

Births: quality assurance of administrative data used in population statistics, Dec 2016

The quality assurance undertaken on administrative data for births data used within Population Statistics Division (PSD) publications.

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Release date:
19 December 2016

Next release:
To be announced

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1 . Introduction

Birth data are obtained from birth registrations in England, Wales, Scotland and Northern Ireland. Birth statistics are published by the Office for National Statistics (ONS) for England and Wales, National Records of Scotland (NRS) for Scotland and the Northern Ireland Statistics and Research Agency (NISRA) for Northern Ireland. ONS also publishes UK birth figures.

This report covers the processes, from data collection through to publication, in the use of this data in population statistics produced by Population Statistics Division (PSD) within ONS and focuses on quality assurance. This report is designed to help you better understand the level of quality assurance that goes into birth data prior to use by PSD. It identifies potential risks in data quality and accuracy as well as details of how those risks are mitigated.

It should be noted that ONS's birth statistics are produced by Health Analysis and Life Events Division and not PSD; as such the full range of published birth statistics is not covered by this report. Whilst this report briefly touches on the publication of birth statistics, its primary purpose is to examine the quality assurance processes that birth data goes through when it is used as a data source in other statistics. This report is intended to supplement existing documentation:

- the ONS [births quality and methodology information document](#) and [births metadata document](#)
- [the births background information page from the NRS website](#) and [the corresponding vital events general background information page](#) and
- the documents available on [the Vital Stats section of the NISRA website](#)

This report has been published in a bid to help understand data processing and provide reassurance that the subsequent statistics produced by PSD using birth data are suitably robust.

Within PSD, birth data are used in the production of:

- mid-year population estimates (from national to county district level)
- population projections (national and subnational)
- fertility analysis
- life tables (national)
- the Longitudinal Study

Within PSD, birth data were assessed separately by relevant teams using [the UK Statistics Authority's Quality Assurance of Administrative Data Toolkit](#). The results of those assessments are that birth data received an A1 rating for England and Wales, Scotland and Northern Ireland. The A1 rating means that a basic level of assurance is required for these sources and this report will provide information to meet this level of assurance. If you feel that this report does not adequately provide this assurance then please contact pop.info@ons.gsi.gov.uk with your concerns. The scores provided by each team and the rationale behind those scores will be provided, in terms of both the risk and profile components, later in this report.

The toolkit outlines 4 areas for assurance; the rest of this report will be split into these areas, with further subdivisions by country. The areas for assurance are:

- operational context and administrative data collection
- communication with data supply partners
- quality assurance principles, standards and checks applied by data suppliers
- producer's quality assurance investigations and documentation

2 . Data collection

2.1 England and Wales

Following a birth there is a legal requirement, under the Births and Deaths Registration Act 1836, for it to be registered within 42 days. Registration information is provided by parents (or another qualified informant) and collected in register offices by the General Register Office (GRO).

The birth should be registered in the same registration district as the birth occurred. If this is not possible then the birth may be registered elsewhere within England and Wales and the register office which undertakes the registration will send the registration details to the appropriate district.

At registration the information provided is entered into the Registration ONline system (RON) to generate the birth certificate. The registrar links the registration to the birth notification (on health systems) via the child's NHS Number during the registration process. Should the parent be unable to provide the child's NHS Number then an alternative link is made based on surname and date of birth.

The midwife who was present at the birth or the hospital where the birth took place will have provided an NHS Number for the child as part of the birth notification process. The NHS Numbers allocated are provided to the Office for National Statistics (ONS) and are then shared with registration districts to enable the link between notification and registration. This ensures that all births are registered, identifies those who have yet to register and ensures that no birth is registered more than once.

Data are validated upon entry into RON and the link with the birth notification enables later verification by ONS of those items of data that are present on both the birth notification and the birth registration. Should for any reason RON not be working, paper copies of the birth certificate are used and the data are entered into RON once it becomes available. A specimen birth certificate is available in the [births metadata document](#).

