

Article

# Births and infant mortality by ethnicity in England and Wales: 2007 to 2019

Live births, stillbirths, infant deaths by ethnicity of the baby occurring annually in England and Wales.



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# 1 . Main points

- The stillbirth rate and infant mortality rate for each of the ethnic groups have fluctuated but generally decreased from 2007 to 2019 following the national trends.
- Babies from the Black ethnic group have the highest rates of stillbirths and infant deaths, with babies from the Asian ethnic group consistently the second highest.
- A higher proportion of live births within the Asian, Black and Any Other ethnic groups were in the most deprived areas compared with the White ethnic group.
- For most ethnic groups, immaturity-related conditions are the main cause of infant mortality, however, for Bangladeshi and Pakistani ethnic groups the main cause is congenital anomalies.

## Statistician's comment

"While stillbirth and infant mortality rates across all ethnic groups have generally been declining since 2007, babies from black ethnic groups have the highest rates.

"One known risk factor for both stillbirths and infant mortality is deprivation. Babies from Asian, Black and Any Other ethnic group were more likely to live in more deprived areas compared with their white counterparts which could explain higher rates in those ethnic groups."

Thomas Maddox, Vital Statistics Outputs Branch, Office for National Statistics

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# 2 . Trends in ethnicity

Warning: This article provides data on births and infant deaths in England and Wales in 2019. This does not include data during the coronavirus (COVID-19) pandemic.

## Trends in live births and stillbirths

The number of live births decreased between 2007 and 2019, however, the number of Asian, Mixed or Multiple, and Any Other ethnic group babies has increased over the time period. Although the number of live births in the White ethnic group has been falling, it had the highest number of live births each year, whereas the Any Other ethnic group had the lowest number of live births each year.

The stillbirth rate for each ethnic group has fluctuated but generally decreased between 2007 and 2019 (Figure 1). This follows the [national trend in stillbirth rates](#). Since 2007, stillbirth rates among babies from the Black ethnic group were highest with a peak of 9.2 stillbirths per 1,000 total births in 2007 decreasing to 7.1 stillbirths per 1,000 total births in 2019. All subcategories within the Black ethnic group had similarly high stillbirth rates.

Babies within the Asian ethnic group generally had the second highest stillbirth rate across the years, with a rate of 5.1 stillbirths per 1,000 total births in 2019. Out of all the Asian ethnicities, the Pakistani group had the highest stillbirth rates. In recent years, the stillbirth rate for babies from the Pakistani ethnic group decreased, aligning closer with the rates of the remaining Asian ethnicities with a stillbirth rate of 5.9 stillbirths per 1,000 total births in 2019 compared with 8.9 in 2007.

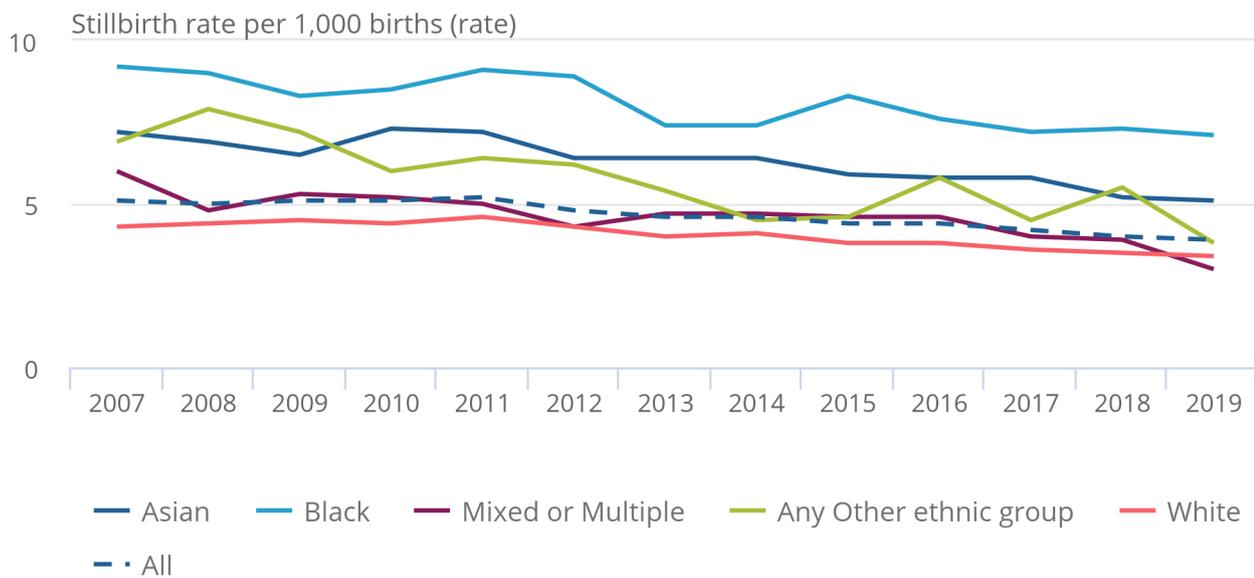
The White ethnic group saw the lowest stillbirth rates across all years except for 2019, where the Mixed or Multiple ethnic groups category had the lowest stillbirth rate.

