

Unexplained deaths in infancy: England and Wales, 2009



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Coverage: England and Wales Theme: Health and Care

This bulletin looks at unexplained infant deaths which are one aspect of infant mortality. Reporting the findings helps understanding of some of the risk factors for these unexplained infant deaths

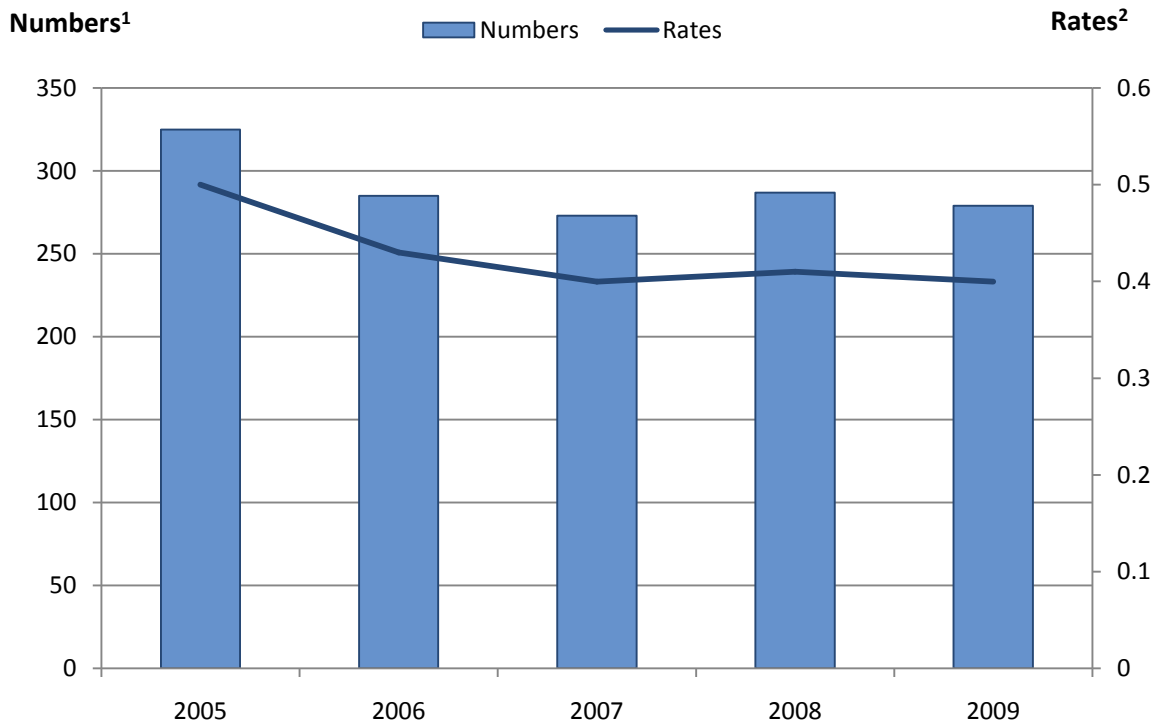
Key points

The latest figures on unexplained deaths in infancy for England and Wales in 2009 show:

- There were 279 unexplained infant deaths (UID), a rate of 0.40 deaths per 1,000 live births.
- These accounted for 8.7 per cent of all infant deaths in 2009.
- The UID rate declined by 20 per cent from 2005 to 2009.
- During the period 2005 to 2009, the UID rate in boys was almost 1.5 times the rate in girls.

Unexplained Deaths

England and Wales



¹Data for 2009 is provisional

²Rate per 1,000 live births

Source: Office for National Statistics

Summary

There were 279 unexplained infant deaths (UIDs) in 2009, a rate of 0.40 per 1,000 live births. While the overall rate of unexplained deaths in infancy has decreased by 20 per cent from 2005, they still account for almost 9 per cent of all infant deaths. Risk factors for UIDs identified in this report include sex, low birthweight, mother's aged under 20 years, sole registered births and having a father whose occupation is classified as routine and manual.

