

Statistical bulletin

# Unexplained deaths in infancy, England and Wales: 2015

Annual data on sudden infant deaths in England and Wales and infant deaths for which the cause remained unascertained after a full investigation, with associated risk factors.

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## 1 . Main points

- There were 191 unexplained infant deaths in England and Wales in 2015, with a rate of 0.27 deaths per 1,000 live births; this follows the decreasing trend that has generally been seen over the last decade.
- Unexplained infant deaths accounted for 7.4% of all infant deaths occurring in 2015.
- Around 6 in every 10 unexplained deaths were recorded as sudden infant deaths with the remaining recorded as unascertained (deaths coded to ICD-10 code R99 “other ill-defined and unspecified causes of mortality”).
- Just under two-thirds of all unexplained infant deaths were boys in 2015 (127 deaths).
- In 2015, the rate of unexplained infant deaths remained the highest in Yorkshire and The Humber, at 0.42 deaths per 1,000 live births, a decrease from 0.48 in 2014.

## 2 . Statistician’s comment

“Unexplained infant deaths in 2015 were the lowest on record, driven by a further decrease in sudden infant deaths from 2014. This could be due to a greater awareness of safe sleeping practices and a reduction in the number of mothers smoking during pregnancy.”

Vasita Patel, Vital Statistics Outputs Branch, Office for National Statistics follow [@StatsLiz](#) on Twitter

## 3 . Things you need to know about this release

Important information for interpreting these birth and unexplained deaths in infancy statistics:

- birth and death statistics are compiled from information supplied when births and deaths are certified and registered as part of civil registration, a legal requirement
- figures represent births and infant deaths (deaths under 1 year of age) that occurred in England and Wales; these include the births and infant deaths of individuals whose usual residence was outside England and Wales
- figures in the [unexplained deaths in infancy tables](#) and [unexpected deaths tables](#) contain figures on deaths that occurred in the calendar year
- figures are available from 2004 onwards
- unexplained deaths include both sudden infant deaths and unascertained deaths
- sudden infant deaths, are coded to the International Classification of Diseases tenth revision (ICD-10) code R95 “sudden infant death syndrome (SIDS)” which, includes any mention of “sudden infant death”, “cot death”, “SIDS”, “crib death”, or another similar term anywhere on the death certificate
- unascertained deaths, are coded to the ICD-10 code R99 “other ill-defined and unspecified causes of mortality” which includes cases where the only mention on the death certificate is unascertained death
- figures in the [unexpected deaths tables](#) have been produced according to The Lullaby Trust's definition of unexplained infant deaths that were unexpected, that is unexplained infant deaths that were referred to a coroner
- figures are based on data available up to 24 June 2017 and will not match those published in the [child mortality in England and Wales](#) release; figures for 2014 have been finalised and figures for 2015 are provisional and will be finalised in the next annual release
- the definitions for main terms used in this release can be found in the [“Quality and methodology”](#) section

## 4 . Sudden infant deaths are at a record low in 2015

Following an unexpected rise in 2013, unexplained infant deaths continued to decrease in 2015 from 217 (a rate of 0.31 deaths per 1,000 live births) in 2014 to 191 (0.27 deaths per 1,000 live births), equivalent to a 12.9% decrease in the rate (Figure 1). The record low seen in 2015 was largely driven by the continued decrease in sudden infant deaths from 165 in 2013 to 130 in 2014 and further to 117 in 2015 (figures are available from 2004 onwards). This has resulted in an overall 29.1% decrease in the number of sudden infant deaths since 2013.