Data collected at birth registration includes:

- date of birth of parents
- area of usual residence
- whether part of a multiple birth
- whether the birth was within a recognised union
- the number of previous children of the mother
- the places of birth of the parents
- the occupations of the parents

Many of the variables collected at birth registration are required under legislation (further details are available in the [births quality and methodology information document](#) and the [births metadata document](#)). The registration is split into 2 sections, the first section covers the legal requirements and the second section collects data for statistical purposes, such as the occupation of parents. The parents are given the option to refuse providing the statistical information in the second section without penalty. 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.

Data collected by registrars through the RON system are sent to ONS on a daily basis. If a record fails to load an error report is generated by the system and sent to ONS and GRO for investigation and resolution. If an incomplete record is received GRO will investigate it and provide resolution.

Once data are received by ONS they are automatically coded for geography and occupation. When automatic coding fails data are manually coded. Once coding is complete multiple births are linked together. The main missing variables are identified and values imputed, from the birth notifications where possible. Quality assurance is undertaken to assess whether there are duplicates or missing registrations. Once preliminary checks have been passed a subset is taken, frequencies are then checked to ensure that data are complete and valid. The dataset is then signed off as fit for purpose for statistical production, then tables are assembled and checked; data extracts are taken for Population Statistics Division (PSD).

2.2 Scotland

There is a legal duty under the Registration of Births, Deaths and Marriages (Scotland) Act 1965 for any birth occurring in Scotland to be registered within 21 days. Registration may take place in any registration district. If registration occurs in a different registration district from that in which the birth took place then the registrar for the district of birth is informed that an out of area registration has occurred.

To ensure that the birth has actually taken place, hospitals provide a list of the births occurring within it to the local registrar to ensure that all births are recorded. At registration, the registrar asks the informant to produce the birth card or form issued by the hospital. Where the informant is unable to produce any documentation from the hospital, the registrar checks the list of births provided by the hospital. If the child was born in another registration district, the registrar contacts the hospital or asks the registrar from that district to check their hospital list.

At registration, data are provided by the parents, or other qualified people and entered by registrars into the national electronic registration system, the Forward Electronic Register (FER) where data validation takes place. The system is electronic for the vast majority of offices but there are a few manual offices where data arrives in FER after a couple of days delay.

Data collected on birth registration is broadly similar to that collected in England and Wales with some statistical items being collected that do not appear on the public register.

Registration data recorded on FER are sent to National Records of Scotland where they are coded for geography and occupation. Multiple birth registrations are linked together before quality assurance for duplicates and missing data are carried out. An initial dataset is taken and subject to further quality assurance and issue resolution for specific registration data, for example, missing mother's date of birth. Table production then takes place on a dataset that has been signed off as fit for purpose. As part of table production, quality assurance is carried out to ensure accuracy. These tables are then used by PSD.

2.3 Northern Ireland

Data are collected under the Registration of Births and Deaths (Ireland) Act 1863. Births are required to be registered within 42 days of the birth. This process is informed by the detailed information captured on Northern Ireland's Maternity System at the time of birth, which is passed to GRO for Northern Ireland. In the event where the birth is recorded on the Maternity System, but is not registered, GRO for Northern Ireland follow this up with the parent(s) to ensure registration takes place.

Registration may take place at any District Register Office in Northern Ireland. Information provided at registration is normally (99% of cases) provided by one or more parents of a baby. The remaining 1% of cases will have information provided by [other qualified people in Northern Ireland](#).

During registration, all information is entered onto GRO for Northern Ireland's electronic registration system, which is managed by GRO for Northern Ireland. Statisticians within the Northern Ireland Statistics and Research Agency (NISRA)'s Vital Statistics Team have a live link to the system to download registrations as required.

More information on the background and quality of births registration data in Northern Ireland is available in the [Northern Ireland Birth Statistics Quality Assessment](#) document.

Once data are received by NISRA they are automatically coded for geography. When automatic coding fails data are manually coded. Once coding is complete, quality assurance is undertaken to assess whether there are duplicates or missing registrations. Checks on specific registration data such as missing mother's date of birth are undertaken. The dataset is then signed off as fit for purpose for statistical production, then tables are assembled and checked; PSD then use these tables for their statistical production.

