

Statistical bulletin

Gestation-specific Infant Mortality in England and Wales: 2011

Death rates of pre-term, full-term and post-term babies and various factors that may influence their survival.



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Table of contents

1. [Main findings](#)
2. [Summary](#)
3. [Background](#)
4. [Data sources and linkage](#)
5. [Gestational age](#)
6. [Birthweight](#)
7. [Age of mother at birth of baby](#)
8. [Multiplicity](#)
9. [Marital status and type of registration](#)
10. [National Statistics Socio-Economic Classification \(NS-SEC\)](#)
11. [Ethnicity](#)
12. [Small for gestational age](#)
13. [Policy context](#)
14. [Downloadable reference tables](#)
15. [References](#)
16. [Background notes](#)

1. Main findings

- Babies born in 2011 had an overall infant mortality rate of 4.1 deaths per 1,000 live births compared to 4.9 for babies born in 2006.
- For babies born at term (between 37 and 41 weeks gestation), the infant mortality rate was 1.5 deaths per 1,000 live births.
- The infant mortality rate for pre-term babies (between 24 and 36 weeks) born in 2011 was 25.4 deaths per 1,000 live births, 11% lower than the rate for pre-term babies born in 2006 (28.6 deaths per 1,000 live births).
- The infant mortality rate for babies of mothers aged 40 years and over was 5.6 deaths per 1,000 live births.
- For babies of mothers aged less than 20 years, the infant mortality rate was 5.1 deaths per 1,000 live births.
- The pre-term infant mortality rate was higher for singleton babies than for multiple babies (25.8 and 23.9 deaths per 1,000 live births respectively).
- Infant mortality rates by ethnic group were highest for babies in the Pakistani group (8.5 deaths per 1,000 live births).

2. Summary

This bulletin presents figures on all births and infant deaths using information from births registered in England and Wales in 2011 linked to birth notifications data (NHS Numbers for Babies, NN4B), then further linked to death registrations for babies who died before their first birthday and where their death was registered with the Office for National Statistics (ONS) by the 6th June 2013. This birth cohort permits an analysis of births and infant deaths by gestational age and ethnicity.

The infant deaths figures in this bulletin differ slightly from those published in [Death Registration Summary Tables, England and Wales, 2011 \(Final\)](#) and [Childhood, Infant and Perinatal Mortality in England and Wales, 2011](#). The [Death Registration Summary Tables, England and Wales, 2011 \(Final\) \(341 Kb Excel sheet\)](#) (4.2 deaths per 1,000 live births) is based on deaths that were registered in 2011. The figure in [Childhood, Infant and Perinatal Mortality in England and Wales, 2011](#) (4.2 deaths per 1,000 live births) is based on deaths registered in 2011 that have been linked to their birth registration details. These two figures are based on death cohorts.

Gestational age and ethnicity are not routinely collected at birth registration and have only been reported by ONS since 2006. The findings reported in this Statistical Bulletin can help in understanding how these important factors relate to births and infant deaths.

There is an interest in increasing the number of factors by which infant deaths can be analysed. These figures have potential impact on services for mothers and babies and new research into causes of infant death.

ONS is the only producer of National Statistics on gestation-specific infant mortality in England and Wales.

Infant mortality statistics for Scotland and Northern Ireland are the responsibility of [National Records of Scotland \(NRS\)](#) and the [Northern Ireland Statistics Research Agency \(NISRA\)](#) respectively.

Please refer to background note one for definitions of terms used in this release.

3. Background

Large inequalities in infant mortality rates are known to exist between white and ethnic minority groups in England and Wales (Gray et al, 2009), and low gestational age is strongly linked to poor outcomes (Kurinczuk et al, 2009). However, information about ethnicity and gestational age is not collected at birth registration.

Since 2005, ONS has linked birth registration records with NHS birth notification records. These data are then further linked to death registration records for babies who died before their first birthday.

By linking the three data sources, figures can be reported for infant mortality by gestational age and ethnicity as well as other risk factors including birthweight, mother's age at birth of child, marital status and socio-economic status (based on the most advantaged parents occupation).

The NHS birth notifications system collects information about ethnicity to help organisations monitor their service delivery. Ethnicity is usually self-defined; for birth notifications, the baby's ethnic group is defined by the mother.

Individuals may choose not to state their baby's ethnicity. In some areas with a very high proportion of 'Not Stated' records, this 'opting out' may not be the sole reason for incomplete data. The 'Not Stated' response category for ethnicity may also include 'Not Known', 'Missing' or 'Not Asked'. For babies born in 2011, 3.2% of live births had ethnicity recorded as 'Not Stated', compared with 4.0% in 2010 (ONS, 2011).

Low gestational age is a key risk factor associated with mortality in the perinatal period. Linking birth notifications data to information collected at registration allows analysis of gestational age in combination with other variables routinely collected at birth registration.

For the purposes of this bulletin if gestational age was below 22 weeks and birthweight was recorded as 1,000 grams or more, the data were considered invalid and were excluded from the analysis. For babies born in 2011, 0.6% of births had no gestational age stated. Over the period 2006 to 2011, these 'gestational age not stated' cases did not show any marked correlation with any other variables at a national level.

4. Data sources and linkage

The Regional Director of Public Health must be notified of a birth within 36 hours by a doctor or a midwife. At this point, the NN4B system for recording birth notifications allocates an NHS number and the doctor or midwife records key birth details not collected at birth registration.

All births in England and Wales must be registered within 42 days of occurrence. As well as details of the birth (date, sex, single or multiple birth), information is also collected about the parents for the public register and for statistical purposes, such as the mother's usual residence and her age at the time of the baby's birth. Information is collected about the father if the parents are married or if the father is present at the registration (known as joint registration).

ONS receives birth notifications data from the NHS for linkage with birth registration records for statistical purposes. The registrar links the birth notification to the registration details at the time of registration. This linkage creates a unique sequence number which is used by ONS to re-link the records for this cohort. A small number of records require ONS to use a probabilistic linkage where this unique identifier is not available. Records linked probabilistically are matched on a number of key variables including baby's date of birth, mothers date of birth and postcode of usual residence of mother.

