

## Section 3: children and young people

# Child mortality



a single version of the truth



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## Outcome Frameworks Summary

The Public Health Outcomes Framework for England, 2013-2016<sup>1</sup> outlines the overarching vision for public health as “to improve and protect the nation’s health and wellbeing, and improve the health of the poorest fastest”. The NHS Outcomes Framework 2012-13<sup>2</sup> sets out how the improvement of healthcare outcomes for all will be the primary purpose of the NHS. The Clinical Commissioning Group Outcomes Indicator set (CCGOIS) measures the health outcomes and quality of care achieved by clinical commissioning groups<sup>3</sup>. The following indicators from these frameworks are relevant to this section.

Framework	Reference	Indicator
Public Health	1.10	Killed and seriously injured casualties on England's roads
Public Health	2.3	Low birth weight of term babies
Public Health	2.7	Hospital admissions caused by unintentional and deliberate injuries in children and young people aged 0-14 and 15-24 years
Public Health	2.10	Hospital admissions as a result of self-harm
Public Health	3.3	Population vaccination coverage (Hep B, BCG, DtaP/IPV/Hib, Men C, PCV, MMR and flu)
Public Health	4.1	Infant mortality
Public Health	4.10	Suicide
NHS	1.6	(i) infant mortality and (ii) neonatal mortality and stillbirths
CCGOIS	1.3	Reducing deaths in babies and young children

## Edition

Edition	Version no.	Changes/Comments

## Executive summary

Mortality rates<sup>4</sup> in under 15s have risen in Wiltshire in recent years from 37.8 per 100,000 in 2006-08 to 39.7 per 100,000 in 2010-12<sup>5</sup>. This places Wiltshire below the national rate (42.1 per 100,000) but above the rate for the South West (36.1 per 100,000) but not significantly different in either case. However, national and regional rates have been decreasing between 2006-08 and 2010-12.

Mortality rates<sup>6</sup> in infants (children under 1) have also risen slightly in Wiltshire since 2005-07. The infant mortality rate in 2010-12 was 4.0 per 1,000 live births and has increased from a historical low point of 3.2 per 1,000 in 2005-07. Again, this places Wiltshire below the national rate (4.3 per 1,000) but above the rate for the South West (3.6 per 1,000) but not significantly different in either case. However, as for under 15s, the national and regional rates have been decreasing between 2005-07 and 2010-12.

## Why this area is important

Infant mortality is an important indicator of the health of a nation or community because it is associated with a variety of factors such as maternal health, quality and access to medical care, socioeconomic conditions, and public health practices.