3 . Communication with data supply partners

3.1 England and Wales

A Service Level Agreement (SLA) is in place between the Office for National Statistics (ONS) and General Register Office (GRO). The SLA:

- covers the provision of life events data to ONS
- ensures that data quality is monitored and performance is reported on
- details the procedures for issue resolution and escalation
- sets out procedures for handling system and processing changes
- outlines data security provisions
- specifies the frequency of data supply

Should the SLA require modification, such as for a new piece of legislation, there are procedures within the SLA, which set out how ONS and GRO are to agree the modifications.

Life Events and Population Sources Division organise quarterly management meetings, which are attended by GRO, Population Statistics Division (PSD) and other areas of ONS. At these meetings, issues affecting the production of birth statistics for England and Wales are discussed, for example, legislation changes. A standard agenda item for the meeting is the SLA, under which aspects of data quality and SLA performance are covered including:

- details of planned interruptions being communicated
- details of any unexpected interruptions and the impact these have had
- the number of incomplete records provided
- the number of investigations outstanding
- the time for these investigations to be completed

As part of the ONS quality assurance process any perceived errors identified are raised with GRO for investigation and resolution in accordance with the SLA. A performance report is agreed between ONS and GRO on an annual basis as part of the SLA and this is discussed by a steering group covering all topics for which the SLA applies, not just births.

The quarterly management meetings also act as a means to discuss:

- processing issues
- the progress toward publication of birth statistics for quarterly and annual tables
- any risks and issues which exist or may emerge and the mitigation for those risks and issues
- the analysis programmes of other areas of ONS

3.2 Scotland

Data for Scotland are downloaded from the National Records of Scotland (NRS) website by PSD after statistics have been published; as such there is no formal agreement for them to supply data. There is communication with colleagues from NRS on an ongoing basis and there are regular meetings for ONS, Welsh Government, NRS and Northern Ireland Statistics and Research Agency (NISRA) to discuss vital events issues.

When there has been a delay in the publishing of Scottish birth statistics, NRS has shared statistical information with ONS prior to publication to enable ONS to publish UK population statistics, with ONS publication no sooner than the same day as the publication by NRS of Scottish data. The information shared was in the form of an aggregated table and publication dates were agreed prior to information being shared.

3.3 Northern Ireland

Data for Northern Ireland are specifically requested and a template is sent to NISRA for completion. No formal agreement is in place for them to supply data. There is communication with colleagues from NISRA on an ongoing basis and there are regular meetings for ONS, Welsh Government, NRS and NISRA to discuss vital events issues.

3.4 User engagement

PSD continually engages with users to understand how well outputs meet their requirements. PSD's user engagement activities include formal consultations on proposed changes to outputs, regular communication on plans through a quarterly newsletter and external events open to all users. In addition, where evaluating changes to methods or sources has required specialist knowledge of local areas, PSD has organised Local Insight Reference Panels to elicit the views of relevant local authorities. From these activities, any issues relating to the sources and their fitness for the proposed use, will naturally come out. Issues restricted to one output will generally be addressed by the team responsible for that output while the Stakeholder Engagement team in PSD takes an overview of any issues with more general implications and ensures that this is considered in development of outputs across the Division. It should be noted that users are more likely to comment on the overall methodology and the effect that it has on the final statistics than on a contributory data source.

Any issues around the quality of the statistics are described in the Quality and Methodology Information report accompanying each output. Issues around specific administrative data sources used in producing the statistics are considered in Quality Assurance of Administrative Data reports such as this.

When changes are proposed to methods (including changes in data sources being used in producing statistics) the ONS Population Methodology and Statistical Infrastructure Division will assess the resultant methods prior to implementation to assure that they are of sufficient statistical quality to meet user needs and are an improvement on the previous method. An independent evaluation by academic experts may also be undertaken, should methodological changes be extensive. The methods are also subject to scrutiny by the UK Statistics Authority as part of the National Statistics accreditation programme under Principle 4 of the Code of Practice for Official Statistics (sound methods and assured quality).