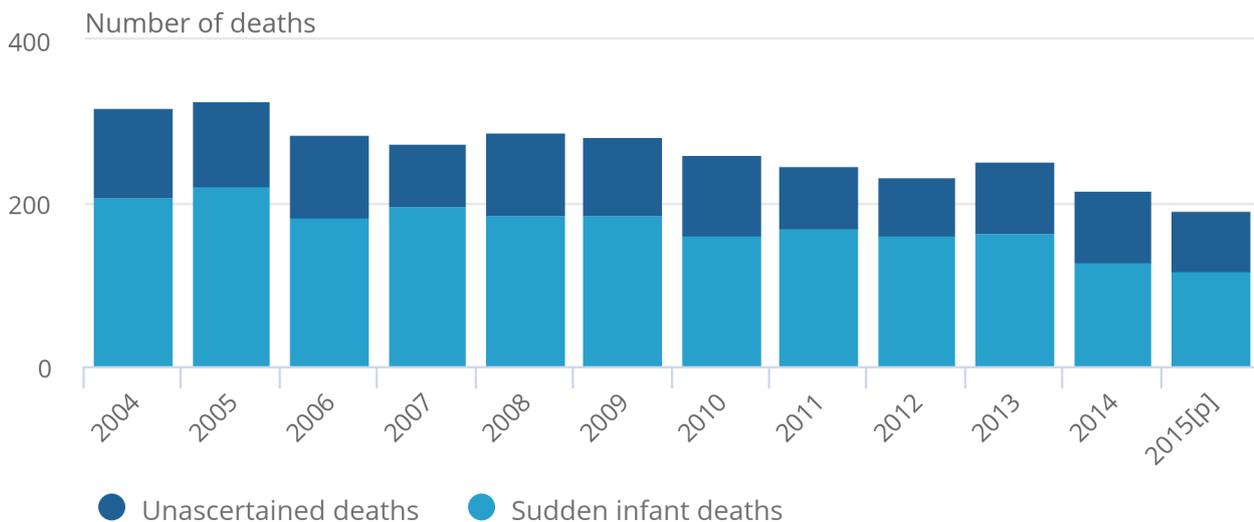
This decrease could be driven by the advice and guidance that is available for parents from the [NHS](#), [Welsh Government](#) and [The Lullaby Trust](#). Since 2015, The Lullaby Trust has held an annual awareness [Safer Sleep Week Campaign](#) promoting [safer sleep advice](#), whereby a number of health authorities participated further driving public awareness. The Lullaby Trust have also trained health professionals working with new and expectant parents in safer sleep practices and advice they can pass onto parents.

**Figure 1: Unexplained infant deaths, 2004 to 2015[p]**

England and Wales

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England and Wales



Source: Office for National Statistics

Notes:

1. Figures are based on death occurrences.
2. Data for 2015 are provisional [p].
3. Sudden infant deaths, are coded to ICD-10 code R95 and Unascertained deaths are coded ICD-10 code R99

The majority of infant deaths are likely to occur in the first 4 weeks after birth (neonatal period) but unexplained infant deaths are more likely to happen after the first 4 weeks. In 2015, 80.6% of unexplained infant deaths occurred in the postneonatal period, (at least 28 days but less than 1 year after birth) a reduction from 83.9% in 2014.

## 5 . Decrease in maternal smoking could explain drop in numbers of unexplained infant deaths

As unexplained infant deaths cannot be explained by medical history, it is not possible to say with any degree of certainty what has caused the change in numbers. However, there are a number of factors that are thought to have an effect.

Two main risks associated with unexplained infant deaths are [maternal smoking during pregnancy](#) and [postnatal exposure to tobacco smoke](#). Research shows that babies whose mothers smoke have an increased risk of sudden infant death syndrome, compared with babies whose mothers do not smoke, and that the level of risk is greater with increasing levels of maternal smoking. A recent study has shown that the number of mothers smoking during pregnancy, [continued to decrease in 2015](#), which could be a reason for the decrease in the number of unexplained infant deaths.

Other risk factors for unexplained infant deaths are overheating and an unsafe sleeping environment, such as the baby's head being covered. These situations may be more likely to occur during winter, through the use of extra clothing or blankets, and central heating at night. [Further risk factors](#) include sleeping position, sleep environments including unplanned bed-sharing and sleeping with a baby on a sofa, not breastfeeding and temperature.

## 6 . Number of unexplained infant deaths among boys increased in 2015

In 2015, the number of unexplained infant deaths among girls continued to decrease, compared with an increase for boys. Consequently, the female infant mortality rate decreased by 34.5% in 2015 whereas the male infant mortality rate increased by 2.9% from 2014 (Table 1).