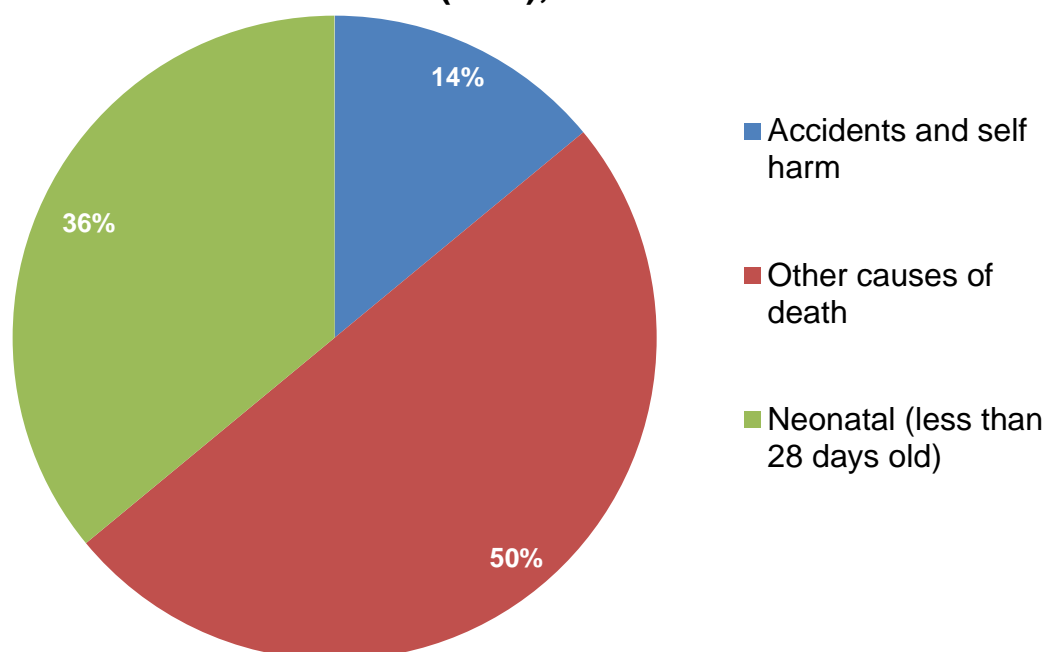
**Table 1: Definitions**

Term	Definition
Stillbirth	A baby delivered with no signs of life after 24 completed weeks of pregnancy
Early neonatal death	Death of a live born baby occurring less than 7 days from the time of birth.
Late neonatal death	Death of a live born baby occurring after the 7th day and before 28 completed days from the time of birth.
Stillbirth rate	Number of stillbirths per 1,000 live births and stillbirths
Perinatal mortality rate	Number of stillbirths and early neonatal deaths per 1,000 live births and stillbirths
Neonatal mortality rate	Number of neonatal deaths per 1,000 live births
Infant mortality rate	Number of deaths of infants under 1 year per 1,000 live births

## Mortality causes

Deaths in children and young people are rare in Wiltshire.

In 2012 there were 50 deaths of children and young people in Wiltshire. Figure 1 shows the major causes of death in children and young people aged 0 to 19 years in 2012. 36% of these deaths occurred in the neonatal period (less than 28 days after birth). Accidents and self-harm are responsible for 14% of all deaths.

**Figure 1: Causes of death in Children and Young People****Wiltshire Causes of Death in Children and Young Adults (0-19), 2012**

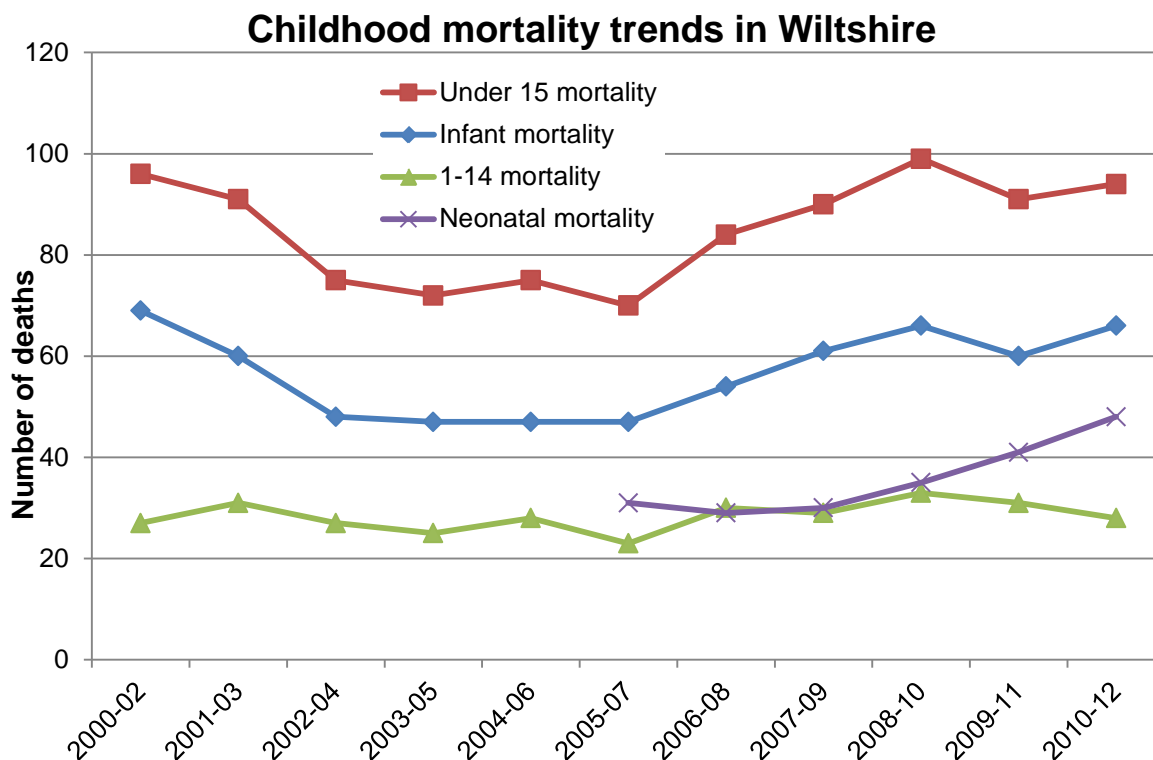
Source: Vital Statistics, ONS, 2012

**Trends and comparisons****Under 15 mortality**

The under 15 mortality rate<sup>7</sup> for Wiltshire was 39.7 per 100,000 in 2010-12 which is higher than the South West rate (36.1 per 100,000) but lower than the England rate (42.1 per 100,000). However, Wiltshire's mortality rate is not statistically significantly different from either the South West or England.

