

Article

Provisional births in England and Wales: 2020

Provisional analysis of births occurring between January and September 2020 in England and Wales using NHS birth notifications to explore possible effects of the coronavirus (COVID-19) pandemic on live births, stillbirths, gestational age, birthweight and place of birth.

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1 . Main points

- 153,464 live births occurred during the second quarter (Apr to June) of 2020 coinciding with the period of the strictest lockdown measures in England and Wales.
- In England and Wales, the stillbirth rate decreased from 4.0 stillbirths per 1,000 total births in 2019 to 3.9 in the first three quarters (Jan to Sept) of 2020, in line with the long-term trend.
- The proportion of all preterm live births decreased for the second year in a row, from 7.8% in 2019 to 7.5% in the first three quarters of 2020.
- The proportion of live births with a low birthweight in England and Wales has been stable in the last decade (between 6.9% and 7.1%), but the percentage decreased from 6.9% to 6.8% in the first three quarters of 2020.

Statistician's comment

"In line with recent trends there have been fewer births in 2020 so far, compared with the same stage in 2019. However, there were still large numbers of parents facing the challenges of a newborn during pandemic restrictions. There were over 150,000 live births during quarter two, coinciding with the first lockdown and the tightest restrictions with similar numbers born in quarter one, pre-lockdown restrictions.

"There have been concerns about the effect of the pandemic on stillbirth rates and while studies in other nations have reported a reduction in preterm births during lockdowns, we found that stillbirth rates and pre-term live births in England and Wales in 2020 are broadly in line with recent national trends."

David Corps, Vital Statistics Outputs Branch, Office for National Statistics. Follow Vital Statistics Outputs Branch on Twitter [@NickStripe_ONS](#)

2 . Background

Traditionally, our birth statistics for England and Wales are derived from information recorded when live births and stillbirths are registered as part of the civil registration process. Where relevant, we link birth registrations to their corresponding NHS birth notification to enable analysis of further factors such as gestational age and ethnicity of the baby. The birth notification is a document completed by the doctor or midwife present at the birth.

In response to the coronavirus (COVID-19) pandemic, birth registration services in England and Wales were suspended in March 2020. Since June 2020, birth registrations have restarted where it was safe to do so but the 2020 birth registration data the Office for National Statistics (ONS) has access to is currently incomplete.

NHS birth notification data have not been impacted by the coronavirus pandemic unlike birth registrations. Therefore, we have used NHS birth notification data to provide more timely estimates of 2020 births in England and Wales and investigate the effect the coronavirus pandemic may have had on births.

When NHS birth notification data are compared with birth registration data, we find that differences are small, especially at the national level, and we are confident that the provisional figures in this release are of sufficient quality. Further information regarding quality of the data can be found in [Section 10](#).

The NHS birth notification figures presented here are based on births that occurred between January and September 2020. For the sake of direct comparability over time, we have compared these figures with birth notification figures for previous years, not registration data from previous years. Therefore, the statistics in this release are provisional and are not directly comparable with other releases that are derived using birth registrations, including our main births releases for 2019 and earlier.

We will continue to monitor the impact of the coronavirus on births and may release further analysis in 2021 as the impact of the coronavirus and national lockdowns become clearer. This information will also be available in our 2020 Conceptions publication and our 2021 Births publication released in 2022.

3 . Number of live births and fertility rates

Based on birth notification data, in the first three quarters (Jan to Sept) of 2020, there were 464,437 live births in England and Wales; a decrease of 3.6% compared with the same period in 2019 and a 15.3% decrease since the most recent peak in 2012.

In the first quarter (Jan to Mar) of 2020, there were 152,521 live births, 153,464 in Quarter 2 (Apr to June) and 158,452 in Quarter 3 (July to Sept). Or on average, approximately 52,000 live births per month.

The total fertility rate (TFR) decreased from 1.65 children per woman in 2019 to 1.60 for the first three quarters of 2020. This continues a downward trend in the TFR, where it has decreased by 17.1% since 2012 (Figure 1).