Background

After the neonatal period (the first 28 days of life) sudden unexplained death is one of the most frequent causes of death in the first year of life. While it can occur after a child's first birthday, it is much less frequent (Côté 2010).

This report on UID in England and Wales from 2005 to 2009 includes both sudden infant deaths and deaths for which the cause remained unascertained after a full investigation. There is some evidence to suggest that these terms are used interchangeably by coroners certifying these deaths (Limerick and Bacon 2004). It has also been shown that the characteristics of babies whose death is classified under these two categories are very similar (Corbin 2005). Based on this evidence it is appropriate to include both groups in any analysis of UIDs.

There have been well publicised campaigns to reduce the number of sudden infant deaths and historically the numbers and rates of unexplained deaths have decreased. Baroness Kennedy's report on sudden unexpected death in infancy (Kennedy 2004) identified the need to find a cause for an infant's death and to 'recognise factors that are of importance in understanding and preventing these tragedies'.

Unexplained infant deaths are one aspect of infant mortality and reporting the findings in this bulletin can help understand some of the risk factors for these infant deaths.

Time series comparison

There were 279 UIDs in England and Wales in 2009 representing 8.7 per cent of all infant deaths. While there has been a 20 per cent decline in the UID rate from 2005 to 2009, there has been little change in the last 4 years.

During the period 2005 to 2009, the UID rate in boys was almost 1.5 times the rate in girls. Previous research suggests that boys are generally at a greater risk of sudden infant death (Blair *et al* 2006).

In 2009, 81 per cent of unexplained deaths occurred in the postneonatal period (between 28 days and one year). This proportion of postneonatal deaths has remained relatively constant from 2005 to 2009.

Over the five-year period from 2005 to 2009 the two regions with the highest and lowest UID rates in England and Wales were the North West (0.59 per 1,000 live births) and East of England (0.31 per 1,000 live births) respectively.

Key Risk factors

Birthweight is a key determinant of infant mortality and is associated with premature birth and factors affecting fetal growth during pregnancy, such as maternal smoking. In 2009, the UID rate for babies born with a low birthweight (less than 2,500 grams) was 1.67 deaths per 1,000 live births compared with a rate of 0.30 deaths per 1,000 live births for babies born with a normal birthweight (2,500 grams and over).

The UID rate in 2009 was highest for babies of mothers aged under 20 years at the time of giving birth (1.23 per 1,000 live births). Younger mothers have the highest infant mortality rate for all causes of death (ONS, 2011). With older mothers, as age increases, the UID rate is seen to fall.

For babies of mothers born in England and Wales the UID rate was 0.46 per 1,000 live births, compared with 0.21 per 1,000 live births for babies of mothers born outside England and Wales.

The UID rate was highest for babies born outside marriage where only the mother registered the birth (1.07 per 1,000 live births), more than five times the rate for babies born inside marriage (0.18 per 1,000 live births). It is thought that differences in death rates by marital status and birth registration status reflect complex factors including mother's age and social circumstances (Blair *et al* 2006). For babies born within marriage, the rate was highest among mothers who had two or more previous births (0.31 per 1,000 live births).

A measure of social circumstances is that of father's occupational status. Details of this are only recorded where the birth is inside marriage or is jointly registered by both parents outside marriage. Due to small numbers, the joint registered groups are reported together although it is known that the characteristics of these two groups vary (Messer 2011). For these groups combined, the UID rate for babies with fathers in routine and manual occupations was over three times that of fathers in the managerial and professional group (0.37 per 1,000 live births and 0.10 per 1,000 live births respectively).

Users and uses of unexplained deaths in infancy statistics

Unexplained infant deaths are one aspect of infant mortality. Findings reported can help in the understanding of some of the risk factors for these infant deaths. There is general interest in deaths of apparently normal babies, and the Foundation for the Study of Infant Deaths (FSID) is active in raising awareness about sudden infant deaths. Other key users of this output are Department of Health, Welsh Government and independent researchers including academics.