**Figure 1: Stillbirth rates were highest for babies from the Black ethnic group**

Stillbirth rate by ethnicity of the baby, England and Wales, 2007 to 2019

Figure 1: Stillbirth rates were highest for babies from the Black ethnic group

Stillbirth rate by ethnicity of the baby, England and Wales, 2007 to 2019



Source: Office for National Statistics

Notes:

1. Stillbirths occurring in each calendar year.
2. The ethnicity of some babies is Not Stated, so they have been excluded from this analysis.

## Trends in infant mortality

The [overall infant mortality rate](#) decreased from 4.7 infant deaths per 1,000 live births in 2007 to 3.7 in 2019. The Black ethnic group has had the highest infant mortality rate each year with a rate of 6.4 deaths per 1,000 live births in 2019. All subcategories of the Black ethnic group have relatively high infant mortality rates. Babies with an Asian ethnicity had the second highest infant mortality rate across all years, at 5.5 deaths per 1,000 live births in 2019. The Pakistani ethnic group consistently had the highest rate of infant mortality of all the Asian subcategories.

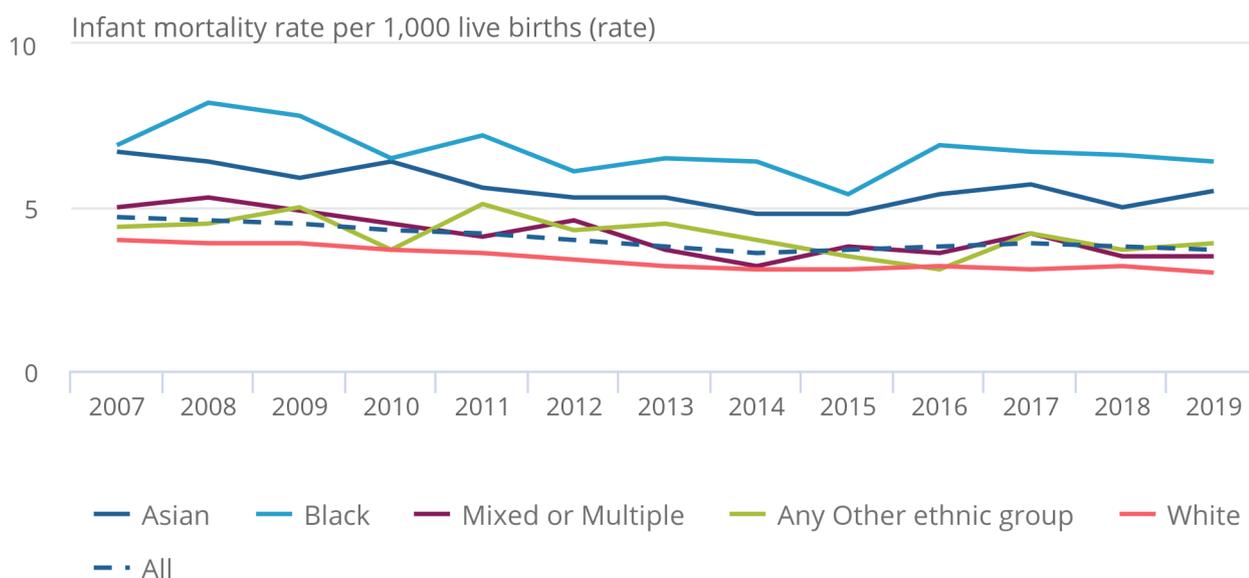
The White ethnic group had the lowest infant mortality rate across all years, at 3.0 deaths per 1,000 live births in 2019. Both subcategories of the White ethnic group (White British and White Other) have an infant mortality rate below the rate for all infants across the time period (3.0 and 2.7 infant deaths per 1,000 live births in 2019 respectively).