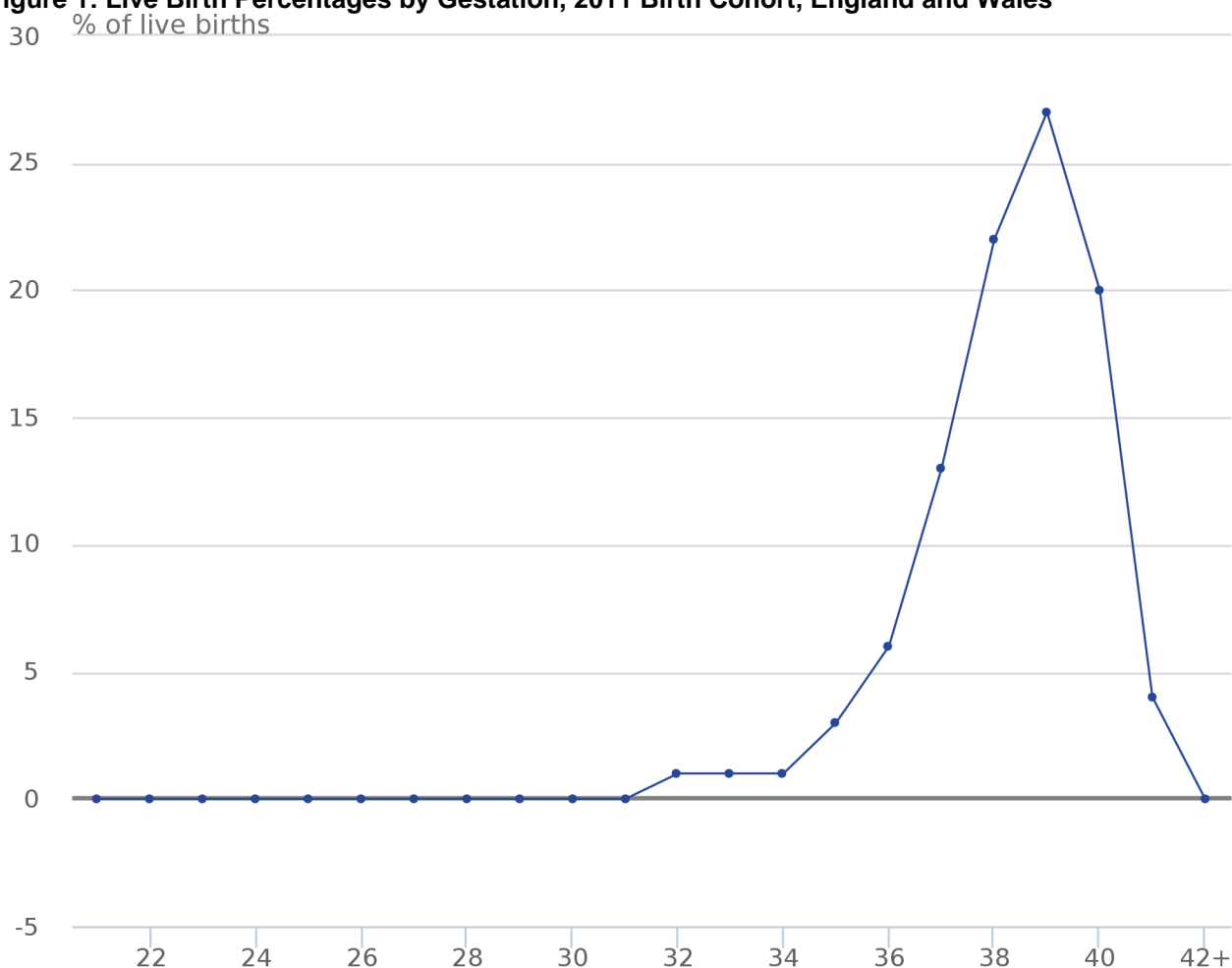
Registration data on all deaths occurring in England and Wales are held by ONS. Routine linkage of birth records to death registration records identifies those babies who died before their first birthday.

For babies born in 2011, 719,624 live birth registration records were successfully linked to their birth notification records; this represents 99.4% of the registration records of live births. Of these records (1,443) 0.2% were probabilistically linked. 3,609 stillbirths were also directly linked to their birth notification using the sequence number, while 104 (2.8%) records were linked probabilistically. For infant deaths, 2,973 death registrations (99.1%) were successfully linked to their corresponding birth record.

5. Gestational age

Figure 1 shows that for babies born in 2011 the majority (88.7%) of live births were delivered full term (between 37 and 41 weeks gestation). Of the 7.1% of births that were pre-term (between 24 and 36 weeks gestation), 5.0% were extremely pre-term (between 24 and 27 weeks), 11.2% were very pre-term (between 28 and 31 weeks) and 83.8% were moderately pre-term (between 32 and 36 weeks).

Figure 1: Live Birth Percentages by Gestation, 2011 Birth Cohort, England and Wales



Source: Office for National Statistics

Notes:

1. In completed weeks. 'Less than 22 weeks' only include births where birthweight was under 1,000g; births where gestation was recorded under 22 weeks and birthweight was 1,000g or over were considered to be inconsistent with birthweight and have been excluded.
2. Known gestational age only.

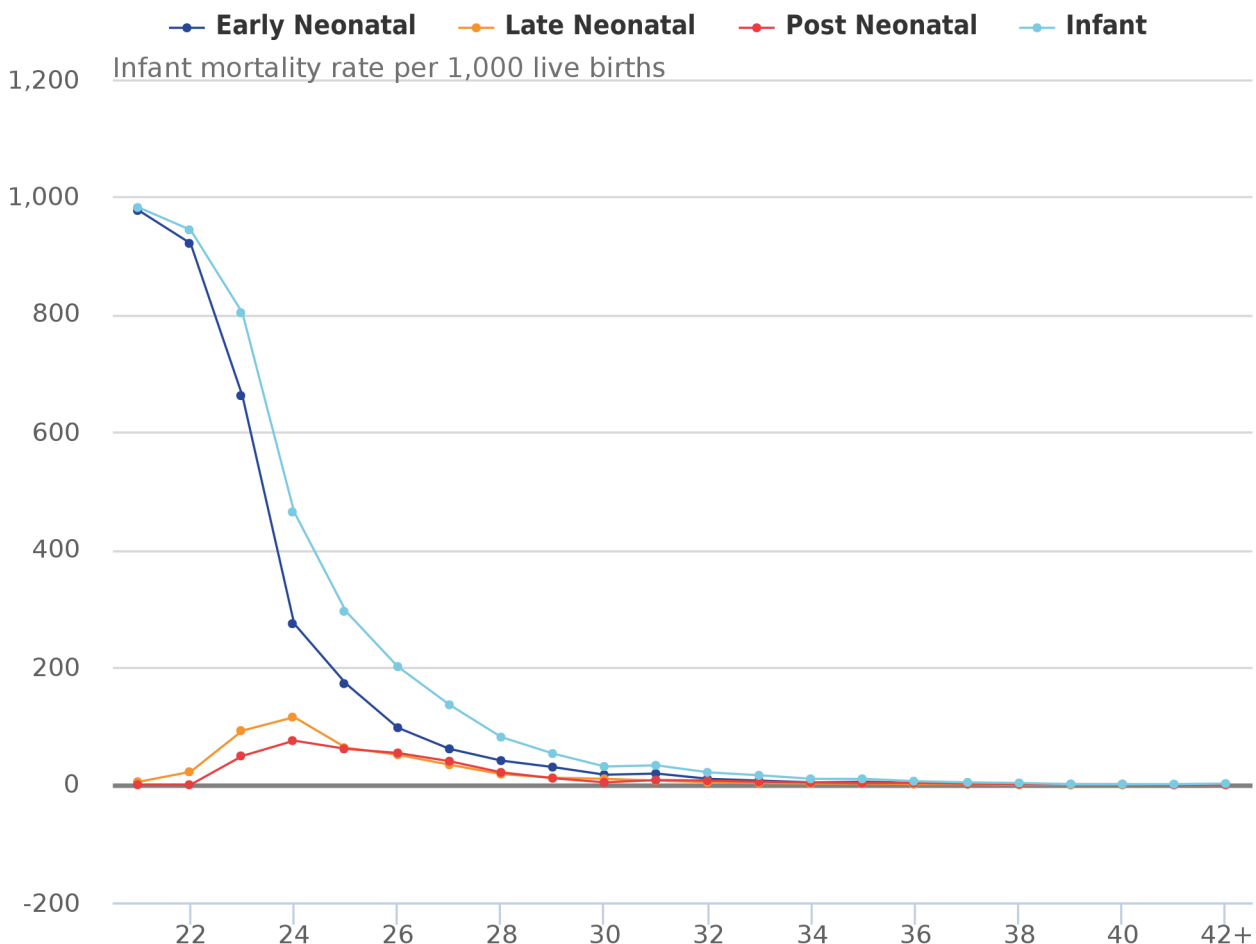
Stillbirths accounted for 0.5% of all births in 2011. Of the 3,707 stillbirths where gestational age was known, 65.6% were born pre-term with 38.5% of those being extremely pre-term, 24.1% being very pre-term and 37.4% were born moderately pre-term.