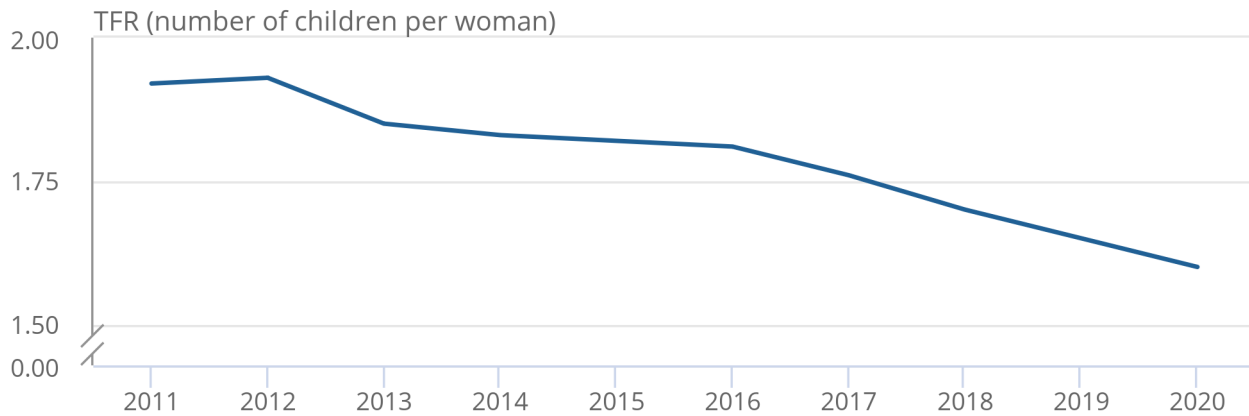
We will release the final TFR for the whole of 2020, based on birth registration data, in the summer of 2021. We note that the lowest TFR on record based on those data is the rate of 1.63 seen in 2001.

Figure 1: Total fertility rate (TFR) decreased for the eighth year in a row

TFR, England and Wales, 2011 to 2020

Figure 1: Total fertility rate (TFR) decreased for the eighth year in a row

TFR, England and Wales, 2011 to 2020



Source: Office for National Statistics – Provisional births in England and Wales

Notes:

1. The total fertility rate is the average number of live children that a group of women would bear if they experienced the age-specific fertility rates of the calendar year throughout their childbearing lifespan.
2. Fertility rates for years 2011 to 2019 have been calculated using all births that occurred in each year. Fertility rates for 2020 have been adjusted to compensate for only having data for the first three quarters at the time of release. Information about the adjustment method used is available in [Section 10](#).

4 . Stillbirths

Stillbirth in England and Wales

There have been a number of [studies](#) published worldwide this year investigating the potential effects of the coronavirus (COVID-19) and lockdown restrictions on pregnancy outcomes, and the [importance of publishing timely stillbirth data during the pandemic](#) has been noted.

Our provisional data show that the number of stillbirths continued a long-term downward trend in 2020. There were 1,835 stillbirths in the first three quarters (Jan to Sept) of 2020, 130 fewer than in the first three quarters of 2019. As a result, the stillbirth rate declined from 4.0 stillbirths per 1,000 total births in 2019 to 3.9 in 2020 so far.

Looking at stillbirth rates by quarter of occurrence, the data show that the stillbirth rate decreased in Quarters 1 (Jan to Mar) and 3 (July to Sept) in 2020 compared with the same quarters in 2019 (2.4% and 7.3% decrease respectively). However, it remained the same for Quarter 2 (Apr to June) as in 2019, at 4.0 stillbirths per 1,000 total births.

