Corrections have been made to the 2016 conceptions publication using the revised figures. The revised 2017 figures were used for the 2017 annual release on conception statistics.

In 2022 DHSC moved to a new Abortion Notification System. Processing delays have affected the inclusion of scanned paper forms and the deduplication of records in 2022. These delays could affect the provisional 2022 abortions data from January to September 2022, which are used in the 2021 aged under 18 years quarterly conceptions statistics and in the 2021 final conceptions annual data release. Users should be aware that there may be bigger differences between the provisional and final abortions data than are usually observed. Once the final 2022 abortions data are available, we will review any implications for 2021 conceptions data.

Conception statistics do not include miscarriages or illegal abortions. It is impossible to determine the extent of illegal abortions, for example, by women using drugs bought from the internet. The only statistics available are where complications arise from illegal abortions resulting in illness or death. Given the steady rise in numbers of legal abortions since 1968, and the improvements in access to abortion, it can be assumed that the vast majority of abortions carried out in England and Wales today are legal ones.

Information on the exact date of conception cannot be obtained from the birth registration or abortion notification, so formulae are used to estimate the date based on whether the conception resulted in a live birth, stillbirth or abortion. The formulae are published in our [User guide to conception statistics](#).

In any year it is possible for a woman to appear more than once in conception statistics as it is possible for her to:

- have multiple abortions
- conceive twice where both conceptions lead to a maternity
- have multiple conceptions that result in a maternity and one or more abortions
- have an abortion and a birth as part of her pregnancy when carrying more than one child

Following the [Review of conception statistics](#) between February and April 2011, we publish annual figures once a year. This change had negligible impact on data quality given the improved accuracy of provisional conception figures. The main reasons for the improved accuracy were:

- reductions in the percentage of birth registrations where mother's date of birth was not stated
- moves within the Office for National Statistics (ONS) to conduct more timely quality checks on birth registrations
- daily receipt of birth registrations through the Registration Online system (RON)

When annual conception statistics are compiled, data relating to births occurring for the same data year will have been finalised. However, we also require quarterly births data from the subsequent year for the annual conceptions release. These quarterly data will have gone through full quality assurance but will still be provisional.

Prior to the 2010 data year for conception statistics, there were differences between provisional and final figures.

One reason for this is that for some maternity records, the mother's date of birth was missing in the provisional release. Age of mother at conception was imputed for maternities occurring in the same calendar year as the conception, but not for maternities occurring in the subsequent calendar year. This is because imputation routines were only run on final annual births datasets and so had not yet been applied to these maternities. Maternities missing mothers age at conception were included in the total count but excluded from any age breakdown. However, for the final annual release, all maternity records with missing date of birth had age of mother at conception imputed.

Another reason is that abortion records that needed to be clarified with clinics and were unresolved were excluded from the provisional annual releases, but included in the finalised dataset following clarification.

Conception statistics for 2009, by age, excluded maternities where the birth occurred in 2010 and the mother's age was not recorded. This is because the final conception statistics for 2009 were released before the 2010 annual births dataset had age of mother imputed.

For conceptions data for 2010 to 2016, where a missing age of mother could not be obtained from the corresponding birth notification, age of mother was imputed by drawing the age from a complete record with similar characteristics to the incomplete record. More information on the imputation method can be found in our [User guide to birth statistics](#).

It was determined that imputing age of mother was not improving the quality of our statistics. As such, imputation was discontinued in March 2018 to make processing more efficient and our methods easier for users to understand, without any negative effect on accuracy. For 2017 conceptions data onwards, the remaining records where mother's age is missing are now included in the counts for "all ages" in our tables but excluded from any age breakdowns.

## Output quality trade-offs

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

Following the [Review of conception statistics](#) in 2011, it was agreed with users that there would be a single release of annual conceptions data (rather than a provisional and final release) as the difference between provisional and final conceptions estimates was relatively small. This change has negligible impact on the accuracy of conception statistics but greatly reduces the cost of producing the statistics, and improves their timeliness.

Marital status population estimates are not always available, at the time of production, for our conceptions statistics data year and are not available as part of the population projections publications. The annual conceptions release uses the best available population estimates at the time of production. The year of estimates used is footnoted as appropriate on the tables and in the accompanying metadata.

Marital status population estimates are produced using a combination of Labour Force Survey (LFS) data and mid-year population estimates. For women aged under 18 years in some cases the marital status population estimates are based on a LFS sample of less than three respondents. In these cases, from the 2021 data year, conception rates within marriage or civil partnership for women aged under 18 years are calculated but are denoted by [u] as a warning to the user that their reliability as a measure may be affected by the small sample size the population estimate is based on.