In comparison with 2013, the number of infant deaths and infant mortality rates for both sexes has decreased, but this decrease is more than 4 times greater for girls than boys. This could be due to boys being more at risk than [girls who are less vulnerable to perinatal conditions](#).

**Table 1: Unexplained infant deaths mortality rates by gender, 2013, 2014 and 2015[p]**

England and Wales				
	Boys		Girls	
	Numbers	Rates	Numbers	Rates
2013	141	0.39	111	0.33
2014	120	0.34	97	0.29
2015[p]	127	0.35	64	0.19
Change 2014 to 2015 (%)	5.8	2.9	-34.0	-34.5
Change 2013 to 2015 (%)	-9.9	-10.3	-42.3	-42.4

Source: Office for National Statistics

Notes:

1. Figures are based on death occurrences.
2. Data for 2015 are provisional [p].
3. Deaths per 1,000 live births.

## 7 . Number of unexplained infant deaths increased in the North West and the West Midlands

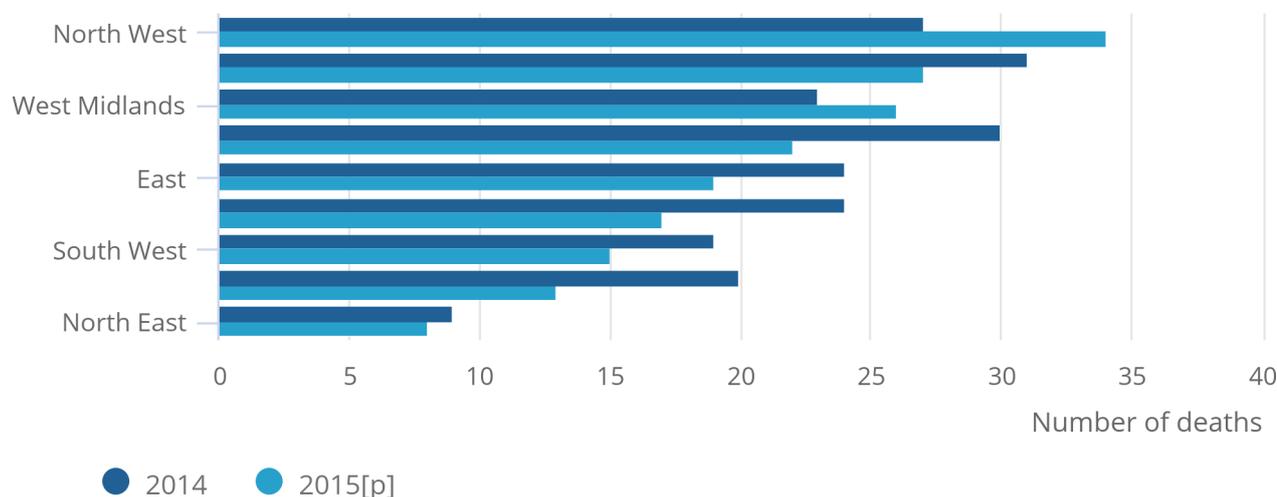
In comparison with 2014, the number of unexplained infant deaths has decreased in all regions in England in 2015 apart from in the North West and the West Midlands, where they increased by 25.9% and 13.0% respectively (Figure 2). The largest percentage decrease in unexplained infant deaths was seen in the East Midlands (35.0%).

**Figure 2: Unexplained infant deaths by regions in England, 2014 and 2015[p]**

England

Figure 2: Unexplained infant deaths by regions in England, 2014 and 2015[p]

England



Source: Office for National Statistics

Notes:

1. Figures are based on death occurrences.
2. Data for 2015 are provisional [p].
3. Figures for regions exclude deaths of non-residents.

However, when looking at the infant mortality rates, in 2015 the rate of unexplained infant deaths remained the highest in Yorkshire and The Humber, at 0.42 deaths per 1,000 live births, a decrease from 0.48 in 2014; followed by the North West at 0.40 deaths per 1,000 live births which has increased from 0.32 in 2014.