### Figure 2: Babies from the Black ethnic group have the highest infant mortality rate

Infant mortality rate by ethnicity of the baby, England and Wales, 2007 to 2019

#### Figure 2: Babies from the Black ethnic group have the highest infant mortality rate

Infant mortality rate by ethnicity of the baby, England and Wales, 2007 to 2019



Source: Office for National Statistics

#### Notes:

1. Deaths occurring in each calendar year.
2. The ethnicity of some babies is Not Stated, so have been excluded from this analysis.

### 3 . Deprivation

The Index of Multiple Deprivation (IMD) is a measure of deprivation based on many factors including employment, health, education, crime, living environment and access to housing within an area. Deprivation measures are derived differently for [England](#) and [Wales](#) and are not directly comparable.

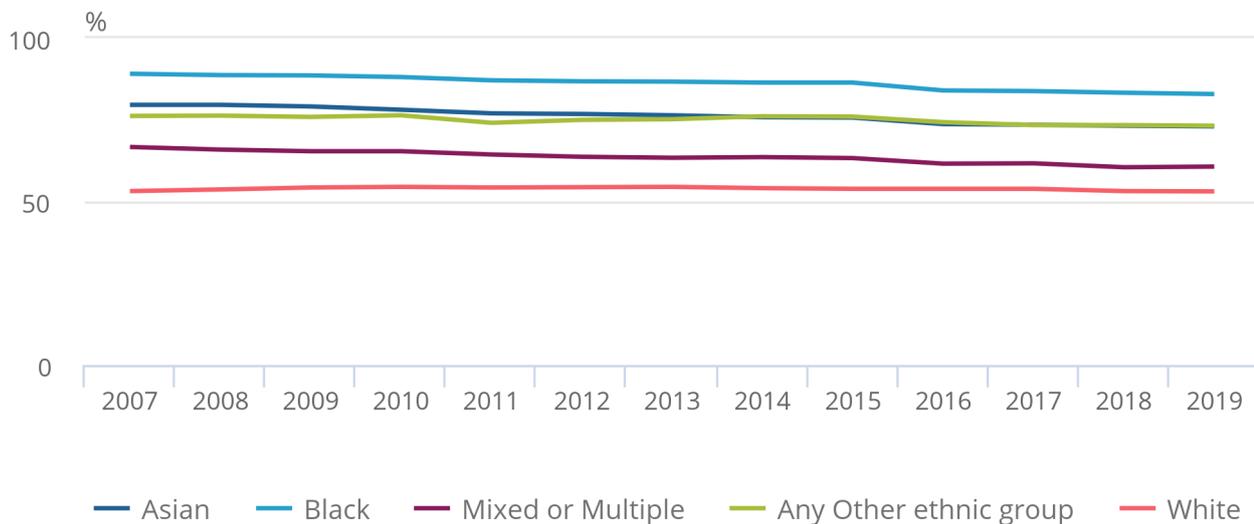
For each ethnic group, the percentage of live births in deprived areas has remained stable across the time period. The Black ethnic group has the highest percentage of live births to mothers who live in the most deprived areas of England for all years, with 82.9% of babies from the Black ethnic group born in the most deprived areas in 2019. The White ethnic group had the lowest percentage of live births occurring in the most deprived areas, with 53.1% of babies from the White ethnic group born in these areas in 2019.

**Figure 3: Over three-quarters of babies from the Black ethnic group are born in the most deprived areas of England**

Percentage of live births where mothers usually reside in 5 most deprived deciles by ethnicity of the baby, England, 2007 to 2019

Figure 3: Over three-quarters of babies from the Black ethnic group are born in the most deprived areas of England

Percentage of live births where mothers usually reside in 5 most deprived deciles by ethnicity of the baby, England, 2007 to 2019



Source: Office for National Statistics

Notes:

1. Live births occurring in each calendar year.
2. The ethnicity of some babies is Not Stated, so they have been excluded from this analysis.
3. Index of Multiple Deprivation decile range from 1 to 10, with 1 being the most deprived and 10 being the least deprived. The most deprived areas have an IMD of 1 to 5, whilst the least deprived areas have an IMD of 6 to 10.
4. For the years 2007 to 2010, the [English indices of deprivation 2010](#) have been used. For the years 2011 to 2015, the [English indices of deprivation 2015](#) have been used, whilst the [English indices of deprivation 2019](#) have been used for 2016 to 2019. These are very similar but not directly comparable.