## 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.)

Conception statistics are not directly comparable with birth statistics for the following reasons:

- conception statistics include abortions
- conception statistics are published by date of conception while birth statistics are published by date of birth, so the time periods are not comparable
- conception statistics do not count multiple births by the same woman as they are derived using maternities (the number of women giving birth rather than the number of babies born)

The Department of Health and Social Care (DHSC) publishes annual [Abortion statistics](#) by age of woman, number of previous abortions, length of gestation, source of funding, health area of usual residence of woman, method of abortion, ethnicity of woman and grounds for abortion.

Abortion data used in conception statistics are not directly comparable with abortion statistics published by the DHSC. This is because DHSC abortion statistics are published by date of abortion whereas we use abortion data based on the date of conception. Some abortions will relate to conceptions that occurred in the previous calendar year.

[Conception statistics in Scotland](#) are available for women aged under 16 years, under 18 years and under 20 years. They have been produced to a revised methodology since 2007 to become more comparable to those in England and Wales. Prior to this, they included therapeutic miscarriages that required a hospital stay and were based on financial years rather than calendar years. More information on the differences in methodology that existed previously can be found in the 2011 Teenage pregnancy publication report from [ISD Scotland \(PDF, 123KB\)](#).

In Northern Ireland, prior to 22 October 2019, it was lawful to perform an operation for the termination of a pregnancy, where:

- it was necessary to preserve the life of the woman
- there was a risk of real and serious adverse effect on her physical or mental health, which was either long-term or permanent

In any other circumstance it was unlawful to perform such an operation. Because of the small numbers of abortions carried out in Northern Ireland each year, and to protect patient confidentiality, information on terminations of pregnancy is only released at Northern Ireland, and Health and Social Care Trust level. Further information on the number of terminations of pregnancy carried out in Northern Ireland can be found on the [Northern Ireland department of Health website](#).

Since 22 October 2019, [abortions in Northern Ireland have been legalised](#). Therefore, criminal charges cannot be brought against women or girls who have an abortion, or against qualified health care professionals or others who provide and assist in the abortion.

There are no comparable statistics internationally because of the lack of abortion statistics.

The conception rate provides a standard measure (that is the number of conceptions per thousand women in the age group), which can be used to make comparisons over time and between different areas. This measure takes account of the size of the population.

The overall rate for all ages is not standardised and so does not account for the age structure of the population. Age-specific rates enable easy comparisons between different age groups. Rates for areas with a low population should be treated with caution, as a small change in the number of conceptions can lead to a large change in the rate. In these areas rates should be assessed alongside numbers of conceptions, and statistics over several years should be taken into consideration.

Time series data are available going back to 1969. However, there are issues of comparability because of changes in the way we estimated the age at conception in 1999. A back series of data to 1987 was produced. Details of the change are available in the 1998 [Birth statistics \(series FM1\)](#). Changes in 1992 to the stillbirth definition will also affect comparability over time.

The [Still-Birth \(Definition\) Act 1992](#) defines a stillbirth as "any child that has issued forth from its mother after the 24th week of pregnancy, and that did not at any time after being completely expelled from its mother breathe or show any signs of life". Previously, the definition of a stillbirth was as above, but for 28 or more weeks of gestation. For this reason, conception statistics from 1993 are therefore not fully comparable with those for previous years.

Conception rates for 2002 to 2008 were revised in the 2010 annual conceptions release in time series tables following revisions to the mid-year population estimates for those years. The revisions were footnoted on tables and in the accompanying metadata.

Conception rates for 2002 to 2010 for England and Wales were revised again in the 2011 annual conceptions release following further revisions to population estimates to take account of the 2011 Census. Conception rates for 2002 to 2010 for subnational areas were also recalculated following the publication of revised subnational population estimates on 30 April 2013. The revisions were footnoted.

In the 2021 annual conceptions release, conception rates for 2021 were calculated using provisional mid-year 2021 population estimates. These were the latest population estimates available at the time of production and are Census 2021-based estimates. The 2021 mid-year estimates are due to be revised again in 2023 along with the back series to 2012 in line with [normal practice following the decennial Census](#). Care should be taken when comparing rates from 2021 with 2012 to 2020 rates until the back series has been revised. We will update time series data tables in our next release when the final 2012 to 2021 mid-year estimates are available.

Following the move to publish only one set of annual conception statistics from 2011 onwards, several users expressed concerns over the comparability of pre-2008 figures (published 22 months after the end of the data year) and post-2008 figures (published 14 months after the end of the data year). Analysis shows that these figures do represent a comparable data time series.

Prior to the 2016 data year, conception statistics were produced to geographical boundaries in place during the year the conception occurred. From the 2016 data year, conception statistics have been derived using the latest geographical boundaries available at the time of production. This approach means that changes in boundary can affect the comparability of statistics over time.