The "responsible statistician" is named for each release and contact details for them are provided, so should someone have concerns over the statistics they are able to communicate them with us. Methodology documents are published to enable users to provide scrutiny.

4 . Quality assurance by the data supplier

This section details the checks and standards applied to the data prior to receipt by Population Statistics Division (PSD) . The checks carried out by PSD upon receipt of the data are detailed in Section 5.

4.1 England and Wales

4.1.1 Checks carried out by the General Register Office

As part of the birth registration process, before data are submitted through the Registration Online (RON) system, the registrar asks the informant to verify that all data entered are accurate. 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.

4.1.2 Checks carried out prior to the annual subset being finalised

Records are sent to the Office for National Statistics (ONS) on a daily basis. Should a record fail to be loaded then an automated error report is generated and sent to both ONS and the General Register Office (GRO). If a record loads but is incomplete then GRO are contacted and the record is investigated.

On receipt by ONS, data are subject to a variety of consistency and sense checks. Checks are carried out to ensure that the number of births reported at register offices is the expected number for each area, based on birth notifications. Missing or duplicate records are referred to GRO for investigation and resolution.

Validity checks on variables are run to ensure that all codes are valid and that each entry seems plausible. If age of mother is missing from the registration information then, where it is available from the birth notification, the age of mother from the birth notification is used.

If main statistical data items are missing from birth registration information then they are imputed. The resultant data are checked to ensure that the distribution of imputed values is similar to the distribution of actual values. For example, if there was a disproportionate number of imputed older mothers, then the imputation would be rejected as a whole and the process rerun with tighter control of variables. The details of which variables have been imputed and the volume of imputation is reported annually in the [births metadata document](#), which also outlines details of changes to methods used in data collection and imputation over time.

Sense checks and frequency counts are taken of data items to quality assure the subset, for example, checking counts by area are of a similar size to previous years and ensuring multiple births have been correctly identified such as the number of twins being divisible by 2 or the number of triplets being divisible by 3. Outlying values of main variables, such as age of mother, are given close scrutiny. Any concerns are then investigated.

Records are subject to further checks in ONS until such time as a dataset is taken, quality assured and declared as the final annual subset. These checks will be discussed in Section 4.1.3. Birth statistics are produced from this annual subset and published. There is a legal requirement for birth statistics to be produced and laid before Parliament.

4.1.3 Checks carried out prior to publication of birth statistics by Life Events and Population Sources Division

A system transfer in Life Events and Population Sources Division takes place, copying the final annual birth subset from the records processing system to a statistical system designed for output production. Frequency counts are compared to ensure that the data from the 2 different systems are the same and that the transfer has been successful.

Statistics are checked to ensure that the output from the publication system matches the final subset on the records processing system when preparing birth statistics for publication. Sense checks are carried out to ensure that there is consistency across publications, components add up to the whole and that data are sensible when compared with previous years.

Mid-year data provided to PSD comprise the first 6 months of data from the newly signed off annual subset (January to June) and the last 6 months of data from the previous subset (July to December). Frequency counts by month are used to ensure that the correct data are provided and that totals used are correct.

4.1.4 Checks carried out after publication of birth statistics

Birth statistics are also subject to regular quality reviews, the last of these was in the summer of 2015. Birth statistics passed the regular quality review with some minor recommendations such as to consider when coding a sample of records, whether the proportion of records coded was sufficient or to provide some further clarification in the metadata document. Quality reviews are every 3 years, so the next one is expected to take place in the summer of 2018.

4.2 Scotland

There are checks built into the Forward Electronic Register (FER) system to ensure that prior to data being sent to National Records of Scotland (NRS) some validity quality assurance has already been undertaken. Information supplied is then verified with the informant before being declared on the system.

During registration, the registrar will allocate codes, such as for country of residence of each parent, registration district where the birth occurred and the hospital where the birth occurred. All events registered on FER are examined by a district examiner to check for quality and accuracy. Vital Events Statistical Branch staff within NRS also check the coding received for anomalies and, following investigation, correct the coding if appropriate.