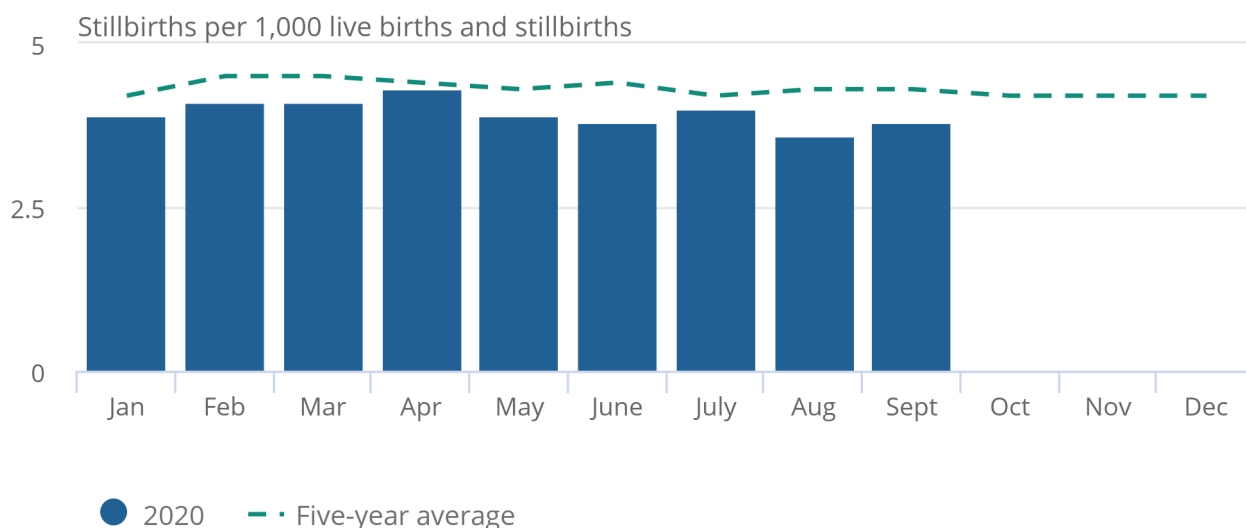
Broken down by month, the stillbirth rates for 2020 decreased in all months compared with 2019, except for January and April. In addition, all monthly rates for 2020 remained below the five-year average (Figure 2).

Figure 2: Monthly stillbirth rates remained below their five-year average in 2020

Stillbirth rate by month of occurrence, England and Wales, 2020

Figure 2: Monthly stillbirth rates remained below their five-year average in 2020

Stillbirth rate by month of occurrence, England and Wales, 2020



Source: Office for National Statistics – Provisional births in England and Wales

Notes:

1. Based on stillbirths occurring in each month.
2. The stillbirth rate is defined as the number of stillbirths per 1,000 live births and stillbirths.
3. The five-year average is the average stillbirth rate for each month over the past five years.

We do note that the stillbirth rate in April was the highest seen so far this year, and the highest since September 2018. April was the month that coincided with the height of the first wave of the pandemic and most-intensive national restrictions. We looked at this more closely.

Each and every stillbirth is a tragedy for the family involved, but the number of stillbirths that occur each month in England and Wales is relatively small and monthly stillbirth rates are volatile. The higher stillbirth rate seen in April 2020 reflects a total of 213 stillbirths, which was three more than in March 2020 and 11 more than April 2019. The stillbirth rate seen in April 2020 was not notably higher from a statistical perspective compared with other months.

Figure 3 illustrates this, where we can see similar spikes on a number of occasions in the past five years despite the stillbirth rate continuing a general downward trend.

In summary, our data do not provide definitive statistical evidence for an increase in stillbirths during the pandemic at a national level. However, clearly this does not preclude service interruption being a contributory factor for any individual stillbirth, which would be a matter for the relevant [hospital review or the Health Safety Investigation Branch](#).

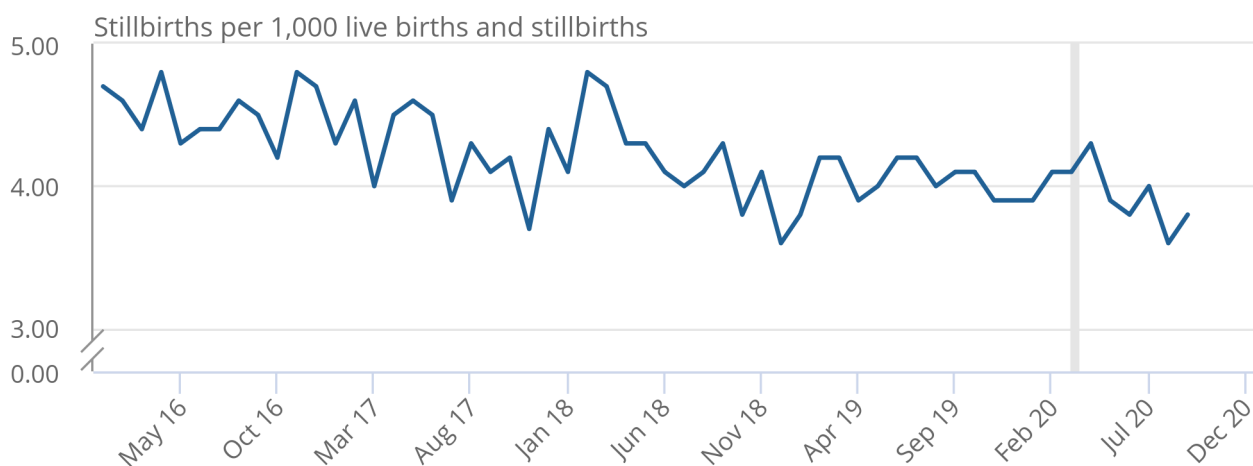
Figure 3: Stillbirth rates continued decreasing in 2020