Following the reweighting of the labour force survey, population estimates by marital status for the years 2012 to 2017 were revised in September 2019. Conception rates inside and outside marriage or civil partnership for the years 2012 to 2017 were recalculated. The changes to the estimates for these years were minimal.

## Concepts and definitions

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

Information on UK legislation relating to conception statistics and definitions of terms are included in the [User guide to conception statistics](#) and the [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 webpages for narrative, charts and graphs, with data being provided in usable formats such as Excel spreadsheets and comma-separated values (CSV) files. 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 but not produced by us, or referenced by 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 (GSS) to improve digital accessibility of statistical spreadsheets, our published datasets 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 the following links:

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

Special extracts and tabulations of conceptions 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 to Vital Statistics Outputs Branch via email to [Health.Data@ons.gov.uk](mailto:Health.Data@ons.gov.uk) or telephone: +44 (0)1329 444110. We also publish [user requested data](#).

## 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.)

The release of each conceptions publication is announced on the [GOV.UK release calendar](#) at least four weeks before publication, and on [our own release calendar](#).

Maternities are compiled using information collected at birth registration; births therefore need to be registered before conception statistics can be compiled. Consequently, conceptions data cannot be processed until births that were conceived on the last applicable day of the quarter or the year have had time to be legally registered (within 42 days of the birth). We then require three months to quality assure the data and compile conception statistics. This three-month wait, the 42 days to register a birth, and the approximately nine months of pregnancy mean that provisional quarterly conception statistics are published 14 months after the end of the data quarter in which the conception occurred.

Prior to the 2009 data year (published in 2011), annual data were released twice a year: [provisional annual Conception statistics](#) were released in February (14 months after the end of the data year) followed by a [final annual release](#) published in the autumn (around 22 months after the end of the data year). The tables published in the provisional release differed from those published in the final release.

We consulted users of conception statistics between 22 February and 19 April 2011. This [Review of conception statistics](#) sought the views of users on proposed changes to conception outputs. One aim of these proposals was to reduce the cost of producing conception statistics by publishing figures once a year (around February), rather than twice a year.

In addition, we proposed a core set of tables for future publications. Users were asked to comment on these and other proposed changes. We also consulted directly with main government customers on the proposals. The majority of users supported the proposal to move to one annual publication of conception statistics since there was no significant impact on data quality. Consequently, since 2011 (2009 data year) only one release of annual conception statistics has taken place.

Final annual conception statistics for 2000 and earlier years were included in [Birth statistics \(series FM1\)](#). The last edition of Series FM1 was published in December 2009.

The publication of quarterly data for Quarter 2 (Apr to June) 2002 were affected by the late supply of abortion data from the Department of Health following the transfer of abortions processing from the Office for National Statistics (ONS).

The release of annual conceptions in 2016, and quarterly conceptions in September to December 2016 were delayed by a month. This was to enable rates included within these releases to be calculated using revised subnational population estimates for mid-2012 to mid-2016. These revised population estimates were published for local authorities on 22 March 2018.

In response to the coronavirus (COVID-19) pandemic, birth registration services in England and Wales were suspended in March 2020. From June 2020, birth registrations restarted where it was safe to do so but the 2020, and to some extent the 2021, birth registration data were delayed. This had a direct impact on our release calendar. As a result, the release of 2019 annual conceptions, and quarterly conceptions for September to December 2019 and January to March 2020 had to be postponed to August 2021. The 2020 annual conceptions and quarterly conceptions for September to December 2020 had to be postponed to April 2022. This was to ensure that our data were as complete as possible before publication.

For more details on related releases, [our release calendar](#) provides 12 months' advance 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 and 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 conceptions data

## How the output is created

Conceptions are maternities (the number of pregnant women who give birth) plus abortions, and this information is obtained from administrative sources. Maternities data are derived from information recorded at birth registration, a service carried out by the General Register Office (GRO). Abortion data comes from the Department of Health and Social Care (DHSC) and is based on abortion notifications provided by abortion clinics.

Our [User guide to conception statistics](#) includes more information on the methodology of production.

For more information on administrative sources of data that we use to produce statistics (including a list of administrative sources), or that are available for use in the production of statistics in the future, and information on statistical techniques for using administrative data please see the [Statement of Administrative Sources](#).

## 7 . Other information

### 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 [Review of conception statistics](#) in 2011, which sought the views of users on proposed changes to conception outputs.

We welcome feedback on the content, format and relevance of our releases and encourage users to send feedback to [Health.Data@ons.gov.uk](mailto:Health.Data@ons.gov.uk) .

Feedback is requested with all emails sent by customer services 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 conception statistics, as well as links to our statistical releases, please see our [User guide to conception statistics](#).

## 8 . Cite this methodology

Office for National Statistics (ONS), released 30 March 2023, ONS website, methodology, [Conception statistics Quality and Methodology Information](#).