Under 15 mortality rates have risen in Wiltshire since 2005-07 but have fallen slightly since 2008-10 as shown in Figure 2. The increase appears to be driven by rises in the neonatal and infant mortality rates.

**Figure 2: Childhood mortality trends in Wiltshire**

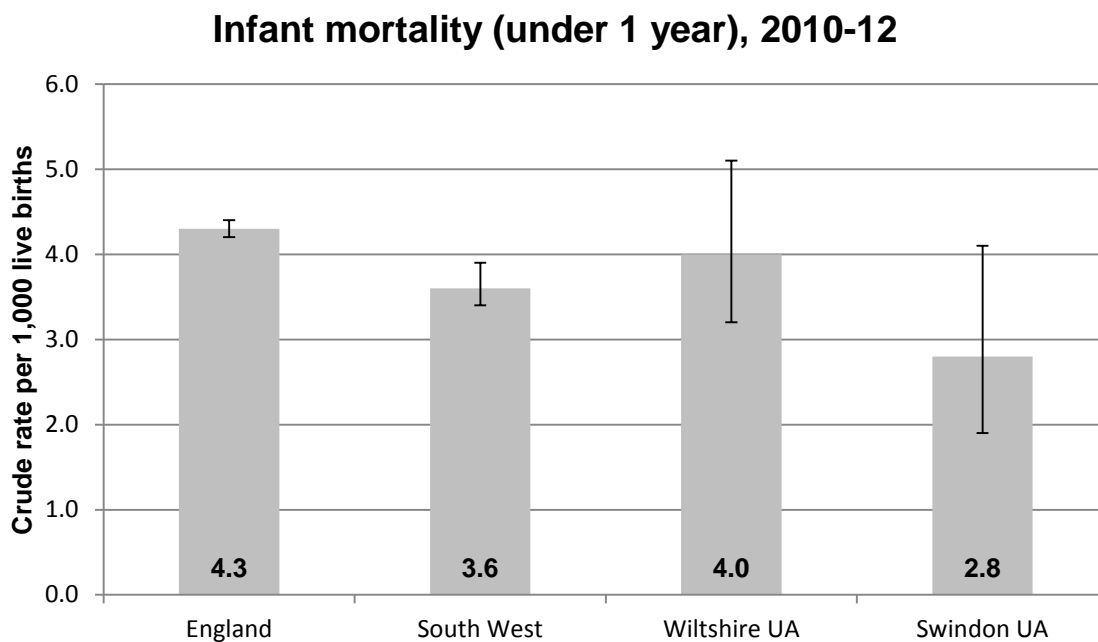


Source: ONS, Vital Statistics. 2009-11; provisional data has been provided for 2010-12 for all indicators except for the Under 15 mortality and infant mortality.