Stillbirth rate by month of occurrence, England and Wales, 2016 to 2020

Figure 3: Stillbirth rates continued decreasing in 2020

Stillbirth rate by month of occurrence, England and Wales, 2016 to 2020

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Source: Office for National Statistics – Provisional births in England and Wales

Notes:

1. Based on stillbirths occurring in each month.
2. The stillbirth rate is defined as the number of stillbirths per 1,000 live births and stillbirths.
3. On 23 March 2020, a national lockdown in England and Wales commenced.

Stillbirths by area of usual residence

The stillbirth rate in England remained at 3.9 stillbirths per 1,000 total births in 2020, while in Wales it decreased from 4.9 in 2019 to 4.6 in 2020.

While there have been peaks and troughs in stillbirth rates at the regional level, there was a general decline among all English regions in the past decade. The largest percentage change was recorded in the South East where the rate decreased by 35.4% since 2011. As a result, the South East had the lowest stillbirth rate among all English regions, with 3.1 stillbirths per 1,000 total births in 2020 (Figure 4).

Figure 4: The stillbirth rate decreased the most in the South East in the last decade

Stillbirth rate by area of usual residence of mother in Wales and English regions, 2011 to 2020

Notes:

1. Based on stillbirths occurring in each calendar year.

[Data download](#)

5 . Live births by gestational age

A number of international studies have investigated [a fall in preterm births in other countries](#) during the coronavirus (COVID-19) pandemic. In this section, we look at what has been happening to preterm births in England and Wales during 2020 so far.

We use the following [classifications of preterm](#) live births in our analysis:

- extremely preterm (under 28 weeks)
- very preterm (28 to 31 weeks)
- moderate preterm (32 to 36 weeks)

Our analysis for the first three quarters (Jan to Sept) of 2020 show that while the proportion of preterm live births in England and Wales did fall slightly compared with 2019, this was in line with recent trends.

The percentage of all preterm live births decreased for the second year in a row, from 7.8% in the first three quarters of 2019 to 7.5% in the same period in 2020. This was driven by the continued decrease of moderate preterm births (Figure 5). So far in 2020, 6.3% of all live births were classified as moderate preterm, a decrease from 6.5% in 2019.