Sense checks on resultant data are made, for example, to ensure that component figures sum to aggregates and consistent results are produced. More information on the quality assurance process for births in Scotland is available from [the births background information page from the NRS website](#) and [the corresponding vital events general background information page](#).

4.3 Northern Ireland

There are checks built into GRO for Northern Ireland's electronic registration system to ensure that prior to data being extracted by Northern Ireland Statistics and Research Agency (NISRA)'s Vital Statistics team, some validity quality assurance has already been undertaken. During the registration a provisional copy of the information is printed out before the registration is finalised and the informant is asked to check the information supplied (for example, to check that all spellings or dates are correct). Any further errors can be addressed at this stage, before being finalised.

The NISRA Vital Statistics team carry out a variety of additional validation checks, including trend analysis, bounds checking, record consistency and distributional analysis. Any concerns are raised with GRO for Northern Ireland and, following investigation, errors are corrected if appropriate. For more information see NISRA's [Vital Statistics Quality Assurance Procedures document](#).

5 . Quality assurance by ONS

The checks carried out by each team to ensure that data are valid for their requirements are detailed in this section as are concerns about the data and the rationale behind the risk-profile score for each team.

It should be noted that the administrative source is closely aligned to the production requirements of these statistics and therefore they are expected to be of very high quality. There will be a small number of errors in the dataset as errors are made in the registration process and are corrected at a later date. These are unlikely to affect the main variables used in population statistics; should these variables be affected, then they will be discussed in the relevant sub-section.

Birth data for England and Wales are produced on an occurrences basis, this means that the births included are those births that occurred within the calendar year (a small number of late registrations from the previous year are included). Birth data for Scotland and Northern Ireland are published on a registrations basis, which means that the births included are those births which are registered within the calendar year. Birth data for Scotland and Northern Ireland that feed into population estimates are provided on an occurrences basis.

Local authority birth tables for England and Wales, Scotland and Northern Ireland are used by the Population Estimates Unit (PEU) as part of the cohort component method in the production of mid-year population estimates to represent the number of births in an area that year.

Birth tables are used by the Mortality Analysis Team to produce life tables and in the calculation of mortality assumptions for population projections.

The Fertility Analysis Team make use of both birth tables and birth records obtained from Health Analysis and Life Events Division. The data are used, in conjunction with population estimates, to produce fertility assumptions for population projections as well as fertility analysis and statistics.

The Population Projections Unit (PPU) use birth data in their assumptions of fertility and mortality, as well as birth tables in their own right in the production of national and subnational projections.

A sample of birth records for England and Wales are used as a source of information made available within the Longitudinal Study to approved researchers on approved projects in a secure environment. The data provided have identifiable information such as name, address and date of birth removed to protect individuals from being identified. When researchers wish to take data out of the secure environment it is only possible to do so in aggregated form and is subject to disclosure control in line with the [disclosure control guidance document for births and deaths](#).

5.1 Population Estimates Unit

Checks are carried out on all the components of population change, including births. Should the data have changed significantly, then several years will be investigated to see if it is reflective of a longer trend. If this does not prove to be the case then Life Events and Population Sources Division is contacted for confirmation and/or investigation. The sex ratio is also investigated in this manner.

Checks are carried out to ensure that components are consistent at different geographic levels, for example, that the number of births for the UK equals the number of births for England, Wales, Scotland and Northern Ireland. Checks are also carried out to ensure that estimates are reached from components of change and the population estimate from the previous year.

The variables of interest are the fact that the birth occurred, the sex of the child and the area of usual residence. There are no known issues with these variables.

The Population Estimates Unit produces mid-year population estimates from national to local authority level.

The administrative data source is deemed to be low risk due to the:

- close alignment between the purpose for collection and the use in statistics
- need for a child to have a birth certificate
- standardised collection process
- completeness of the data
- small number of variables used
- quality assurance processes the data goes through at each stage
- fact that these administrative sources are used as the sole source to measure births and subsequently produce birth statistics that are National Statistics, the use of the administrative sources here are also to measure births

The public interest profile of the output is deemed to be higher because of the:

- strong media profile
- use of the output in resource allocation by central and local government

As the scores were low and higher, the rating for assurance purposes was deemed by the Population Estimates Unit as A1: basic assurance.