A fetus is considered viable at 24 weeks. Very few live births occur before this stage and infant mortality rates for the few babies born this early are extremely high. For babies born in 2011, 0.1% of live births occurred at less than 24 weeks; the infant mortality rate for these babies was 894.7 deaths per 1,000 live births. The majority of these deaths (92.4%) occurred during the early neonatal period (the first week of life).

There has been little change in the distribution of birth by gestational age since 2006, when the first Statistical Bulletin in this series was published. In that first Bulletin, post-term (42 weeks and over) babies were reported in the same category as term babies; the report showed that 92.4% of babies were born at 37 weeks or more, compared with 92.8% in 2011.

The infant mortality rate for pre-term babies (between 24 and 36 weeks) born in 2011 was 25.4 deaths per 1,000 live births, 11% lower than the rate for babies born in 2006 (28.6 deaths per 1,000 live births). The infant mortality rate for babies born at term (1.5 deaths per 1,000 live births) was significantly lower than the overall infant mortality rate (4.1 deaths per 1,000 live births). Babies born post-term in 2011 comprised 4.1% of live births, and had an infant mortality rate of 1.7 deaths per 1,000 live births, slightly higher than the infant mortality rate for babies born in 2006 (1.5 deaths per 1,000 live births). Figure 2 shows how infant mortality rates vary with gestational age.

Figure 2: Infant Mortality Rate by Gestation, 2011 Birth Cohort, England and Wales



Source: Office for National Statistics

Notes:

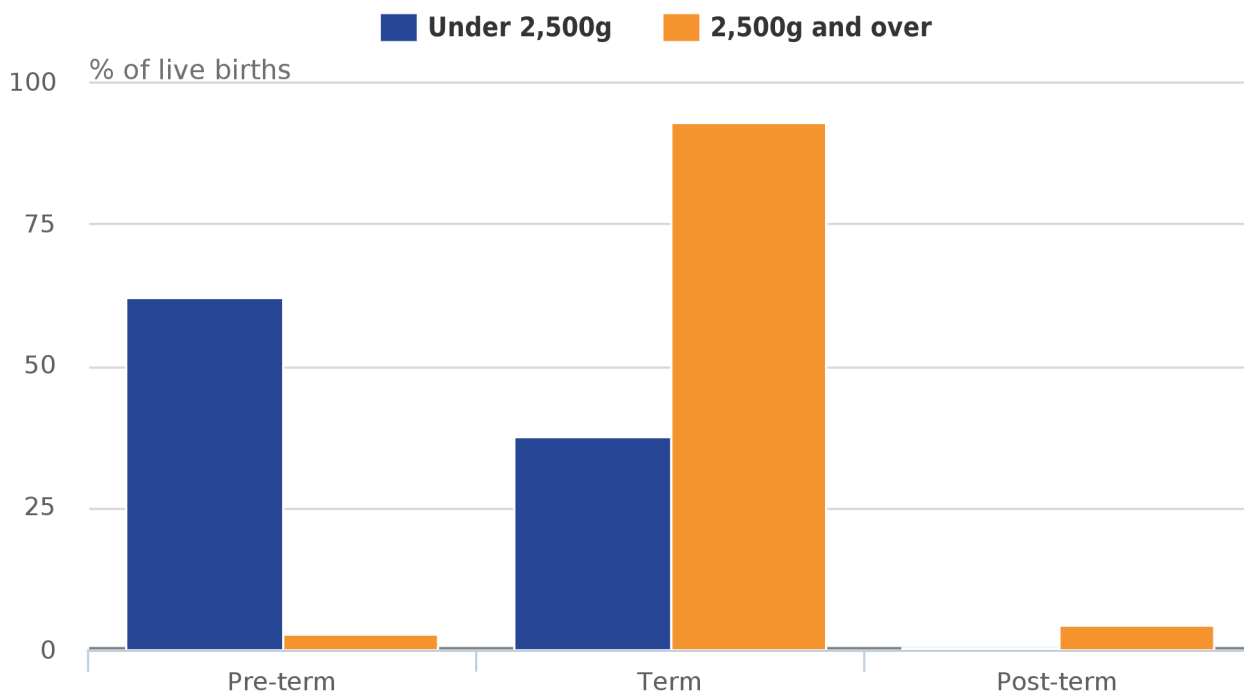
1. Early neonatal – deaths <7 days, Late neonatal – deaths >=7 and <28 days, Post neonatal – deaths >= 28 days and < one year, Infant – deaths under one year.
2. In completed weeks. 'Less than 22 weeks' only include births where birthweight was under 1,000g; births where gestation was recorded under 22 weeks and birthweight was 1,000g or over were considered to be inconsistent with birthweight and have been excluded.

3. Infant mortality rates per 1,000 live births.

6. Birthweight

Figure 3 illustrates the link between gestational age and birthweight. Babies weighing under 2,500 grams are considered to have a low birthweight. For babies born in 2011 with low birthweight, 37.0% were born at term, 61.3% were pre-term and 0.4% were post-term. In comparison, 92.8% of babies weighing 2,500 grams and over were born at term, 2.8% were pre-term and 4.4% were post-term.

Figure 3: Live Birth Percentages by Grouped Birthweight and Gestation, 2011 Birth Cohort, England and Wales