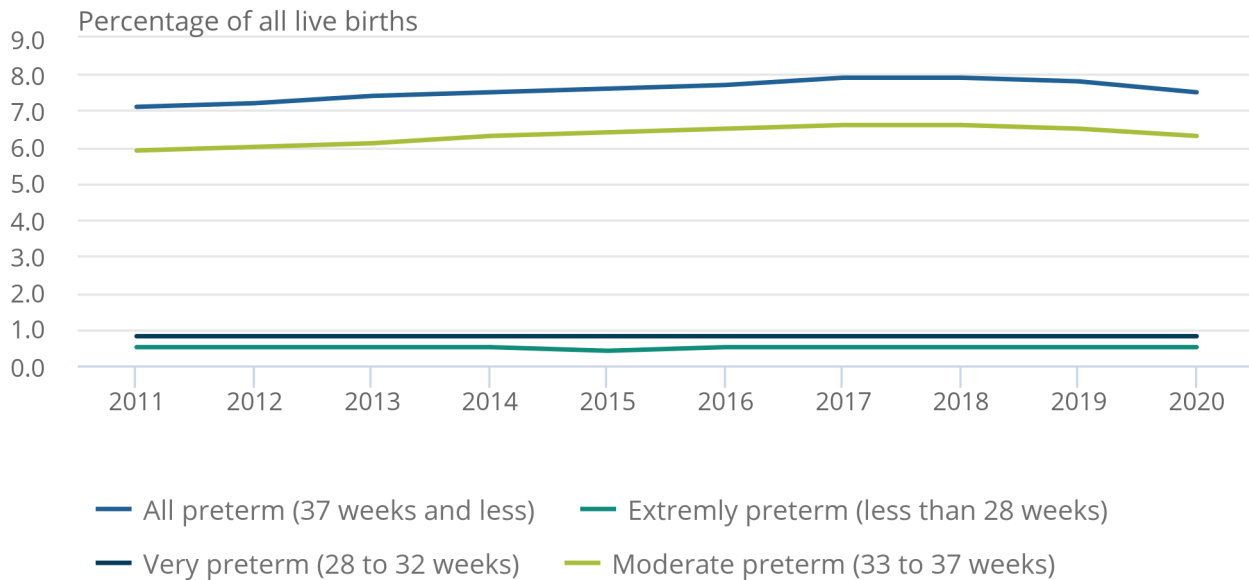
The percentage of very preterm (0.8%) and extremely preterm (0.5%) live births remained the same as in the first three quarters of 2019. However, the proportion of births under 24 weeks completed gestation increased for the second consecutive year, from 0.15% of all live births in 2019 to 0.16% in 2020. This proportion represents 726 live births under 24 weeks completed gestation that occurred in the first three quarters of 2020.

Figure 5: The proportion of preterm live births decreased slightly in 2020

Percentage of live births classified as preterm occurring in England and Wales, 2011 to 2020

Figure 5: The proportion of preterm live births decreased slightly in 2020

Percentage of live births classified as preterm occurring in England and Wales, 2011 to 2020



Source: Office for National Statistics – Provisional births in England and Wales

Notes:

1. Percentages are calculated as a percentage of all live births.
2. The following [classifications of preterm](#) live births was used in this graph: extremely preterm (under 28 weeks); very preterm (28 to 31 weeks); moderate preterm (32 to 36 weeks).
3. To aid comparisons over time, percentages are based on births that occurred in the first three quarters of each year.

6 . Live births by birthweight

We also investigated the potential impacts of the coronavirus (COVID-19) pandemic on birthweight as [reductions in births of very low and extremely low birthweight have been reported in other countries](#).

[Low birthweight is a known risk factor](#) of infant mortality and morbidity. It is classified as [babies born weighing less than 2,500 grams](#).

Over the decade, the proportion of live births with a low birthweight remained relatively consistent in England and Wales (Figure 6). In the first three quarters (Jan to Sept) of 2020, it decreased slightly to 6.8%. This was a third annual decrease in a row.

The proportion of live births with a birthweight between 2,000 and 2,499 grams has been steadily rising in the last decade whereas the proportion of those with even lower birthweight has been generally declining.

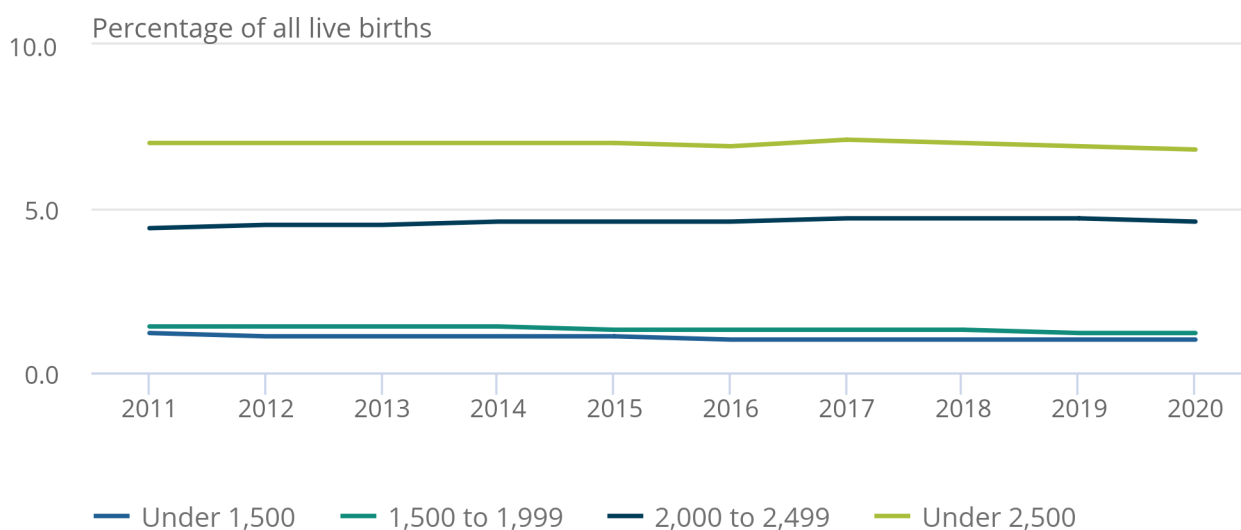
Despite slight decreases in the last couple of years, the proportion of babies live-born with a low birthweight in England and Wales has remained relatively stable since 2011.

