

**Infant Mortality in Wirral:
Update for 2007-09**

Produced by Ambreen Owen

NHS Wirral Performance & Public Health Intelligence Team

October 2011

INTRODUCTION

This report is an overview of infant mortality in Wirral. It also outlines the national infant mortality target and gives information on Wirral's progress towards the achievement of this target. This report will be of use to anyone with an interest in inequalities and child health.

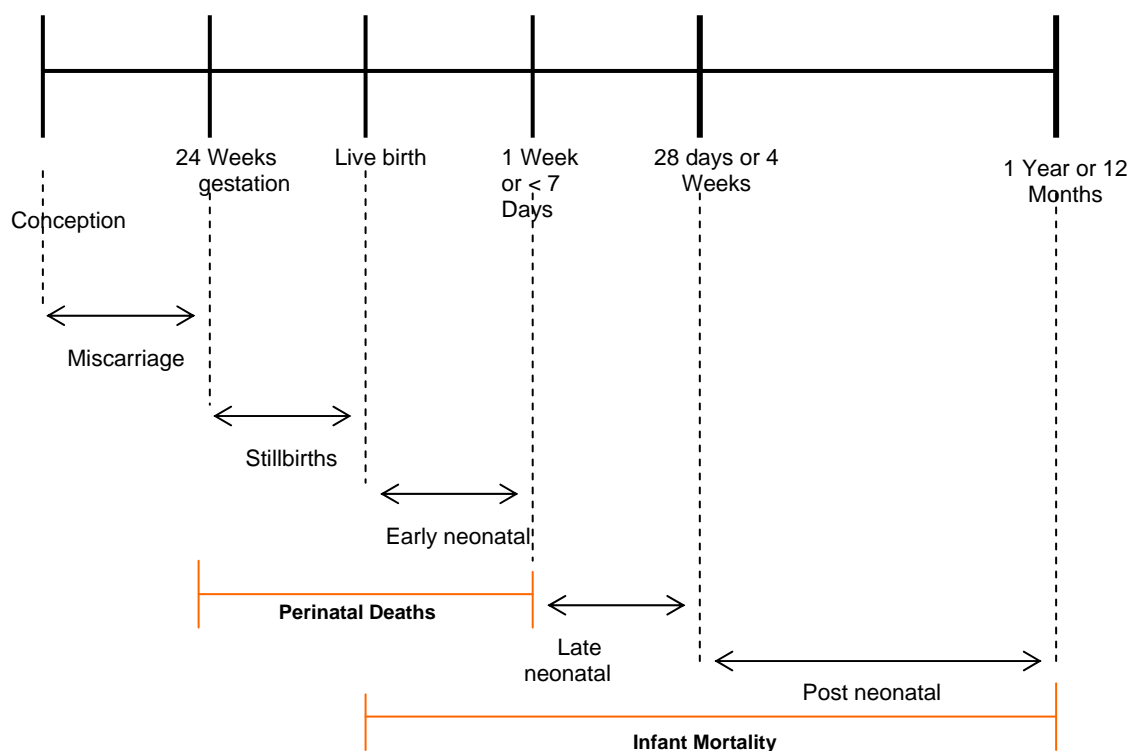
BACKGROUND

The infant mortality rate is calculated by 'the number of deaths of infants under one year per 1,000 live births', which consists of two components:

- The neonatal mortality rate: This is the number of neonatal deaths (those occurring during the first 28 days of life) per 1,000 live births
- The post-neonatal mortality rate: This is the number of infant deaths (those occurring between 28 days and less than one year) per 1,000 live births

For definitions of infant deaths, please see Figure 1 below:

Figure 1: Definition of infant deaths



The infant mortality rate is also referred to as the infant death rate. It has long been used as a general indicator of the health of the population as it measures the well-being of infants, children and pregnant women. Infant mortality can also be an important measure of the effectiveness of maternal and child health services and equity of access to healthcare among different population subgroups.

The majority of neonatal deaths are due to immaturity related conditions (caused by premature births), congenital conditions and sudden unexpected death in infancy (SUDI). These factors also demonstrate a socio-economic gradient; higher than average infant mortality rates for example have been found in babies whose mother were born outside England and Wales, young mothers, babies' whose fathers are in the routine and manual social class, babies registered to lone mothers and babies born in disadvantaged areas.

TARGETS

The PSA (Public Service Agreements) target was as follows: *Starting with children under one year, by 2010 to reduce by at least 10 percent the gap in mortality between the routine and manual groups and the population as a whole with the baseline of 1997-99.* However, following the change in Government parties the PSA target was abolished and replaced by a new Public Services Transparency Framework which came into effect as of April 2011 (Department of Health, 2010). The new Framework changed the baseline upon which national progress was reported against, thus national trends will now be assessed from a baseline of 2002-04, rather than the existing time period of 1997-99.