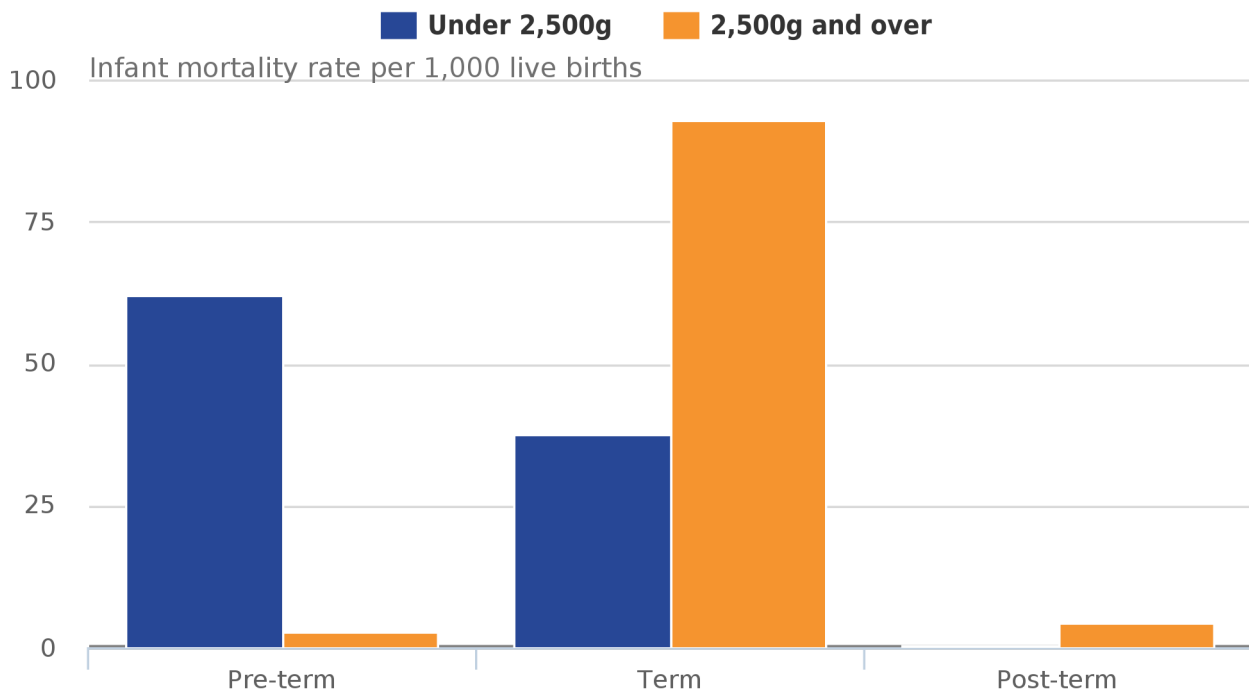
Source: Office for National Statistics

Notes:

1. Pre-term is 24 to 36 completed weeks; term is 37 to 41 completed weeks; post-term is 42 weeks and over.
2. Births occurring at less than 24 weeks gestation account for 0.1% of all live births.
3. Known gestational age only.

The relationship between gestational age and birthweight is reflected in the infant mortality rates of low birthweight babies. Babies born in 2011 under 24 weeks gestation and weighing less than 1,000 grams had the highest infant mortality rate (919.6 deaths per 1,000 live births) while the lowest rates were for babies born at term and post-term weighing at least 4,000 grams (both 0.9 deaths per 1,000 live births). The highest infant mortality rate for low birthweight babies was for those born pre-term (34.8 deaths per 1,000 live births) followed by babies born post-term (26.2 deaths per 1,000 live births). Babies born at 2,500 grams or over had much lower infant death rates at 6.6, 1.3 and 1.5 deaths per 1,000 live births for pre-term, term and post-term respectively. See Figure 4.

Figure 4: Infant Mortality Rate by Grouped Birthweight and Gestation, 2011 Birth Cohort, England and Wales



Source: Office for National Statistics

Notes:

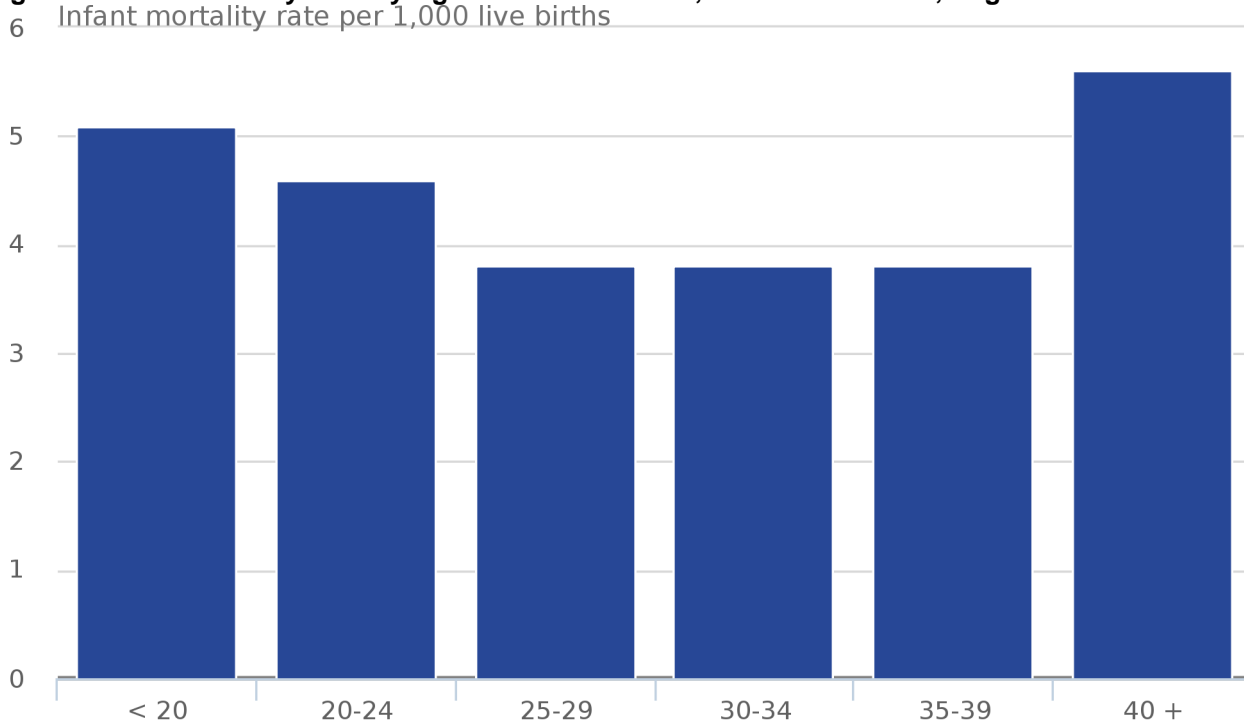
1. Pre-term is 24 to 36 completed weeks; term is 37 to 41 completed weeks; post-term is 42 weeks and over.
2. Births occurring at less than 24 weeks gestation account for 0.1% of all live births. 94% of these babies born in 2011 died before their first birthday. This represents 17% of all infant deaths.
3. Known gestational age only.
4. Infant mortality rates per 1,000 live births.

7. Age of mother at birth of baby

Around 7.2% of all live births take place prematurely, that is under 37 weeks gestation. Mothers aged less than 20 years or over 35 years are more likely to give birth before 37 completed weeks, compared with mothers aged between 20 and 34 years. In 2011, mothers aged 40 years and over had the highest percentage of premature babies at 10.1%, followed by mothers aged 35 to 39 years (7.9%), then mothers aged less than 20 years (7.8%). Mothers aged 20 to 24 years and 25 to 29 years had the lowest proportion of premature babies (6.8% and 6.7% respectively) while 7.0% of babies born to mothers aged 30 to 34 years were premature.

Research shows that maternal age typically has a U-shaped relationship with infant mortality, with rates being highest for babies of the youngest and oldest mothers (Misra and Ananth, 2002): Figure 5 illustrates this. For babies born at term in 2011, where gestational age is known, the infant mortality rate was highest for mothers aged 40 years and over, at 5.6 deaths per 1,000 live births, followed by mothers aged less than 20 years with 5.1 deaths per 1,000 live births. Babies born to mothers aged between 25 and 39 years had the lowest infant mortality rate at 3.8 deaths per 1,000 live births.