Figure 6: Percentage of live births with low birthweight decreased slightly in 2020

Percentage of live births with low birthweight, England and Wales, 2011 to 2020

Figure 6: Percentage of live births with low birthweight decreased slightly in 2020

Percentage of live births with low birthweight, England and Wales, 2011 to 2020



Source: Office for National Statistics – Provisional births in England and Wales

Notes:

1. Low birthweight is classified as a weight less than 2,500 grams.
2. Percentages are calculated as a percentage of all live births.
3. To aid comparisons over time, percentages are based on births that occurred in the first three quarters of each year.

7 . Live births by place of occurrence

Place of birth is another aspect of births that could have potentially been affected by the coronavirus (COVID-19) pandemic and the restrictions put in place to tackle it.

Our data show that the majority of live births took place within an NHS establishment in the first three quarters (Jan to Sept) of 2020. However, the percentage decreased to 96.4% in 2020, the lowest in the past decade. Meanwhile, the percentage of live births that took place at home increased slightly from 1.9% in 2019 to 2.0% in 2020 (Table 1).

These figures need to be interpreted with caution because place of birth was “not stated” for 1.0% of all live births in 2020 so far. This was higher than in any year in the previous decade. Where these births actually took place is crucial for understanding whether there has been a change or not. For example, if most of these births were in fact live births in an NHS establishment, then patterns have not changed compared with previous years. We will investigate this further once more complete data are available.

Table 1: Percentage of live births by place of birth in England and Wales, 2011 to 2020

Year	NHS establishments	Non-NHS establishments	At home	Elsewhere	Not stated
2020	96.4	0.3	2.0	0.3	1.0
2019	97.3	0.3	1.9	0.3	0.3
2018	97.2	0.4	2.0	0.3	0.2
2017	96.8	0.4	2.0	0.3	0.5
2016	96.7	0.4	2.0	0.2	0.6
2015	97.2	0.4	2.1	0.3	0.1
2014	96.8	0.3	2.1	0.3	0.5
2013	96.9	0.3	2.0	0.3	0.5
2012	97.0	0.4	2.0	0.4	0.3
2011	97.0	0.4	2.1	0.3	0.2

Source: Office for National Statistics – Provisional births in England and Wales

Notes

1. To aid comparisons over time, percentages are based on births that occurred in the first three quarters of each year.

8 . Provisional births data

[Provisional births in England and Wales](#)

Dataset | Released 7 December 2020

Provisional figures for births occurring between January and September 2020 in England and Wales including live births by month, birthweight, gestational age, place of birth and stillbirths by month and gestational age.

9 . Glossary

Live birth

A baby showing signs of life at birth is a live birth.

Place of birth

Place where a birth occurs.

Stillbirth

A stillbirth is a baby born after 24 or more weeks' completed gestation and who did not, at any time, breathe or show signs of life.

Total fertility rate (TFR)

The TFR is the average number of live children a group of women would have if they experienced the age-specific fertility rates for the calendar year in question throughout their childbearing lifespan.