**Infant mortality**

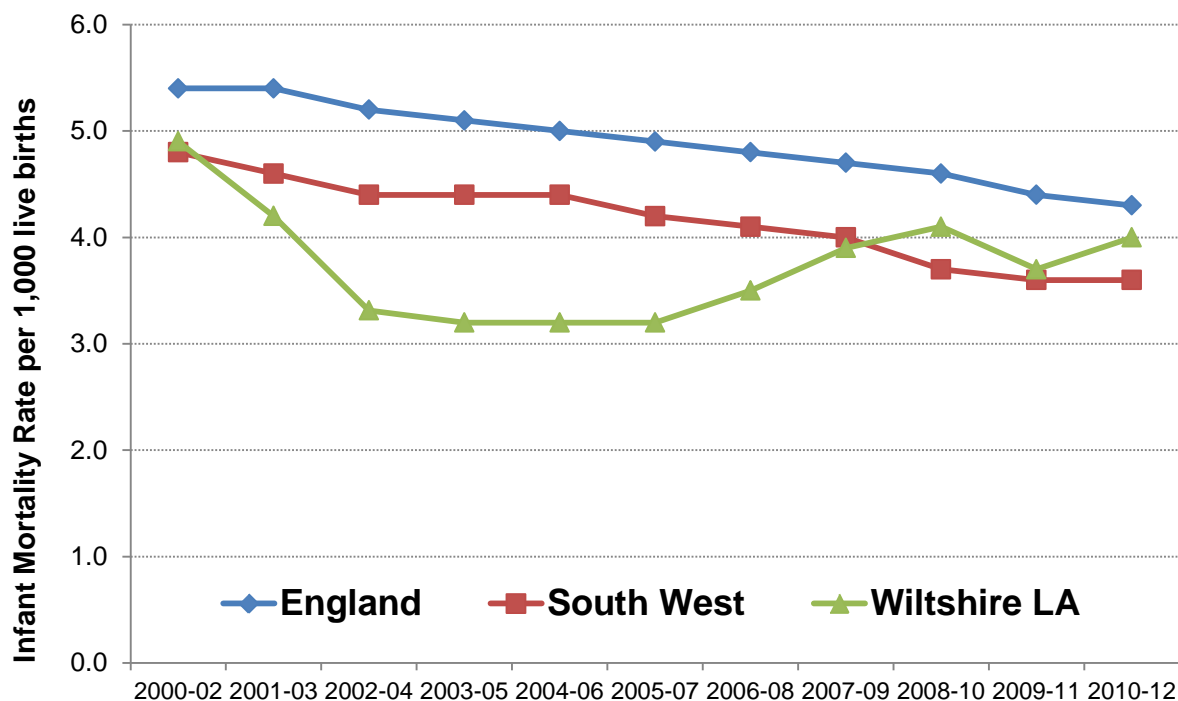
The infant mortality rate in 2010-12 was 4.0 per 1,000 live births this is higher than in 2009-11 (3.7 per 1,000) but lower than in 2008-10 (4.1 per 1,000).

**Figure 3: Infant mortality, 2010-12**



In 2010-12 the infant mortality rate per 1,000 live births in Wiltshire was higher than in the South West (3.6 per 1,000) but lower than England (4.3 per 1,000)<sup>8</sup>. This difference was not statistically significant however.

**Figure 4: Infant (under 1 year) mortality rates 2000/02 to 2010/12**



Source: The NHS Information Centre for health and social care. © Crown Copyright; 2013  
www.nchod.nhs.uk)

In 2010-12 infant mortality rates in Wiltshire remain higher than the historical low of 3.2 per 1,000 live births seen in 2005-2007. Rates in England and the South West are continuing to decrease.

### Perinatal mortality

The Centre for Child and Maternal Enquiries (CMACE) published its last report on perinatal mortality in England in 2011 which examined data up to and including 2009. The main national findings were:

- Since 2000, stillbirth and neonatal mortality rates in the United Kingdom show a downward trend. The stillbirth rate decreased from 5.4 per 1,000 total births in 2000, to 5.2 per 1,000 total births in 2009, this is a difference of -0.2. The neonatal mortality rate decreased from 3.9 per 1,000 live births in 2000, to 3.2 per 1,000 live births in 2009, this is a difference of -0.7.<sup>9</sup>
- In England, regional variations in stillbirth and neonatal mortality rates persist
- The perinatal mortality rate in twins has decreased from 33.6 per 1,000 total births in 2000 to 24.6 per 1,000 total births in 2009. There has also been a downward trend in the stillbirth rates in twin births, from 16.7 per 1,000 total births in 2000 to 12.1 per 1,000 total births in 2009 and in the neonatal

mortality rate in twin births, from 21.5 per 1,000 live births in 2000 to 16.4 per 1,000 live births in 2009.

- In 2009, 10% of mothers who had a stillbirth or whose babies died in the neonatal period had a BMI of 35 or more. This is twice the UK prevalence rate (5%) of all deliveries to women with a BMI of 35 or more at any point in pregnancy.

CMACE also produced a report for Wiltshire covering the same period. The report found that there were 25 stillbirths to women resident in Wiltshire in 2009; 7 early neonatal deaths and 4 late neonatal deaths. These were converted into rates and compared to England and the South West – see tables 2 and 3.