Figure 5: Infant Mortality Rate by Age of Mother at Birth, 2011 Birth Cohort, England and Wales



Source: Office for National Statistics

Notes:

1. Known gestational age only.
2. Infant mortality rates per 1,000 live births.

The infant mortality rate for babies born before 37 completed weeks gestation does not follow this U-shaped pattern. In 2011 the highest infant mortality rate for these babies was for mothers aged between 20 and 24 years (45.8 deaths per 1,000 live births). Mothers aged 20 to 24 years had significantly higher infant mortality rates for babies born before 37 weeks than mothers aged 25 to 29, 30 to 34 and 35 to 39 years. In previous years the highest rate has consistently been for mothers aged less than 20 years. See Table 1.

Table 1: Infant Mortality Rates by Age of Mother, Babies Born Under 37 Weeks Gestation, 2006–2011 Birth Cohorts, England and Wales

Age in years		Rate per 1,000 live births					
		2006	2007	2008	2009	2010	2011
Less than 20	Rate	50.7	55.5	55.7	48.9	43.7	38.7
	Lower CI	42.0	48.3	48.2	41.9	36.7	32.0
	Upper CI	61.1	63.7	64.4	57.1	51.9	46.7
20–24	Rate	45.3	45.3	47.6	45.3	39.3	45.8
	Lower CI	41.2	41.1	43.4	41.1	35.4	41.6
	Upper CI	49.9	49.9	52.3	49.8	43.6	50.4
25–29	Rate	43.8	37.1	40.9	39.5	36.9	34.9
	Lower CI	40.0	33.9	37.6	36.2	33.7	31.8
	Upper CI	48.0	40.6	44.5	43.0	40.3	38.2
30–34	Rate	37.0	35.8	36.3	36.0	35.7	35.6
	Lower CI	34.0	32.8	33.2	33.0	32.7	32.7

	Upper CI	40.4	39.2	39.7	39.4	38.9	38.8
35—39	Rate	34.8	35.6	32.6	32.0	34.3	33.5
	Lower CI	31.1	31.9	29.1	28.5	30.6	30.0
	Upper CI	39.0	39.7	36.5	35.9	38.3	37.5
40 and over	Rate	40.3	30.7	34.6	35.5	37.1	39.9
	Lower CI	33.6	24.1	27.8	28.7	30.5	33.2
	Upper CI	48.3	38.6	42.7	43.5	45.1	47.8

Source: Office for National Statistics

Notes:

1. Known gestational age only.
2. Infant mortality rates per 1,000 live births
3. The lower and upper confidence limits have been provided. These form a confidence interval, which is a measure of the statistical precision of an estimate and shows the range of uncertainty around the estimated figure. Calculations based on small numbers of events are often subject to random fluctuations. As a general rule, if the confidence interval around one figure overlaps with the interval around another, we cannot say with certainty that there is more than a chance difference between the two figures.

8. Multiplicity

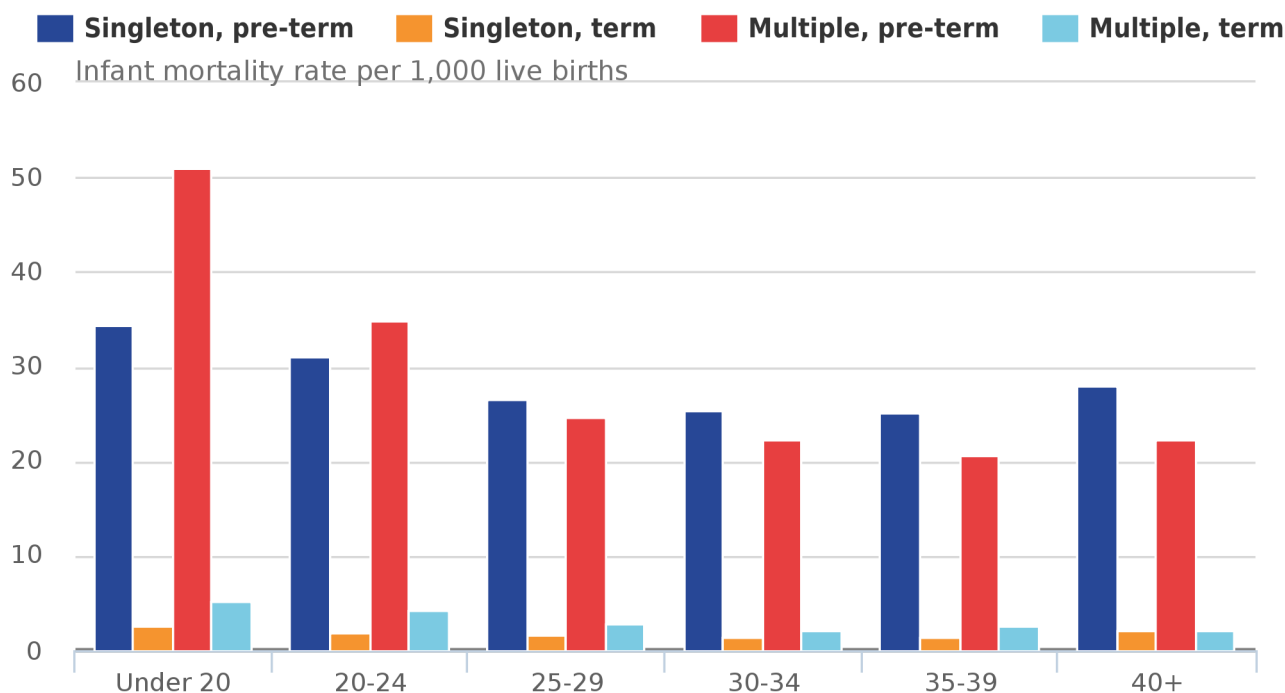
Singleton and multiple live births have very different gestational age distributions. For babies born in 2011, only 5.6% of singleton births were pre-term, compared with more than half (53.1%) of multiple births. Most women with a twin pregnancy are expected to give birth earlier (at around 36 to 37 weeks gestation) than women with a singleton pregnancy and there may be an increased risk of stillbirth from 37 weeks for twin pregnancies (Dodd et al, 2012). In 2011, singleton babies had an infant mortality rate of 3.6 deaths per 1,000 live births while multiple babies had an infant mortality rate that was more than five times higher, at 18.6 deaths per 1,000 live births. The neonatal mortality rate for babies born in 2011 was 2.5 deaths per 1,000 live births for singletons and 15.4 deaths per 1,000 live births for multiples.

The pre-term infant mortality rate was higher for singletons than for multiple babies at 25.8 compared with 23.9 deaths per 1,000 live births respectively. For pre-term neonatal mortality rates, the figures were 18.5 deaths per 1,000 live births for singletons compared with 19.1 deaths per 1,000 live births for multiples.

While there is typically a U-shaped relationship between mother's age and infant mortality (with the highest mortality rates among the youngest and oldest mothers), some research has shown that for multiples, there appears to be an inverse relationship between mother's age and mortality; mortality rates are higher for multiples born to teen mothers and lower for multiples born to older mothers (Misra and Ananth, 2002, Salihu et al, 2004). The latest figures support this finding.

Figure 6 shows the infant mortality rates for singleton and multiple birth babies born at term and pre-term by mother's age for the period 2006 to 2011. The chart shows that over this period infant mortality rates for pre-term babies (singletons and multiples) were highest for mothers less than 20 years. Infant mortality rates for multiples born pre-term were below the rate for singletons for mothers aged 25 years and over. For babies born at term, the infant mortality rate for multiples remained higher at all ages.