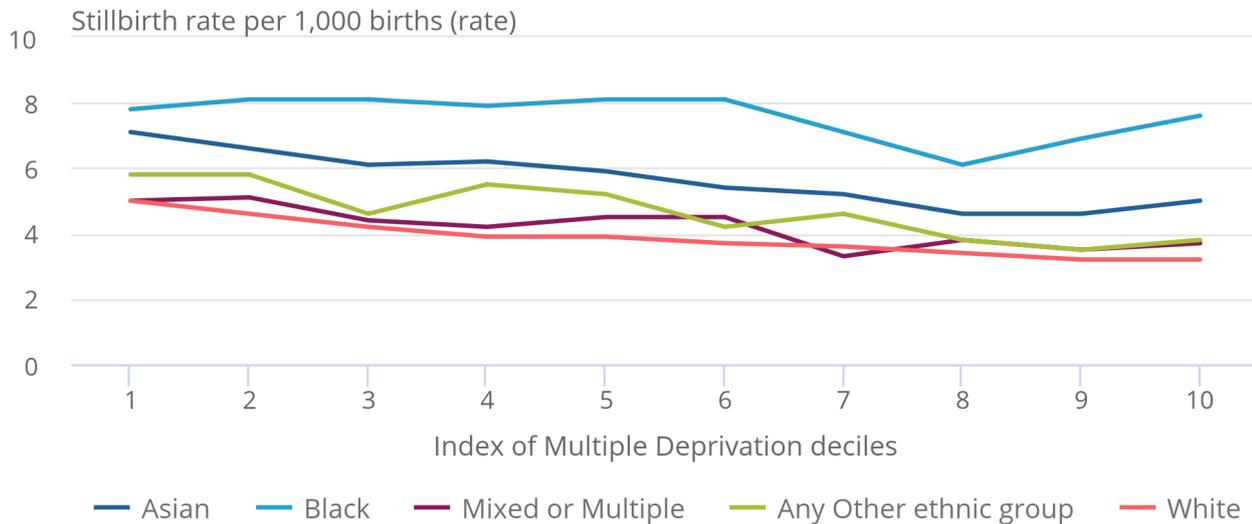
IMD is a [known risk factor](#) for stillbirths and infant mortality. For Asian, Mixed or Multiple ethnic groups, Any Other ethnic group, and White ethnic groups, the stillbirth rate is higher in more deprived areas compared with less deprived areas. However, for the Black ethnic group, the stillbirth rate is similar across most levels of deprivation. Similar trends can be seen in the infant mortality rates.

## Figure 4: Stillbirth rates were highest for the Black ethnic group in the most deprived areas

Stillbirth rate by ethnicity of the baby and Index of Multiple Deprivation, England, 2010 to 2019 combined

### Figure 4: Stillbirth rates were highest for the Black ethnic group in the most deprived areas

Stillbirth rate by ethnicity of the baby and Index of Multiple Deprivation, England, 2010 to 2019 combined



Source: Office for National Statistics

#### Notes:

1. Stillbirths occurring in each calendar year.
2. The ethnicity of some babies is Not Stated, so have they been excluded from this analysis.
3. The years 2010 to 2019 have been combined due to small numbers.
4. Numbers of stillbirths and infant deaths for some ethnic groups are relatively small in less deprived areas, which means rates should be interpreted with caution.
5. Index of Multiple Deprivation decile range from 1 to 10, with 1 being the most deprived and 10 being the least deprived. The most deprived areas have an IMD of 1 to 5, whilst the least deprived areas have an IMD of 6 to 10.
6. For the years 2007 to 2010, the [English indices of deprivation 2010](#) have been used. For the years 2011 to 2015, the [English indices of deprivation 2015](#) have been used, whilst the [English indices of deprivation 2019](#) have been used for 2016 to 2019. These are very similar but not directly comparable.