Wirral's target is: *To decrease the infant mortality rate in Wirral by the same proportion as in England from 2000 to 2010, using 2002-04 as the baseline.*

The target does not however take into account all dimensions of health inequalities which could lead to wide variations in infant mortality. Some particularly disadvantaged groups are excluded from the target and have a higher infant mortality rate than the general population, including:

- Births registered to lone mothers - socio-economic classification is based on the father's occupation. Additionally, this group has a higher proportion of teenage mothers, a quarter (25%) of births to teenage mothers are sole registrations compared to 6% of births in the population as a whole
- Occupational category determined as other - this includes the long-term unemployed, those who have never worked and students

The criteria for the socio-economic groups mentioned above have altered slightly and further details are available from the Department of Health, at:
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_122113

This target is difficult to monitor at small geographic areas, such as Lower Super Output Area (LSOA), as the number of infant deaths in any given local authority among particular social class groups is very small and subject to random fluctuations year on year. However, monitoring infant mortality is essential so that trends in inequalities may be explored.

DATA

Based on the new baseline of 2002-04, national data for 2007-09 (latest available), confirms that improvements are being made in rates for the Routine and Manual socio-economic group. Mortality rates fell by 16% between 2002-04 and 2007-09 in the Routine and Manual group, compared to a 6% reduction in the Managerial and Professional group (Department of Health, 2010).

The infant mortality rate in England and Wales for 2007-09 was 4.5 deaths per 1,000 live births, whilst the rate for those in the Routine and Manual group was 5.0 per 1,000 deaths (Department of Health, 2010).

Wirral's local infant mortality inequities target is monitored using a three-year average rate to minimise problems caused by the relatively small number of infant deaths. Given the variations due to small numbers, local data should be analysed and explored in the context of the range of local interventions to reduce infant mortality in the target group, e.g. reducing teenage conceptions, smoking in pregnancy and incidence of SUDI. It is possible to monitor local progress in infant mortality using deprivation scores as a proxy for socio-economic group (e.g. the target group). Wirral uses the 20% most deprived LSOAs (lower super output areas), based on the Index of Multiple Deprivation 2004 as its proxy for data up to 2003-05. Data for the years 2004-06 and 2005-07 are based on the Index of Multiple Deprivation 2007, while data for the years 2006-08 and 2007-09 are based on the new Index of Multiple Deprivation 2010 (IMD 2010).

Trends in infant mortality are available from 1994 to 2009. These are extracted from the returns from the Office for National Statistics (ONS). Data is available and updated annually. The infant mortality rate is very small at local authority level, so the data is provided as a three -year rolling average.

The latest Wirral figures for 2007-09 show that the infant mortality rate is:

- 4.7 per 1,000 live births in Wirral
- 5.5 per 1,000 births in the 20% most deprived areas in Wirral

Data from 1999-2009 for England, Wirral, and the most deprived areas within Wirral are displayed in Table 1 below.

Table 1: Infant mortality rates per 1,000 live births in Wirral, 20% most deprived areas in Wirral, and England, 1999-2009 (3-year rolling rates)

Area	1999-01	2000-02	2001-03	2002-04	2003-05	2004-06	2005-07	2006-08	2007-09
England	5.57	5.43	5.33	5.23	5.13	5.03	4.94	4.84	4.71
Wirral	6.03	4.77	4.03	4.13	5.13	4.87	4.70	4.52	4.68
20% most deprived Wirral	7.36	5.72	4.19	5.34	7.61	8.81	6.39	5.76*	5.47*

Source: NCHOD (England rates), ONS Annual Birth & Death Extracts (Wirral rates), 2011

*Rates are based on IMD 2010

Nationally, infant mortality rates have reduced by 15% from 5.57 deaths per 1,000 live births in 1999-01 to 4.71 deaths per 1,000 live births in 2007-09. Local rates have also shown a downward trend with a reduction of more than a fifth (22.39%) for the same time period. However, during the 3 year period 2002-04 local rates increased by 24% from 4.13, to 5.13 in 2003-05. This was followed by a slight decline in more recent years from 2004 to 2009. In general, from 2000 until 2009, Wirral rates have either been equal to, or slightly below the national average.

Trends in infant mortality in Wirral are further illustrated in Figure 2, along with the rates for the 20% most deprived LSOAs in Wirral. These rates have varied over time, but have generally been higher than Wirral and England. It is important to note fluctuations within these figures are to be expected due to the small number of infant deaths involved.

Figure 2: Infant mortality rates per 1,000 live births in Wirral and England, with 20% most deprived areas in Wirral 1999-2009 (3 year rolling rates)



Source: NCHOD (England rates), ONS Annual Birth & Death Extracts (Wirral rates)

REFERENCES:

Department of Health (2007). Review of the Health Inequalities Infant Mortality PSA Target. DH Publications. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_065544

Department Health (2008). Tackling Health Inequalities: 2005-07 Policy and Data Update for the 2010 National Target. http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_091414

Department of Health (2010). Mortality Monitoring Bulletin: (Infant mortality, inequalities) http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_122113