The Office for National Statistics (ONS) is the only producer of National Statistics on unexplained deaths in infancy for England and Wales. The secondary users of these statistics report the figures provided by ONS. Due to the absence of other information providers it is not possible to compare these statistics with other sources.

Infant mortality statistics for Scotland and Northern Ireland are the responsibility of GRO-Scotland and the Northern Ireland Statistics Research Agency (NISRA), respectively.

Further Information

Both the Department of Health and Welsh Government have worked with FSID to publish advice and guidance for parents that aims to reduce the risk of cot death. These leaflets are available at:

Department of Health

www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4123625

Welsh Government

wales.gov.uk/topics/childrenyoungpeople/publications/reduceriskcotdeath/?lang=en

FSID

www.fsid.org.uk

A summary quality report for unexplained infant deaths in infancy is available at:

www.statistics.gov.uk/StatBase/Product.asp?vlnk=14127

Statistics on infant mortality in Scotland are available at:

www.gro-scotland.gov.uk/statistics/theme/vital-events/deaths/bckgr-info/stillbirths/index.html

Statistics on infant mortality in Northern Ireland are available at:

www.nisra.gov.uk/demography/default.asp9.htm

Tables of data for the 2009 unexplained infant deaths statistical bulletin are available on the ONS website at : www.statistics.gov.uk/StatBase/Product.asp?vlnk=14127

Table 1	Sudden infant deaths, unascertained deaths and all unexplained infant deaths by sex and age at death , England and Wales, 2005–2009
Table 2	Sudden infant deaths, unascertained deaths and all unexplained deaths by age at death , England and Wales, 2005–2009
Table 3	Sudden infant deaths, unascertained deaths and all unexplained infant deaths by month of occurrence , England and Wales, 2005–2009
Table 4	All unexplained infant deaths by Region , England and Wales, 2005–2009
Table 5	Live births and all unexplained infant deaths (numbers and rates) by birthweight , England and Wales, 2009
Table 6	Live births and all unexplained infant deaths by mother's age , England and Wales, 2009
Table 7	Live births and all unexplained infant deaths by mother's country of birth , England and Wales, 2009
Table 8	Live births and all unexplained infant deaths by marital status, parity (within marriage) and type of registration , England and Wales, 2009
Table 9	Live births and unexplained infant deaths by NS , England and Wales, 2009

References

Blair PS, Sidebotham P, Berry PJ, Evans M and Fleming PJ (2006) 'Major epidemiological changes in sudden infant death syndrome: a 20-year population-based study in the UK', *Lancet*, 367, pp 314–19.

Corbin T (2005) 'Investigation into sudden infant deaths and unascertained deaths in England and Wales 1995–2003', *Health Statistics Quarterly*, 27, pp 17–25, accessed on 12 July 2010, available on the Office for National Statistics website at: www.ons.gov.uk/ons/rel/health-statistics-quarterly/no--27--autumn-2005/index.html

Côté A (2010) 'Investigating Sudden Unexpected Death in Infancy and Early Childhood', *Paediatric respiratory reviews*, 11, pp 219 – 225.

Limerick SR and Bacon CJ (2004) 'Terminology used by pathologists in reporting on SIDS', *Journal of Clinical Pathology*, 57, pp 309–11.

Messer J (2011) 'An analysis of the socio-demographic characteristics of sole registered births and infant deaths', *Health Statistics Quarterly*, 50, pp 79-107, available at:

www.ons.gov.uk/ons/rel/hsq/health-statistics-quarterly/no--50--summer-2011/index.html

Office for National Statistics (2011) *Live births, stillbirths and infant deaths: babies born in 2008 in England and Wales*, accessed on 06 July 2010, available on the Office for National Statistics website at: www.statistics.gov.uk/pdfdir/bircoh0711.pdf