**Table 2: Adjusted\* stillbirth, perinatal and neonatal mortality rates**

	Stillbirth rate [95% CI]	Perinatal mortality rate [95% CI]	Neonatal mortality rate [95% CI]
Wiltshire	4.5 [3.0, 6.8]	5.5 [3.8, 7.9]	1.8 [0.9, 3.4]
South West	4.5 [4.0, 5.1]	6.0 [5.4, 6.7]	2.0 [1.7, 2.4]
England	4.7 [4.5, 4.8]	6.7 [6.5, 6.9]	2.7 [2.6, 2.9]

Source: CMACE

\* - adjusted by removing terminations of pregnancy and babies born at less than 22 weeks' gestation

**Table 3: Trends of adjusted\* stillbirth, perinatal and neonatal mortality rates in Wiltshire: 2005-2009**

	Stillbirth rate [95% CI]	Perinatal mortality rate [95% CI]	Neonatal mortality rate [95% CI]
2005	4.7 [3.2, 7.1]	5.8 [4.0, 8.4]	1.5 [0.7, 3.0]
2006	4.0 [2.6, 6.2]	5.2 [3.5, 7.6]	1.8 [0.9, 3.5]
2007	3.0 [1.8, 4.9]	3.7 [2.4, 5.9]	1.0 [0.4, 2.4]
2008	4.2 [2.8, 6.4]	5.9 [4.2, 8.3]	1.8 [1.0, 3.4]
2009	4.5 [3.0, 6.8]	5.5 [3.8, 7.9]	1.8 [0.9, 3.4]
Total	4.1 [3.4, 4.9]	5.2 [4.4, 6.2]	1.6 [1.2, 2.1]

Source: CMACE

\* - adjusted by removing terminations of pregnancy and babies born at less than 22 weeks' gestation

Wiltshire's stillbirth rate in 2009 is very similar to the South West and England values and has not changed significantly between 2005 and 2009. Wiltshire's perinatal and neonatal mortality rates in 2009 are slightly below those for England and the South West and again have not changed significantly between 2005 and 2009.

The report also analyses several factors that could impact on the likelihood of perinatal death, e.g. when antenatal care was booked; parity; plurality; pre-existing medical problems; problems with previous pregnancies and mode and presentation of/at delivery.

## Current service provision

All child deaths in Wiltshire are reviewed by the Wiltshire & Swindon Child Death Overview Panel (CDOP) in line with statutory guidance. This panel reports to the

Wiltshire Safeguarding Childrens Board (WSCB) and is chaired by a Public Health Consultant who is also member of the WSCB. The panel aims to identify trends in local deaths, and any lessons for local practice or policy, to prevent future deaths and improve service provision. The panel provides annual returns to the Department for Education for collation nationally and also prepares an annual report on behalf of the WSCB. In 2012/13 the panel reviewed 23 deaths of Wiltshire children and highlighted the importance of good palliative care services, childhood accident prevention and safe sleeping environments for infants.