10 . Data sources and quality

Birth notification

The birth notification is a document completed by the doctor or midwife present at the birth. Once the birth has been registered, the Personal Demographics Service (PDS) notifies the following services:

- the Office for National Statistics (ONS)
- Child health services
- NHS new-born hearing screening service

The [National Health Service Act 2006](#) (amended in 2013) and [National Health Service \(Wales\) Act 2006](#), require notification of a birth to the local authority and clinical commissioning group (local health board in Wales) where the birth occurred. This is carried out by the hospital where the birth took place, or by the midwife or doctor in attendance at the birth.

For more information on the NHS birth notification service see [NHS Digital](#).

Quality

This article uses NHS birth notification data for births that occurred between January and September 2020. This was the data available when we began our analysis.

Prior to producing the analysis documented in this article, we compared NHS birth notification data with birth registration data. Normally, our birth statistics are derived from birth registration data. Though the NHS birth notification data are not directly comparable with birth registration data, comparisons suggested the two data sources were very similar.

The comparisons were also supplemented with the annual linkage between birth registrations and NHS birth notifications where 99.96% of birth registrations linked to a birth notification in 2019. This again suggested that both data sources were similar. Our [User guide to birth statistics](#) provides more information on the linkage of birth registrations to NHS birth notifications.

This article has used NHS birth notification data from 2011 to 2020. Although we have NHS birth notification data from 2006 onwards, our comparisons with birth registration data suggested the quality of the data prior to 2011 was not high enough to be able to provide accurate comparisons over time.

The 2020 NHS birth notification data includes births that occurred between January and September 2020. To aid comparisons over time, we have used the same time periods from 2011 to 2019 except for fertility and stillbirth rates.

Fertility rate adjustment

Fertility rates from 2011 to 2019 have been calculated using mid-year [population estimates](#). Fertility rates for 2020 have been calculated using 2018 population-based projections in [England](#), [Wales](#) and by [English region](#).

To improve comparability, 2020 fertility rates have been adjusted to account for only having births data for the first three quarters (Jan to Sept) of 2020 by multiplying the rate by the number of days in 2020 divided by the number of days up to 30 September 2020.

Fertility rates from 2011 to 2019 use all births that occurred in each year. For example, 2011 fertility rates will use all births that occurred between January and December 2011.

For more information on how we calculate annual fertility rates, please see our [User guide to birth statistics](#).

Monthly fertility rate

Monthly fertility rates require adjustments to be made to annual population estimates to calculate rates that are comparable with annual rates. We calculate an annual population centred on the midpoint of the month using two years' worth of population estimates or, where these are not available, population projections. For the first half of the year (January to June), populations for the current year and the previous year are used. For the second half of the year (July to December), populations for the current year and the following year are used.

This is then multiplied by the number of days within the month as a proportion of the total number of days within that year.

For example:

$$\text{June 2020 population} = \left(\text{population}_{2019} + (\text{population}_{2020} - \text{population}_{2019}) * \frac{m}{M} \right) * \frac{N}{M}$$

or

$$\text{July 2020 population} = \left(\text{population2020} + (\text{population2021} - \text{population2020}) * \frac{m}{M} \right) * \frac{N}{M}$$

where:

- m is the number of days from 1 July 2019
- M is the number of days in 2020
- N is the number of days in June 2020

The output is used as the population denominator in calculations of general fertility rates. Our [User guide to birth statistics](#) provides the formula we use to calculate general fertility rates.

11 . Related links

[Births in England and Wales: 2019](#)

Bulletin | Released 22 July 2020

Live births, stillbirths and the intensity of childbearing, measured by the total fertility rate.

[Births by parents' country of birth, England and Wales: 2019](#)

Bulletin | Released 22 July 2020

Annual statistics on live births including countries of birth for non-UK-born mothers and fathers.

[Birth characteristics in England and Wales: 2019](#)

Bulletin | Released 16 November 2020

Annual live births in England and Wales by sex, birthweight, gestational age, ethnicity and month, maternities by place of birth and with multiple births, and stillbirths by age of parents and calendar quarter.

[Births by parents' characteristics](#)

Dataset | Released 16 November 2020

Annual live births in England and Wales by age of mother and father, type of registration, median interval between births, number of previous live-born children and National Statistics Socio-economic Classification (NS-SEC).

[Baby names in England and Wales: 2019](#)

Bulletin | Released 26 August 2020

Most popular first names for baby boys and girls in 2019 using birth registration data.

[User guide to birth statistics](#)

Article | Released 16 November 2020

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