## 8 . Unexplained infant deaths to mothers aged under 25 years decreased

Unexplained infant deaths to mothers aged under 25 years have continued to decrease in 2015 (Table 2) where the largest reduction from 2014 can be seen in those aged under 20, at 40.6%.

Since 2014, the number of deaths has increased for mothers aged 25 to 39 years and have remained constant for those aged 40 and over. The largest increase can be seen in those aged 30 to 34 years at 16.2%.

When comparing 2015 to 2013, the number of deaths have decreased for all age groups with the exception of mothers aged 25 to 29 years which has increased by 12.3%. Despite the large decreases between 2014 and 2015 seen in mothers aged under 25 years, the greatest decrease from 2013 remains in mothers aged 40 and over, at 60.0% (Table 2).

**Table 2: Number of unexplained infant deaths by mother's age, 2013, 2014 and 2015[p]**

England and Wales						
Mother's age	2013	2014	2015[p]	Change 2014 to 2015 (%)	Change 2013 to 2015 (%)	
Under 20	38	32	19	-40.6	-50.0	
20 to 24	67	64	41	-35.9	-38.8	
25 to 29	57	62	64	3.2	12.3	
30 to 34	56	37	43	16.2	-23.2	
35 to 39	24	18	20	11.1	-16.7	
40 and over	10	4	4	0.0	-60.0	

Source: Office for National Statistics

Notes:

1. Figures are based on death occurrences.
2. Data for 2015 are provisional [p].

## 9 . Links to related statistics

Earlier reports for unexplained deaths in infancy for 2003 to 2007 were published annually in the autumn edition of [Health Statistics Quarterly](#).

More data on [child mortality in England and Wales](#) 2015, [birth cohort tables for infant deaths in England and Wales](#) 2014, and [pregnancy and ethnic factors influencing births and infant mortality \(previously called Gestation-specific infant mortality\)](#) 2014 are available.

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

## 10 . Quality and methodology

1. The [Unexplained deaths in infancy Quality and Methodology Information report](#) and the [Child mortality Quality and Methodology Information](#) report contains important information on:
  - the strengths and limitations of the data and how it compares with related data
  - uses and users
  - how the output was created
  - the quality of the output including the accuracy of the data
2. Our [User guide to child mortality statistics](#) provides further information on data quality, legislation and procedures relating to child mortality and includes a glossary of terms.
3. Deaths are cause coded using the World Health Organization's (WHO) International Classification of Diseases Tenth Revision (ICD-10). Deaths are coded to ICD-10 using [IRIS](#) software (version 2013). Cause of death reported here represents the final underlying cause of death for ages 28 days and over. This takes account of additional information received from medical practitioners or coroners after the death has been registered.
4. Definitions used in child mortality statistics:
  - Stillbirth – born after 24 or more weeks completed gestation and which did not, at any time, breathe or show signs of life.
  - Early neonatal – deaths under 7 days.
  - Perinatal – stillbirths and early neonatal deaths.
  - Neonatal – deaths under 28 days.
  - Late neonatal – deaths after 7 days and under 28 days.
  - Postneonatal – deaths between 28 days and 1 year.
  - Postperinatal – late neonatal and postneonatal deaths.
  - Infant – deaths under 1 year.
  - Sudden infant deaths – coded to the International Classification of Diseases tenth revision (ICD-10) code R95 “sudden infant death syndrome (SIDS)” which, includes any mention of “sudden infant death”, “cot death”, “SIDS”, “crib death”, or another similar term anywhere on the death certificate.
  - Unascertained deaths – coded to the ICD-10 code R99 “other ill-defined and unspecified causes of mortality” which includes cases where the only mention on the death certificate is unascertained death.
5. The live birth and stillbirth numbers are based on all births that occurred in the reference year, plus any late birth registrations from the previous year.
6. Linking infant deaths to their corresponding birth registration improves our understanding of the main characteristics of the baby and the baby's parents (these include the baby's birthweight; mother's age; mother's country of birth; parents' socio-economic classification; and the number of previous children).