5.2 Population Projections Unit

The Fertility Analysis Team produces assumptions that feed into national population projections. Quality assurance of these assumptions is carried out by the Fertility Analysis Team prior to supply to the Population Projections Team.

Birth data are used to feed into subnational population projections for England as one of the components of change. The data supplied is an extract from finalised birth data and as such has been fully quality assured by Life Events and Population Sources Division prior to supply. As such the Population Projections Unit judge that no further quality assurance is necessary at the time of initial data supply beyond a simple check to ensure that they have data for the correct number of areas. Past and projected numbers of births, along with other individual components of population change, are assessed once projections have been run to ensure that they look sensible both in isolation and in conjunction with other components and with the previous set of projections; individual local authorities are examined if resultant projections look unusual.

The variables of interest are the fact that the birth occurred, the sex of the child and the area of usual residence. There are no known issues with these variables.

The Population Projections Unit produces mid-year population projections from national to local authority level, as well as for Clinical Commissioning Groups.

The administrative data source is deemed to be low risk due to the:

- close alignment between the purpose for collection and the use in statistics
- need for a child to have a birth certificate
- standardised collection process
- completeness of the data
- small number of variables used
- quality assurance processes the data goes through at each stage
- fact that these administrative sources are used as the sole source to measure births and subsequently produce birth statistics that are National Statistics, the use of the administrative sources here are also to measure births

The public interest profile of the output is deemed to be higher because of the:

- strong media profile
- use of the output in resource allocation by central and local government

As the scores were low and higher, the rating for assurance purposes was deemed by the Population Projections Unit as A1: basic assurance.

5.3 Longitudinal Study Branch

The Longitudinal Study uses data for England and Wales only. Extracts from the births annual subset are taken for any instance where the mother giving birth or child being born has a Longitudinal Study date of birth; there are 4 of these dates of birth during the year. The totals extracted each year are checked to ensure that they are within a range of around 1% of births have been extracted, for both mothers and births. The records that have proven to be valid are added into the Longitudinal Study database and matched, where possible, to form a record for the life events of an individual.

The main variables of interest include the date of birth, date of birth registration, the mother's date of birth, the area of usual residence, the sex of the child, birthweight, place of birth, parents' marital status, employment status of parents, Standard Occupational Classification, National Statistics Socio-economic Classification and the number of previous children born to the mother.

There are known issues with the administrative data source in relation to these variables.

Firstly, that some informants are misreporting the number of previous children at the point of registration by counting their newborn as a previous child. A change was made to the Registration Online (RON) system in January 2016 to ensure that informants are now specifically asked for the number of previous children and the Office for National Statistics (ONS) has been working with registrars to ensure that the question is asked correctly. That said, the Longitudinal Study can verify the number of previously registered births to the mother where the mother has a Longitudinal Study birth date against previous registrations. Instances where research projects request the number of previously registered births to the mother where the child has a Longitudinal Study birth date are rare so this is not considered a significant issue.

Secondly, there are known quality issues with birthweight data that are collected as part of the National Health Service (NHS) birth notification as historically there have been no validation checks. The issue has been raised with the Health and Social Care Information Centre and as new maternity systems are rolled out, it has been agreed that validation checks will be incorporated. Therefore the number of implausible birthweights should reduce over time. The number of missing birthweights is detailed in the [births metadata document](#). There are no further known issues with the variables used by the Longitudinal Study Branch. While there are quality concerns, Population Statistics Division (PSD) have a good relationship with our data suppliers. Whenever an issue has been raised, steps have been taken to address our concerns and prevent future reoccurrence.

The Longitudinal Study is used primarily by approved researchers from academia and across government; it is also used to produce the [mortality by NS-SEC release](#).