## 4 . Cause of death

Data for 2017, 2018 and 2019 have been combined to assess infant mortality by cause of death. For most ethnic groups, immaturity related conditions were the main contributor to the infant mortality rate, followed by congenital anomalies. However, for the Bangladeshi and Pakistani ethnic groups, congenital anomalies are the most common cause of death.

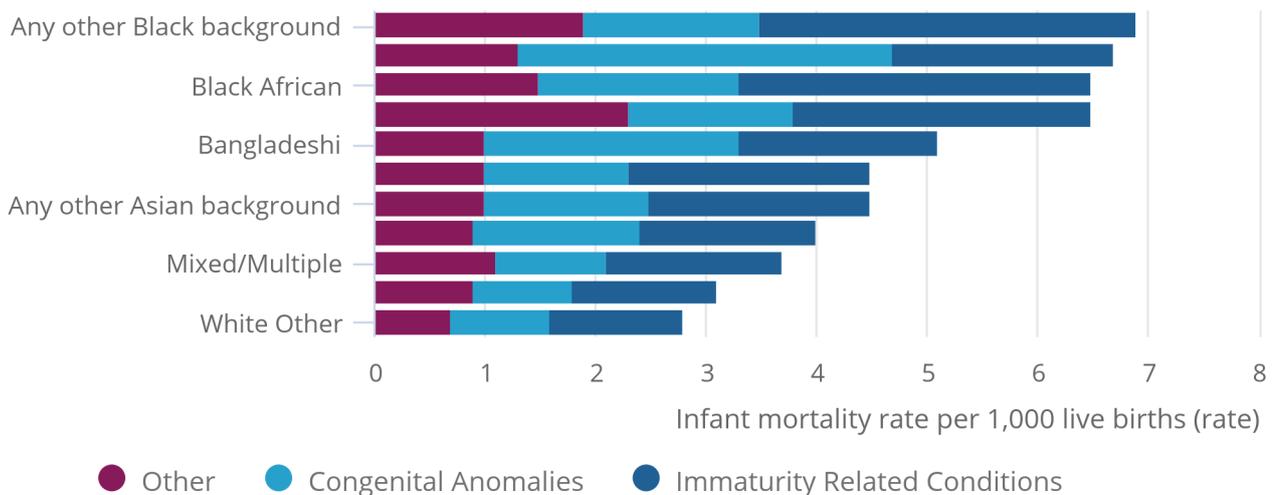
A 2016 report by Public Health England (PHE) investigated [trends in infant mortality in the West Midlands](#), and more recent updates to [Public Health England data](#) on child and maternal health has helped inform an inquiry into infant mortality rates in Birmingham. Within these reports, the risk of congenital anomalies for babies born with a Pakistani ethnicity within consanguineous marriages are discussed alongside other risk factors.

### Figure 5: Congenital anomalies is the most common cause of death among babies from the Pakistani and Bangladeshi ethnic groups

Infant mortality rate by ethnicity of the baby and cause of death, England and Wales, 2017, 2018 and 2019 combined

#### Figure 5: Congenital anomalies is the most common cause of death among babies from the Pakistani and Bangladeshi ethnic groups

Infant mortality rate by ethnicity of the baby and cause of death, England and Wales, 2017, 2018 and 2019 combined



Source: Office for National Statistics

#### Notes:

1. Deaths occurring in each calendar year.
2. The ethnicity of some babies is Not Stated, so they have been excluded from this analysis.

## 5 . Birthweight

A baby is defined as having a low birthweight if they weigh less than 2,500 grams. The percentage of live births with a low birthweight has remained stable for all ethnic groups from the years 2007 to 2019, which follows the [national trend for low birthweight](#). The Asian ethnic group saw the highest percentage of low birthweight live births across all years, with 9.3% of live births being low birthweight in 2019. The White ethnic group had the lowest percentage of low birthweight live births at 6.1% in 2019.

[Low birthweight is a known risk factor](#) for infant mortality. The Black ethnic group had the highest infant mortality rates for low birthweight babies, with a rate of 43.8 deaths per 1,000 low birthweight live births in 2019. The remaining ethnic groups had similar infant mortality rates to each other for low birthweight babies. Similar trends can be seen in the stillbirth rates.