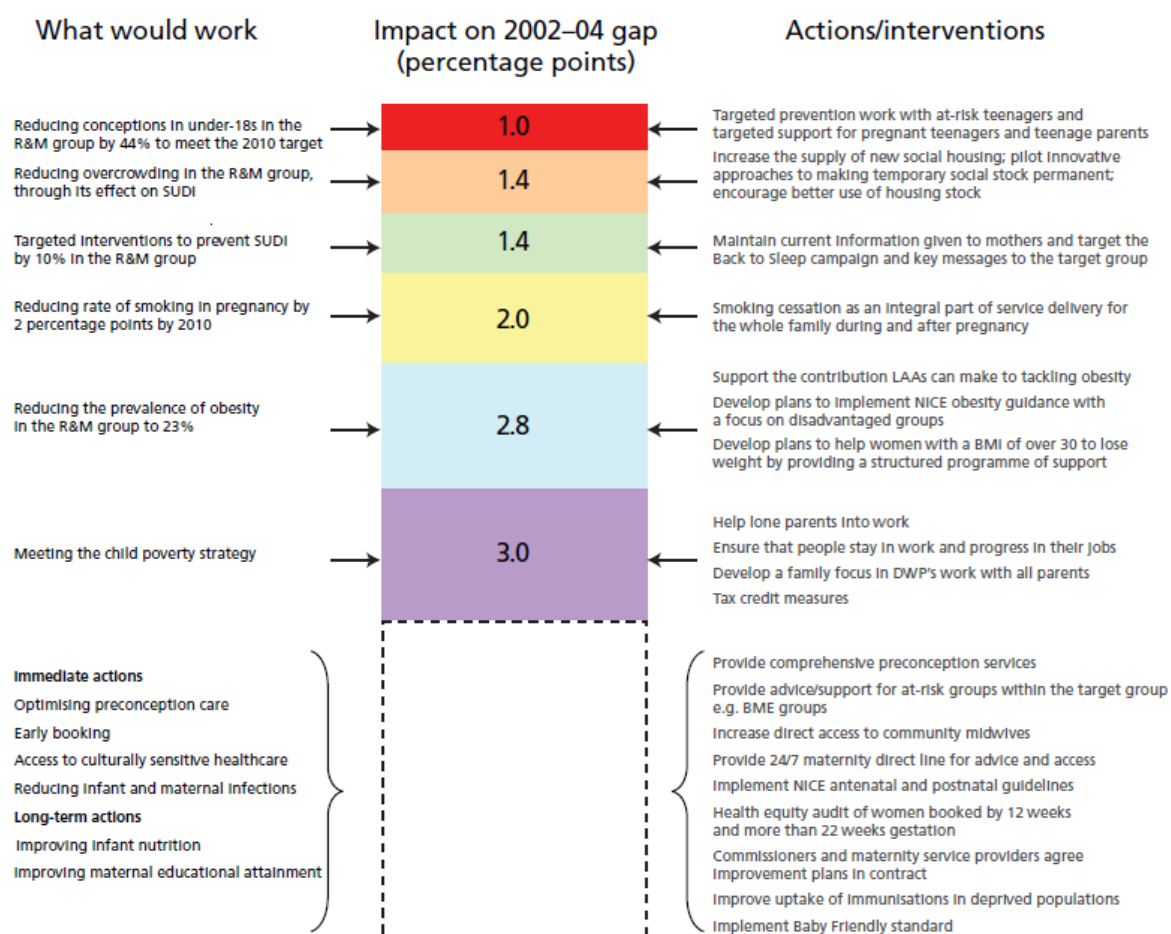
Locally, there are many projects across Wiltshire that involve partnership work to improve the health and well-being of infants, children and young people. Many of these will contribute to a reduction in mortality, for example through:

- Promoting direct access to midwifery care, delivered in accordance with NICE guidance.
- Delivering the Healthy Child programme, through a universal Health Visiting and School Nursing service.
- Improving partnership working across primary care, social care and Children's Centres to provide support to the most vulnerable families.
- Promoting breastfeeding and the uptake of primary immunisations.
- Promoting emotional health and well-being of all children, beginning in early childhood with a focus on attachment with parents, through to promoting resilience and coping in adolescents.
- Having a co-ordinated action plan to address childhood accident prevention, focusing on those injuries most prevalent in Wiltshire.



The Department of Health has examined the interventions that work in reducing infant mortality (see Figure 6).

**Figure 6: Infant mortality target<sup>10</sup>: fast impact interventions**



Source: Department of Health

### Challenges for consideration

Mortality rates in both infants and under 15s have risen slightly in Wiltshire in recent years, whilst national and regional rates for these indicators over the same periods have been decreasing.

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<sup>1</sup> Department of Health

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_132358](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_132358)]

<sup>2</sup> The NHS Outcomes Framework 2012/13, Department of Health, December 2011. url:

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_131700](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_131700)

<sup>3</sup> Clinical Commissioning Group Outcomes Indicator Set (CCGOIS) 20013/14, NHS Commissioning Board, December 2012. url: <http://www.nice.org.uk/aboutnice/cof/cof.jsp>

<sup>4</sup> The NHS Information Centre for health and social care. © Crown Copyright.

<sup>5</sup> Directly standardised for age using the European Standard population

<sup>6</sup> The NHS Information Centre for health and social care. © Crown Copyright.

<sup>7</sup> Directly standardised for age using the European Standard population

<sup>8</sup> Source: The NHS Information Centre for health and social care. © Crown Copyright; 2013 [www.nchod.nhs.uk](http://www.nchod.nhs.uk))

<sup>9</sup> Centre for Maternal and Child Enquiries (CMACE) Perinatal Mortality 2009: United Kingdom. CMACE: London, 2011.

<sup>10</sup> DH (2007) Implementation Plan for Reducing Health Inequalities in Infant Mortality: A Good Practice Guide. HMSO: London