Figure 6: Singleton and Multiple Infant Mortality Rates by Age of Mother and Grouped Gestation, 2006-2011 Birth Cohorts, England and Wales



Source: Office for National Statistics

Notes:

1. Pre-term is 24 to 36 completed weeks; term is 37 to 41 completed weeks.
2. Infant mortality rates per 1,000 live births.
3. Known gestational age only.

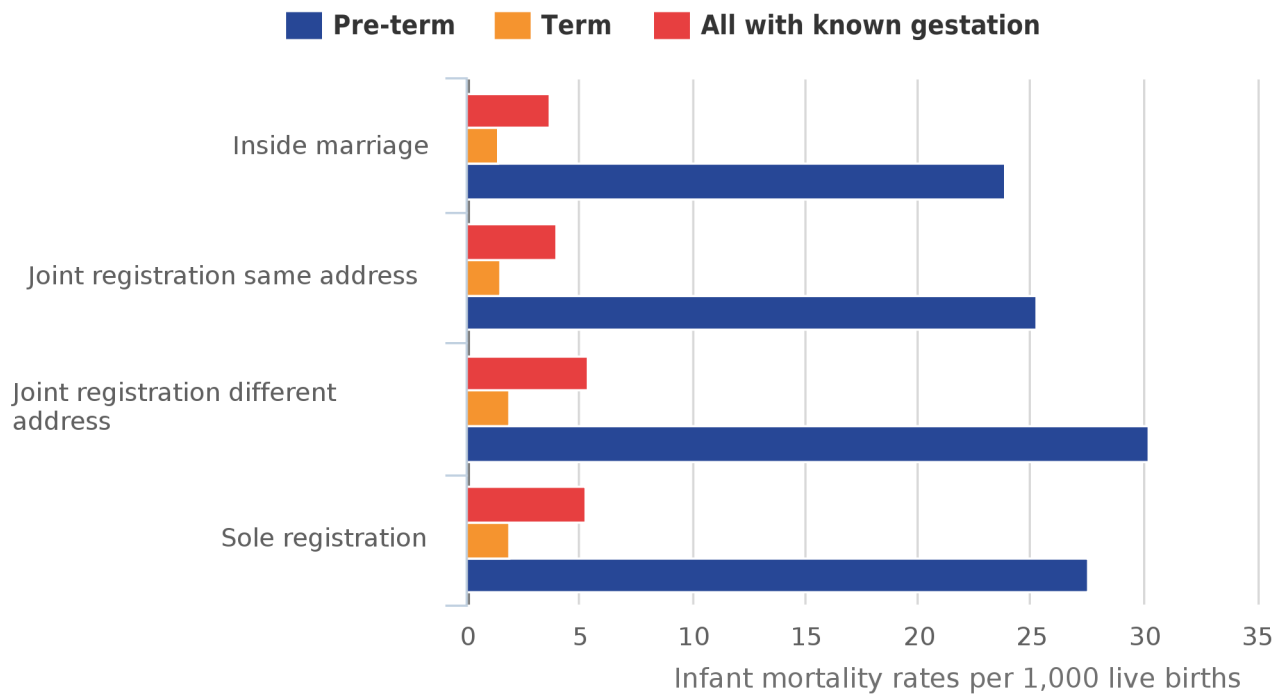
9. Marital status and type of registration

Maternal unmarried status is associated with an increased risk of low birthweight, pre-term birth and small for gestational age (SGA) births (Shah, Zao and Ali, 2011). For babies born in 2011, the percentage of pre-term births was highest for births that were solely registered by the mother (9.1%) and those registered jointly by parents living at different addresses (8.2%). In comparison, 7.0% of births registered by unmarried parents living at the same address and 6.7% of births registered by married parents were born pre-term.

Without information about lifestyle factors such as smoking, income and education level, it is difficult to fully explain the differences in risk of pre-term birth according to marital status. However, some of the differences in duration of pregnancy may be because of the higher prevalence of smoking among unmarried women, or greater stress during pregnancy among women in less stable relationships than married women, although it is likely that the characteristics of the mother's relationship to a partner are more important than the marital status itself (Luo et al, 2004).

For babies born in 2011, infant mortality rates where gestational age was known were highest for babies registered by both parents who were living at different addresses (5.4 deaths per 1,000 live births), followed by sole registered babies (5.3 deaths per 1,000 live births) and babies registered by unmarried parents living at the same address (4.0 deaths per 1,000 live births). The infant mortality rate for babies registered by married parents was 3.7 deaths per 1,000 live births. The mortality rates for pre-term babies followed a similar pattern, being highest for babies registered by both parents at different addresses (30.2 deaths per 1,000 live births) and lowest for babies registered by married parents (23.9 deaths per 1,000 live births).

Figure 7: Infant Mortality Rates by Registration Type and Grouped Gestation, 2011 Birth Cohort, England and Wales



Source: Office for National Statistics

Notes:

1. Pre-term is 24 to 36 completed weeks; term is 37 to 41 completed weeks.
2. Births occurring at less than 24 weeks gestation account for 0.1% of all live births. 94% of these babies born in 2011 died before their first birthday. This represents 17% of all infant deaths.
3. Infant mortality rates per 1,000 live births.
4. Known gestational age only.

10. National Statistics Socio-Economic Classification (NS-SEC)

Details of the father’s occupation are only recorded where the birth is inside marriage or is jointly registered by both parents outside marriage. Historically, tables showing births and infant mortality by NS-SEC were produced using only the father’s NS-SEC. However, the most advantaged socio-economic position of the parents is likely to have a direct impact on the household, whether it derives from the mother or the father (ONS, 2013). The tables in this output have been produced using the more advantaged NS-SEC of either parent.