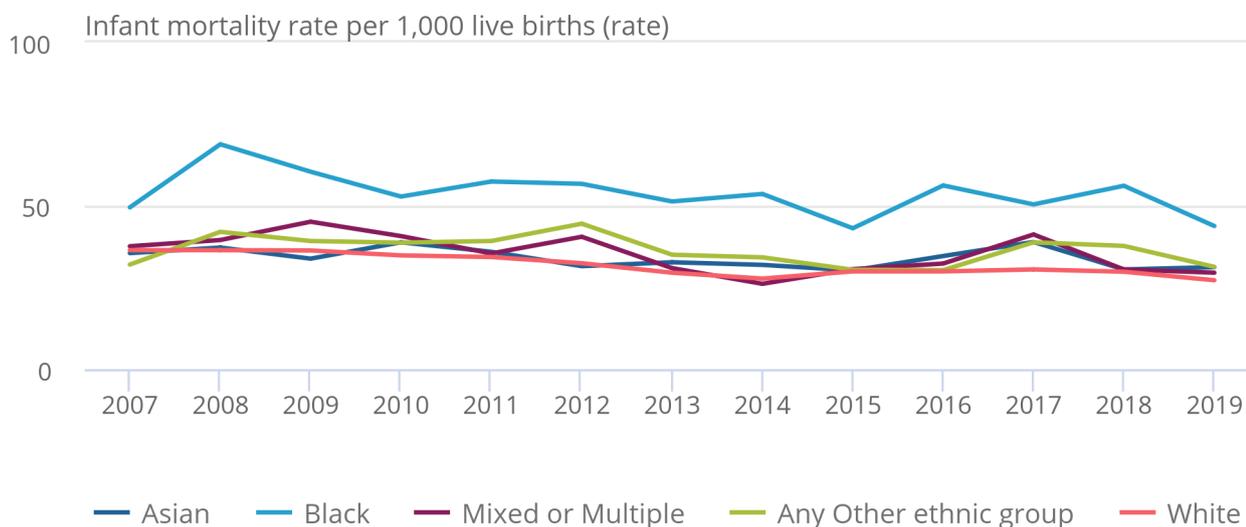
Babies from the Asian ethnic group have the second highest infant mortality rate. However, when we only consider low birthweight babies, the infant mortality rate becomes similar to the infant mortality rate for babies from the White ethnic group. This pattern could be explained by congenital anomalies, the most common cause of death for babies from the Asian ethnic group. In [2019](#), congenital anomalies accounted for 44% of infant deaths for normal birthweight babies compared with 25% of infant deaths for low birthweight babies.

**Figure 6: The Black ethnic group has the highest infant mortality rate among low birthweight babies**

Infant mortality rate for low birthweight babies by ethnicity of the baby, England and Wales, 2007 to 2019

## Figure 6: The Black ethnic group has the highest infant mortality rate among low birthweight babies

Infant mortality rate for low birthweight babies by ethnicity of the baby, England and Wales, 2007 to 2019



Source: Office for National Statistics

Notes:

1. Deaths occurring in each calendar year.
2. The ethnicity of some babies is Not Stated, so they have been excluded from this analysis.

