

Maternity and early years - infant deaths

Introduction

Every child deserves a healthy start in life; however, for a number of reasons, some preventable, a very small number of infants under the age of one year die. Infant mortality is an indicator of overall population health and refers to the death of a baby before his or her first birthday, excluding stillbirths (the number of infants born without any sign of life after 24 weeks gestation).

Many, although not all, of these deaths are potentially preventable. The key associated indicators that contribute to the overall picture of infant mortality are:

- Perinatal mortality rate: the number of deaths (including still births) per 1,000 births up to the age of 7 days
- Neonatal mortality rate: the number of deaths per 1,000 live births within 28 days of birth
- Low birth weight of term babies: a birth weight of less than 2,500g after 37 weeks gestation.

Nationally, Sudden Infant Death Syndrome (SIDS) is the most common single cause of death in infants under one year. SIDS is the term used to describe a sudden and unexpected death of a child that is initially unexplained; it is the cause of death attributed to over 200 babies each year in the UK.

The national SIDS rate is 0.48 per 1000 live births (2013). National dataⁱ shows that:

- 90% of these deaths occur in the first six months of life
- Over two-thirds of cases are male children
- The risk is three times greater for babies born with a low birth-weight
- 70% of infants who die are found in the same bed as their parent(s).

Risk factors and vulnerable groups

Biological factors such as birthweight, mother's age and parity (number of previous children) are key determinants of infant mortality. Infant mortality rates (IMRs) vary with social factors such as mother's country of birth and the socioeconomic position of the family (derived from the occupation of the father given at the registration of the birth)ⁱⁱ.

Other risk factors include:¹⁰⁴ smoking in pregnancy, alcohol consumption, diet (under-nutrition), obesity, illicit drug use, mental illness, psychosocial stress, domestic abuse, poor housing, academic achievement and employment status.

Risk factors for sudden infant death syndrome/sudden unexpected deaths in infancy (SIDS/SUDI), include exposure to environmental tobacco smoke, non-supine sleeping position, unsafe sleeping environment, eg bed-sharing and co-sleeping (particularly if parents smoke, have been drinking alcohol or have taken drugs).

The safest place for a baby to sleep for the first six months of their life is in a cot in their parents' room.ⁱⁱⁱ Bed-sharing and especially co-sleeping are considered the biggest risk of SIDS, however over 50% of all mothers bed share at least once in the first six months of their Baby's life. Whilst bed

sharing is likely to facilitate ease of breastfeeding, there are considerable risks associated with co-sleeping that professionals must discuss with all new parents.

Other risk factors include late booking for antenatal care and consequently a lack of access to early screening services, low birth weight (below 2,500g) particularly of term infants, gestational diabetes in pregnancy, pre-existing maternal morbidity including diabetes and high blood pressure and maternal mental health disorders during pregnancy and the post-natal period.^{iv,v}

What is the evidence base?

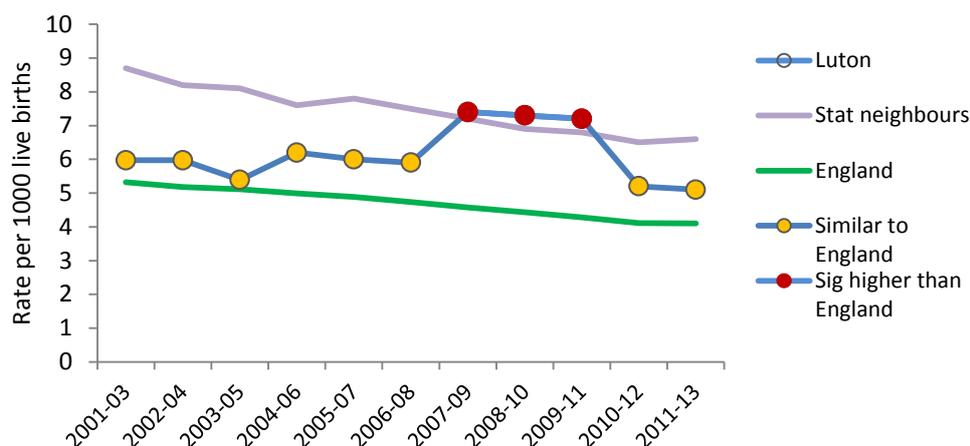
The DH identified key actions to help reduce health inequalities in infant mortality.^{vii}

- Promote the importance of accessing maternity services before the 13th week of pregnancy; late bookings increase the risk of poor outcomes for the infant.
- Reduce prevalence of maternal obesity through the use of evidence-based behaviour change techniques that include providing brief advice, information and support on diet and physical activity pre-conceptually and during pregnancy, as well as offering community-based opportunities for recreation and weight management interventions.
- Reduce maternal smoking through the provision of stop smoking interventions in pregnancy. This can include staff in maternity services and universal children's services providing brief advice as part of routine contact with pregnant women and signposting women who need more intense one-to-one support to stop smoking services.
- Reduce teenage pregnancy and improve support and care for teenage parents and their babies by providing high quality sex and relationship education and accessible contraceptive and sexual health services.
- Identify women with a history of mental health problems or alcohol and substance misuse problems early in the pregnancy and ensure additional support and coordination with other clinical services during pregnancy and through infancy.