The administrative data source is deemed to be low risk due to the:

- close alignment between the purpose for collection and the use in statistics
- need for a child to have a birth certificate
- standardised collection process
- completeness of the data
- quality assurance processes the data goes through at each stage
- fact that these administrative sources are used as the sole source to measure births and subsequently produce birth statistics that are National Statistics, the use of the administrative sources here are also to measure births

The public interest profile of the output is deemed to be lower because of the:

- low media profile
- lack of use across government and academia

As the scores were low and lower, the rating for assurance purposes was deemed by the Longitudinal Study Branch as A1: basic assurance.

5.4 Fertility Analysis Team

Fertility Analysis Team have established a system to ensure the integrity of the data received. Initial sense checks are conducted, which include ensuring that the sum of the age-groups is equal to the all ages total. A consistency spreadsheet is set up to draw together information from all standard tables, the totals and subtotals for which should be in agreement. An error flag will quickly identify any discrepancies between tables or any tables which are in need of updating.

Graphs are produced for main figures and for each country of the UK so that it is easier to see if figures for the latest year require further scrutiny when compared with previous years. These include the distribution of:

- births by single year of age of mother
- age-specific fertility rates
- mean age of mother at birth

Birth data are used to produce tables for publication, produce fertility assumptions to feed into population projections and conduct analysis into fertility issues, such as [childbearing by registration status](#).

Main variables on an annual basis include date of birth of mother, date of birth of father, country of birth of mother, country of birth of father, registration type, date of registration, sex of child, area of usual residence and place of birth.

There is a known issue with the administrative data source, that some informants are misreporting the number of previous children at the point of registration by counting their newborn as a previous child. A change was made to the RON system in January 2016 to ensure that informants are now specifically asked for the number of previous children and ONS has been working with registrars to ensure that the question is asked correctly. There are no further known issues with the variables used by the Fertility Analysis Team. While there are quality concerns, PSD have a good relationship with our data suppliers. Whenever an issue has been raised, steps have been taken to address our concerns and prevent future reoccurrence.

The Fertility Analysis Team identified births for England and Wales as having a low risk of quality concerns and the Fertility Analysis Team as having a lower public interest profile; as such they judged births to have an A1 assurance rating.

The work of the Fertility Analysis Team is used primarily by academics as they are commenting on specific aspects of birth data, rather than the number of births or variables that have a high degree of demographic interest.

The administrative data source is deemed to be low risk due to the:

- close alignment between the purpose for collection and the use in statistics
- need for a child to have a birth certificate
- standardised collection process
- completeness of the data
- quality assurance processes the data goes through at each stage
- fact that these administrative sources are used as the sole source to measure births and subsequently produce birth statistics that are National Statistics, the use of the administrative sources here are also to measure births

The public interest profile of the output is deemed to be lower because of the:

- low media profile
- lack of use across government

As the scores were low and lower, the rating for assurance purposes was deemed by the Fertility Analysis Team as A1: basic assurance.

5.5 Mortality Analysis Team (Life tables)

The Mortality Analysis Team conduct sense checks on the birth data, ensuring that areas and ages add together to match published data and check that data is consistent with previous years. Birth data is used to feed into the base numbers for those aged under 1; deaths are then fed into models to determine life expectancy.

The main variables of interest are that the birth occurred, the area of usual residence and the sex of the child. There are no known issues with these variables.

The Mortality Analysis Team produces national life tables. Life tables are used to determine life expectancy and feed into pension calculations.

The administrative data source is deemed to be low risk due to the:

- close alignment between the purpose for collection and the use in statistics
- need for a child to have a birth certificate
- standardised collection process
- completeness of the data
- small number of variables used
- quality assurance processes the data goes through at each stage
- fact that these administrative sources are used as the sole source to measure births and subsequently produce birth statistics that are National Statistics, the use of the administrative sources here are also to measure births

The public interest profile of the output is deemed to be higher because of the:

- strong media profile
- use of the output in pension calculations

As the scores were low and higher, the rating for assurance purposes was deemed by the Mortality Analysis Team as A1: basic assurance.