## 6 . Gestational age

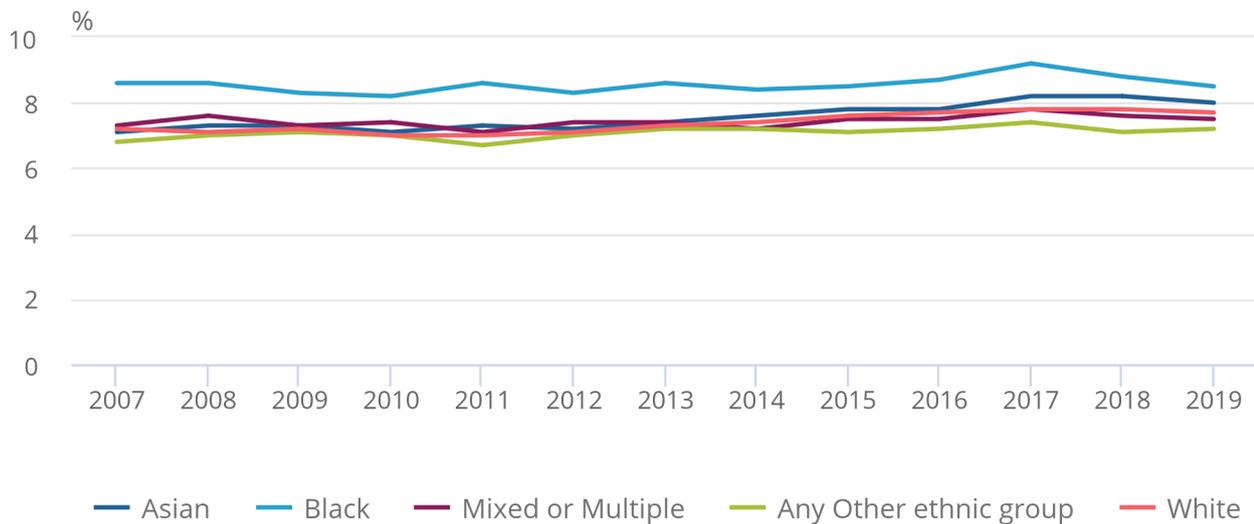
A [preterm birth](#) is classified as a birth that occurs before 37 weeks gestation. The percentage of live births classified as preterm have remained stable between 2007 and 2019 for all ethnic groups, following the [overall trend](#). The Black ethnic group had the highest percentage of preterm live births out of all the ethnic categories in all years, with 8.5% of all live births being preterm in 2019. The Any Other ethnic group consistently saw the lowest percentage of preterm live births, with 7.2% in 2019.

## Figure 7: Babies from the Black ethnic group are more likely to be a preterm birth

Percentage of preterm live births by ethnicity of the baby, England and Wales, 2007 to 2019

### Figure 7: Babies from the Black ethnic group are more likely to be a preterm birth

Percentage of preterm live births by ethnicity of the baby, England and Wales, 2007 to 2019



Source: Office for National Statistics

#### Notes:

1. Live births occurring in each calendar year.
2. The ethnicity of some babies is Not Stated, so they have been excluded from this analysis.

Infant mortality rates can be affected by [changes in the number of babies born under 24 weeks](#) that are classified as live births, therefore it's useful to consider trends for babies born at 24 weeks or over separately.

For the years 2007 to 2019, infant mortality rates for babies born at 24 weeks or over are highest for the Black and Asian ethnicities, similar to the trend for babies of any gestational age. Within the Asian ethnic group, the Pakistani group had the highest rate of infant mortality for babies born at 24 weeks or over.

## 7 . Ethnicity data

[Births and infant mortality by ethnicity, England and Wales](#)

Dataset | Released 26 May 2021

Live births, stillbirths, and infant deaths by ethnicity of the baby in England and Wales, and associated inequalities.

## 8 . Glossary

### Live birth

A baby showing signs of life at birth.

### 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.

### Infant death

The death of a child under one year.

## 9 . Data sources and quality

### Background

We have updated the ethnic groups used to present statistics on ethnicity of the baby to better align with Census 2021. We have created new groupings and used them to analyse live births, stillbirths, and infant mortality from 2007 to 2019.

Previously, we published statistics on the ethnicity of babies at two levels, grouped at a 5 or 9 category level. Following a review of these groups, we created new 6 and 12 category ethnic groupings so we can get a more detailed understanding of the trends. The ethnicity variable is derived from the birth notification. For some babies, the ethnicity is Not Stated, so we cannot analyse them in relation to ethnicity.

We welcome feedback on the new ethnic groupings and the analysis we have presented in this article.

## Ethnic groups

The ethnicity of the baby comes from 68 subcategories available on the [birth notification](#), which were previously grouped based on the 2001 Census. We evaluated these 68 subcategories and compared them with the 2011 Census to develop new ethnic groupings. These align with the [GSS harmonised standards for ethnicity](#) and Census 2021.

Table 1: Old ethnic groupings

<b>Old 5 Category Grouping</b>	<b>Old 9 Category Grouping</b>
Asian	Bangladeshi, Indian and Pakistani
Black	Black African and Black Caribbean
Any Other ethnic group	Any Other ethnic group
White	White British and White Other
Not stated	Not stated

Table 2: New ethnic groupings

<b>New 6 Category Grouping</b>	<b>New 12 Category Grouping</b>
Asian	Bangladeshi, Indian, Pakistani and Any other Asian background
Black	Black African, Black Caribbean and Any other Black background
Mixed or multiple	Mixed or multiple
Any Other ethnic group	Any Other ethnic group
White	White British and White Other
Not stated	Not stated

By comparing the new and old ethnic groups across the time period, we found fewer fluctuations in the data for the new categories. One of the biggest differences was in the Any Other ethnic group. At the 5-category level, the Any Other ethnic group accounted for 9% of all live births in 2019, however, this dropped to 2% using the new categories. These babies were assigned to more specific categories, for example, the Mixed or Multiple ethnic group.