The report of a working group convened by The Royal College of Pathologists and The Royal College of Paediatrics and Child Health (2004) *Sudden unexpected deaths in infancy. A multi-agency protocol for care and investigation*. Chair: The Baroness Helena Kennedy QC, available:

www.rcpath.org/resources/pdf/SUDI%20report%20for%20web.pdf

Background Notes

1. The deaths included in this report were those that occurred during 2005 to 2009 and were linked to their corresponding birth records. For this five-year period, the linkage rate for all infant deaths was 98 per cent. Of the 351 infant deaths that remained unlinked, 45 were unexplained deaths and are omitted from this report.
2. From the linked records, information about parents that was collected at birth registration can be used for analysis of the data according to certain risk factors including birthweight, mother's age at birth of child, mother's country of birth, marital status and parity, and father's socio-economic status based on his occupation.
3. The majority of unexplained deaths are certified by a coroner, either with or without an inquest, and therefore there can be some delay between death and registration. This report is based on data available up to 23rd June 2011 and figures for 2009 are provisional.

4. Definition of unexplained deaths in infancy:
 - Unexplained deaths include both sudden infant deaths and unascertained deaths.
 - Sudden infant deaths ICD–10 code R95 Sudden infant death syndrome: include **any** mention of ‘sudden infant death’, ‘cot death’, ‘SIDS’, ‘crib death’, or another similar term anywhere on the death certificate.
 - Unascertained deaths ICD–10 code R99 other ill-defined and unspecified causes of mortality: include cases where the **only** mention on the death certificate is unascertained death.
5. Infant deaths are divided into neonatal (less than 28 days after live birth) and postneonatal (between 28 days and one year).
6. Mortality rates are presented as deaths per 1,000 live births.
7. Earlier reports for unexplained deaths in infancy for 2003 to 2007 were published annually in the autumn edition of *Health Statistics Quarterly*, available on the Office for National Statistics website at: www.statistics.gov.uk/statbase/Product.asp?vlnk=6725 The statistical bulletin for 2008 is available on the ONS website at: www.statistics.gov.uk/StatBase/Product.asp?vlnk=14127 A Summary Quality Report for this release is available on the ONS website on the same page.
8. Special extracts and tabulations of unexplained deaths in infancy data for England and Wales are available to order for a charge (subject to legal frameworks, disclosure control, resources and agreement of costs, where appropriate). For such requests enquiries should be made to:
Child Health Analysis Team, Health and Life Events Division
Office for National Statistics
Government Buildings
Cardiff Road
Newport
Gwent NP10 8XG
Tel: 01633 456021
E-mail: CIM@ons.gsi.gov.uk
9. As a valued user of our statistics, we would welcome feedback on this release. In particular, the content, format and structure. This is in line with the Health and Life Events user engagement strategy, available to download from the ONS website at: http://www.statistics.gov.uk/downloads/theme_health/hled-user-engagement-strategy.pdf. Please send feedback to the postal or e-mail address above.
10. Follow ONS on Twitter: www.twitter.com/statisticsONS and Facebook: www.facebook.com/statisticsONS

11. Besides ONS staff, the following persons are given pre-release access 24 hours before release.

Access granted to	Organisation
Secretary of State for Health	Department of Health (DH)
Private Secretary (PS) to Secretary of State for Health	Department of Health (DH)
Special Adviser to Secretary of State for Health	Department of Health (DH)
Parliamentary Under-Secretary of State for Health	Department of Health (DH)
PS to Parliamentary Under-Secretary of State for Health	Department of Health (DH)
Deputy Director (Children, Families and Maternity Division)	Department of Health (DH)
Policy Officer Children, Families and Maternity	Department of Health (DH)
Senior Statistical Officer, Children, Families and Maternity	Department of Health (DH)
Press Officer	Department of Health (DH)
Senior Press Officer	Department of Health (DH)
Chief Medical Officer	Welsh Government
Statistician (Primary & Community Health Care)	Welsh Government
Statistician	Welsh Government

12. The launch of the new ONS website on 28 August 2011 will bring changes to the design and format of statistical bulletins. The bulletin main body will be in html and pdf format but detailed data tables will be available as Excel spreadsheets only. The new website will improve the way users can access our statistics but many existing bookmarks and links will no longer work and users will need to update them. Find out more at

www.ons.gov.uk/about/what-we-do/programmes-- - projects/web-development/index.html

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