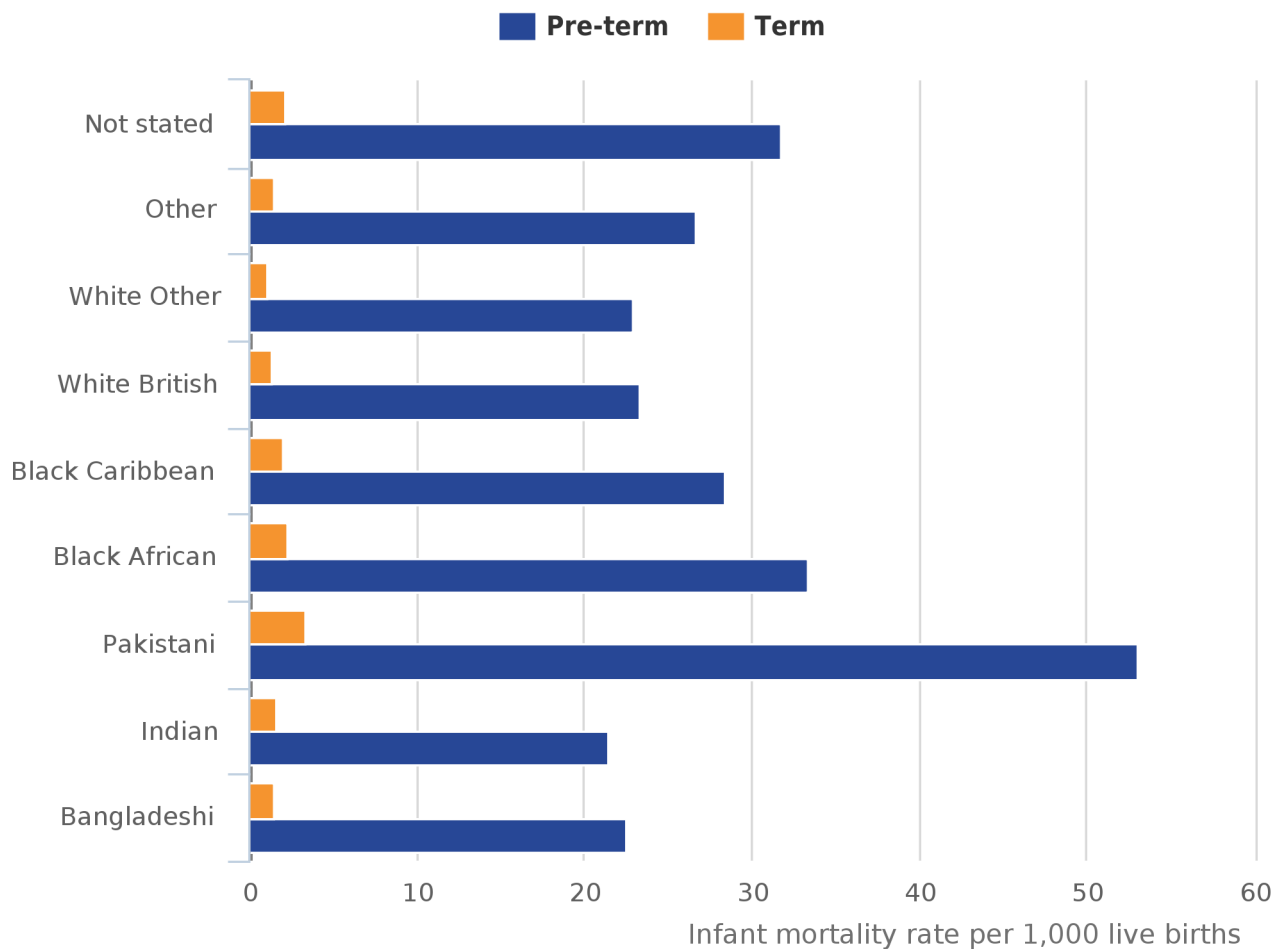
Results are presented by the four main groups of the NS-SEC: Managerial and Professional, Intermediate, Routine and Manual, and Other, which includes students, those whose occupations were inadequately described or were not classifiable, those who have never worked and the long-term unemployed. NS-SEC is only calculated for 10% of births in England and Wales. Because of small numbers in the pre-term birth categories, it has not been possible to calculate mortality rates.

11. Ethnicity

The baby's ethnic group is taken from the birth notification and is as stated by the mother. For babies born in 2011, the highest percentage of births before 37 weeks gestation occurred in the Black Caribbean (10.0%), Black African (8.1%) and Bangladeshi (7.9%) ethnic groups. The lowest percentages were for the White Other and all other groups (6.2% and 7.0% respectively).

Infant mortality rates were highest in the Pakistani (8.5 deaths per 1,000 live births), Black Caribbean (7.4 deaths per 1,000 live births) and Black African (6.8 deaths per 1,000 live births) groups. They were lowest in the White Other and White British groups (3.1 and 3.7 deaths per 1,000 live births respectively).

Figure 8: Infant Mortality Rates by Ethnicity and Term, 2011 Birth Cohort, England and Wales



Source: Office for National Statistics

Notes:

1. Pre-term is 24 to 36 complete weeks; term is 37 to 41 complete weeks.
2. Infant mortality rates per 1,000 live births.
3. Known gestational age only.

Infant mortality rates for pre-term babies were also highest in the Pakistani group at 53.1 deaths per 1,000 live births followed by the Black African group at 33.4 deaths per 1,000 live births and the Not Stated group at 31.8 deaths per 1,000 live births. See Figure 8.

There is very little research looking at birth outcomes by baby's ethnicity, although it is likely that there is a strong relationship between the ethnicity of the baby as stated by the mother and the mother's own ethnicity. If this is the case, the ethnicity of the mother may help to explain the differences in gestation and infant mortality between ethnic groups. Some research suggests that Black and Asian women have shorter gestation than White European women and that this may be due to earlier fetal maturation (Patel et al 2004). The discrepancies in gestation by ethnicity may also be explained by socio-economic, behavioural and physiological differences among the different ethnic groups (Gray et al, 2009).