## Not Stated category

One way of understanding the quality of the ethnicity data is to assess the Not Stated category, which indicates the coverage of ethnicity for births and infant deaths. The smaller the Not Stated category, the more confident we can be that the other ethnic groups are complete.

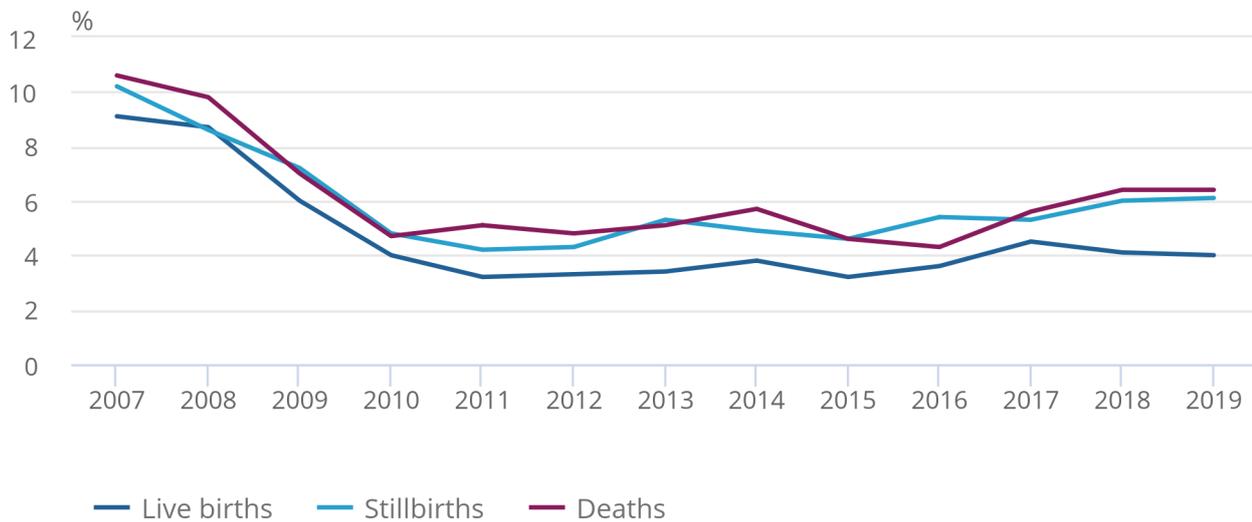
The ethnicity was not stated for 9.1% of live births in 2007. This decreased to 3.2% in 2011, and then increased slightly to 4.0% in 2019 (Figure 8). A slightly higher percentage of stillbirths and infant deaths has the Not Stated ethnicity in 2019 (6.1% and 6.4% respectively). Some births and infant deaths did not successfully link to their birth notification, therefore, the ethnicity of the baby is not known.

## Figure 8: Not Stated category

Percentage of live births, stillbirths, and infant deaths with Not Stated ethnic group, England and Wales, 2007 to 2019

### Figure 8: Not Stated category

Percentage of live births, stillbirths, and infant deaths with Not Stated ethnic group, England and Wales, 2007 to 2019



Source: Office for National Statistics

#### Notes:

1. Based on live births, stillbirths and Infant deaths occurring in each calendar year.
2. Some births and infant deaths did not link to the birth notification, so the ethnicity is not known. These deaths are not presented.

The number of babies whose ethnicity is Not Stated is larger than some categories with an assigned ethnic group. For example, when considering the six level categories in all years, the Any Other ethnic group has fewer live births, stillbirths, and infant deaths than the Not Stated category.

## Quality

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the [Births QMI](#), [User Guide to births statistics](#) and the [Child and Infant Mortality QMI](#).

## 10 . 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).

### [Child and infant mortality in England and Wales: 2019](#)

Bulletin | Released 24 February 2021

Stillbirths, infant and childhood deaths occurring annually in England and Wales, and associated risk factors.