Local picture

The infant mortality rate (IMR) is defined as the number of deaths of children under the age of one year per 1,000 live births. The rate in Luton is decreasing but remains higher than the national rate. There is a similar picture for each of the associated indicators. The IMR for Luton has reduced from 7.4 in 2007-09 to 5.2 in 2010-12 and provisional data for 2011-13 shows a further decrease. Luton now has the lowest IMR amongst its statistical neighbours and the gap between Luton and the England rate (4.1) is closing. This rate is the lowest between 2001-03 and 2011-13.

Figure 33: Infant mortality rate 2001/03 - 2011/13



Identifying ward areas with high rates of infant mortality is a challenge due to the small number of deaths in each area.¹ Using pooled data for the five year period 2009-2013 we know that although the wards with the highest IMR are Northwell and Farley, the highest numbers are in Biscot and Dallow.

Risk factors for infant deaths in Luton:

Sudden infant deaths: Child Death Overview Panel (CDOP) data identified 15 cases of SIDS in Luton between April 2008 and March 2014.

Modifiable factors were identified in 90% of these cases, with 43% having more than one modifiable factor. These factors include parental smoking, prematurity and a raised room temperature. The main modifiable risk factor was safe sleeping; 80% of the cases in Luton the infant was not in a cot sleeping on their back when found. Of these cases there was only one where the infant was being breastfed which has a protective impact and reduces the risk of SIDS.

Genetic risk: an important risk of increased infant mortality exists for children born to families, particularly of South Asian families who are disproportionately affected by life-limiting illnesses (LLI) and disabilities, notably as a result of hereditary (genetic) conditions often associated with marriage within the extended family, consanguinity. Between 2009 and 2013, the Child Death Overview Panel found 36% of child deaths in Luton were as a result of genetic conditions associated with cousin marriage.

In Luton there is a high level of child disability, particularly children with complex needs (see children with disability section). Although some of these children die before their first birthday, many survive into later child and young adulthood supported by comprehensive care packages. High levels of child disability and LLI affect not only the quality of life for the child and family, but add to family economic disadvantage. Meeting the care needs of these children has a considerable impact on

¹ There should be at least 20 in the numerator (infant deaths) to calculate a rate that is stable. Numbers are smaller when broken down to ward areas, despite pooling five years' data. This means that any rates calculated are unstable and small numerator changes will lead to large changes in the rate.

local health and social care services. For more information see Luton's Children with Disabilities Needs Assessment.¹

What is being done locally?

There are a number of interventions being delivered in response to local intelligence that are contributing to the year, on, year reduction and aiming to improve health in pregnancy and childhood.

Other actions being taken are:

- Addressing Low Birth Weight: The Luton and Dunstable Hospital which provides care for the majority of babies born in Luton have introduced the GROW project, as with other hospitals across the East of England. This is a stillbirth reduction tool that identifies the healthy growth of an infant based on the maternal physical characteristics
- A specialist public health midwife has been funded to work with maternity staff and partner organisations to educate staff in areas that improve health and reduce risk including safe infant sleeping to reduce the risk of sudden infant death, reducing smoking during pregnancy and maternal obesity and increasing breastfeeding rates and to identify ways to more effectively engage pregnant women to promote a healthy pregnancy.
- Targeted support for women to quit smoking during pregnancy and the development of a healthy weight pathway for pregnant women
- The council has revised the Infant Mortality Plan to include genetic risk which local data showed significantly contributed to infant and child deaths in Luton. Community engagement with the Luton Pakistani and Kashmiri community was commissioned to explore community views of cousin marriage; the key findings from this consultation are being used to inform local service planning.
- In anticipation of the commissioning transition of 0-5 services to local authority, the subsequent join up with 5-19 services, the recommendations from the Children Centres Review taking place in 2015, and in line with Better Together, to develop an integrated family based 'Early Help Hub' for children aged 0-19 that supports all children, young people and their families to have the best start in life, to maximise ability and opportunity and prepare young people to be ambitious and resilient young adults.

Priorities

1. Improve coordination of early years' provision under Flying Start to ensure there is an evidenced based core offer to reduce the modifiable risk factors as part of contract arrangements.
2. Ensure the delivery of the Child death Overview Panel plan and continue to monitor and reduce modifiable risk factors in SIDS
3. Continue to reduce the proportion of women who smoke during pregnancy through targeted stop smoking support, and reduce the proportion of women who are overweight or obese during pregnancy by implementing the healthy weight in pregnancy pathway and its interventions.

References

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