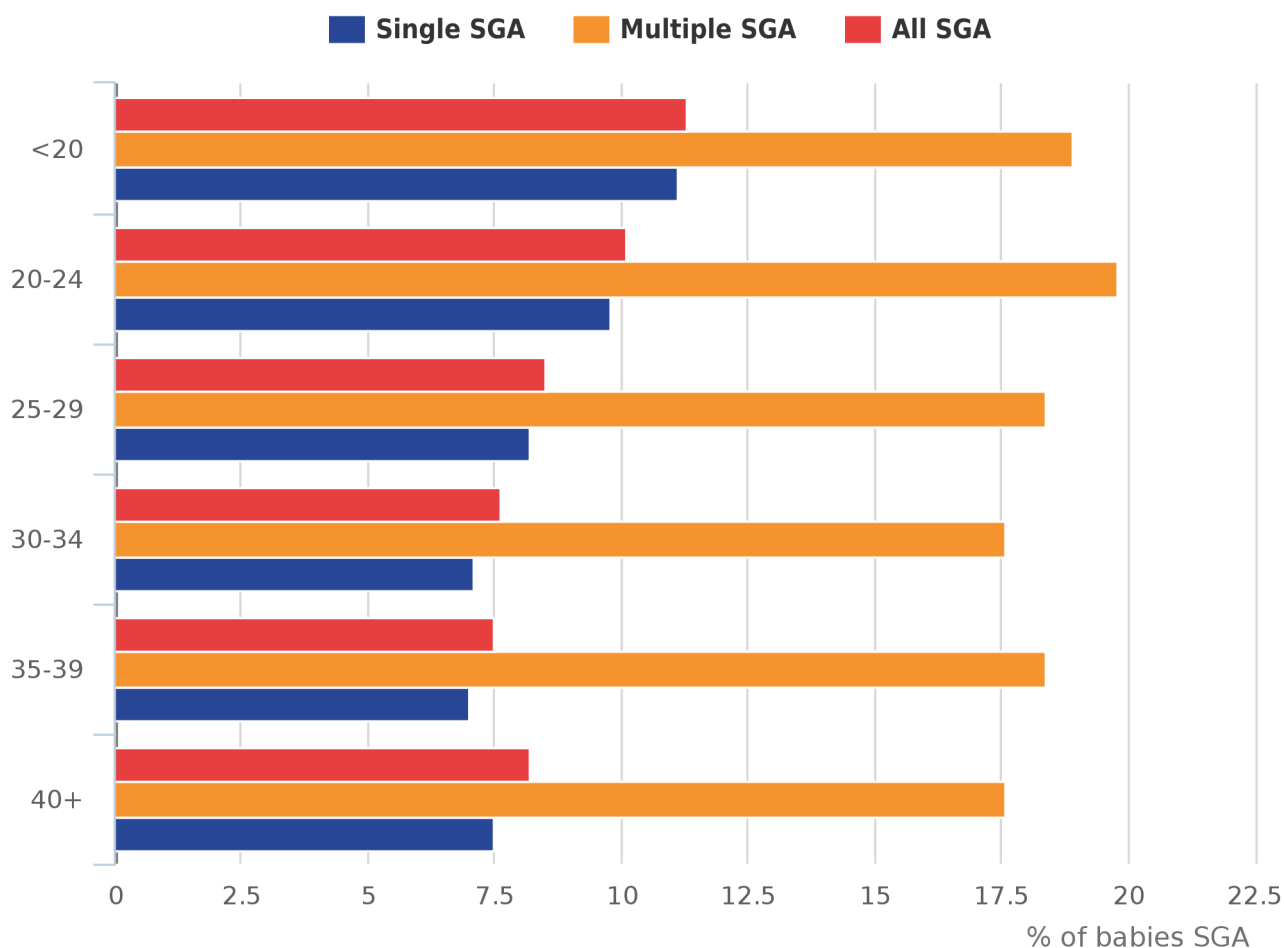
12. Small for gestational age

Low birthweight and prematurity are both measures of fetal development. Another measure is the baby's size in relation to its gestational age. Babies whose birthweight lies below the tenth percentile for their gestational age are known as 'small for gestational age'.

Not all babies who are SGA have a pathological growth restriction; they may just be constitutionally small. This may explain why babies of Bangladeshi, Indian or Pakistani origin are more likely to be SGA than White British babies.

Babies from multiple births are prone to being SGA due to additional demands on the placenta. Figure 9 shows that for babies born in 2011, those from multiple births were more than twice as likely to be SGA as singletons (18.4% compared with 8.2%). Mothers between the ages of 20 and 24 years had the highest percentage of SGA multiple births (19.8%) compared with mothers aged between 30 and 34 years and over 40 years (both 17.6%). Mothers less than 20 years had the highest proportion of singletons born SGA (11.1%) while mothers between the ages of 35 and 39 years had the lowest (7.0%).

Figure 9: Percentage of Babies Small for Gestational Age (SGA) by Age of Mother and Multiplicity, 2011 Birth Cohort, England and Wales



Notes:

1. SGA: birthweight below 10th percentile for each gestational age.
2. Known gestational age only.

13. Policy context

The Department of [Health's publication Healthy lives, healthy people: Improving outcomes and supporting transparency](#) (DH, 2012) sets out a public health outcomes framework for England for 2013–2016. The domain Health improvement includes the high level indicator 'Low birth weight of term babies' (Indicator 2.1) which is defined as the percentage of all live births at term (37 weeks and over) with low birthweight (under 2,500 grams).

14. Downloadable reference tables

[Reference tables \(200 Kb Excel sheet\)](#) to accompany this bulletin can be found on the ONS website. The content of each table can be found below:

- Table 1: Birth and death records used in the analysis, 2011 birth cohort, England and Wales
- Table 2: Live births, stillbirths and infant deaths by gestational age at birth, 2011 birth cohort, England and Wales
- Table 3: Live births, neonatal and infant mortality by birthweight and gestational age at birth, 2011 birth cohort, England and Wales
- Table 4: Live births, neonatal and infant mortality by mother's age and gestational age at birth, 2011 birth cohort, England and Wales
- Table 5: Live births, neonatal and infant mortality by multiplicity and gestational age at birth, 2011 birth cohort, England and Wales
- Table 6: Live births, neonatal and infant mortality by marital status/type of registration and gestational age at birth, 2011 birth cohort, England and Wales
- Table 7: Live births, neonatal and infant mortality by NS-SEC (based on most advantaged occupation of either parent) and gestational age at birth, 2011 birth cohort, England and Wales
- Table 8: Live births, neonatal and infant mortality by ethnic group and gestational age at birth, 2011 birth cohort, England & Wales
- Table 9: Infant deaths by ONS cause groups and gestational age, 2011 birth cohort, England and Wales
- Table 10: Infant mortality by ONS cause groups and broad ethnic group, 2011 birth cohort, England & Wales

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16. Background notes

1. The extract for this bulletin was taken on 6th June 2013. ONS take the extract at this (late) date to ensure we have information on as many deaths occurring within the 2011 birth cohort as possible. There is a small risk that some deaths will not be registered at this time. For the 2010 birth cohort 0.7% of infant deaths were registered after the extract was taken.
2. Definitions used in infant mortality statistics:
 - Premature - less than 37 weeks gestation
 - Pre-term - 24 to 36 weeks gestation
 - Term – 37 to 41 weeks gestation
 - Post-term – 42 weeks or more gestation
 - Stillbirth – born after 24 or more weeks completed gestation and which did not, at any time, breathe or show signs of life
 - Perinatal – still births plus early neonatal deaths
 - Early neonatal – deaths under seven days

- Late neonatal - deaths between 7 and 27 days
 - Neonatal – deaths at under 28 days
 - Postneonatal – deaths between 28 days and one year
 - Infant – deaths under one year
 - Rates – neonatal, postneonatal and infant mortality rates are reported per 1,000 live births
3. This report is based on birth registrations data for births occurring in 2011. The electronic birth notification system, termed NHS Numbers for Babies (NN4B) when it was first introduced, comprises a small set of data recorded at the time of birth, including gestational age and ethnicity. Birth registration records are linked to birth notifications records using a unique sequence number where possible, and by probabilistic matching for a small number of cases. Details of earlier linkage can be found in Pilot linkage of NHS Numbers for Babies data with birth registrations, Hilder L, Moser K, Dattani N and MacFarlane A, (2007) Health Statistics Quarterly 33 (Spring), 25–33.
 4. Reports for [Gestation-Specific Infant Mortality](#) for years 2006, 2007/2008, 2009 and 2010 can be found on the ONS website.
 5. Coding of death certificates: The Tenth Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD–10) has been used to classify all mentions on the death certificate. In England and Wales, neonatal deaths are registered using a special death certificate which enables reporting of relevant diseases or conditions in both the infant and the mother. ONS developed a hierarchical classification system in ICD–10 to produce broad cause groups that enable direct comparison of neonatal and postneonatal deaths. More information on neonatal cause of death certificates can be found in section [2.11 of Child mortality statistics, 2009 And Annexes K & L. \(68 Kb Pdf\)](#).
 6. Metadata for [births \(439.7 Kb Pdf\)](#), [mortality \(2.7 Mb Pdf\)](#) and [child mortality \(163.2 Kb Pdf\)](#) statistics can be found on the ONS website.
 7. Special extracts and tabulations of infant mortality data for England and Wales are available to order for a charge (subject to legal frameworks, disclosure control, resources and agreements of costs, where appropriate). Such enquiries should be made to:

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 Life Events and Population Sources
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 Tel: +44 (0)1633 445 898
 Email: cim@ons.gsi.gov.uk
 8. Follow ONS on [Twitter](#) and [Facebook](#).
 9. We would welcome feedback on the content, format and relevance of this release. Please contact cim@ons.gsi.gov.uk
 10. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk

These National Statistics are produced to high professional standards and released according to the arrangements approved by the UK Statistics Authority.