A STRATEGY TO REDUCE INFANT MORTALITY AND STILLBIRTHS IN SANDWELL AND WEST BIRMINGHAM

A SUMMARY & UPDATE

ORIGINAL REPORT BY:

MATTHEW FUNG, SPECIALTY REGISTRAR IN PUBLIC HEALTH

ANDREW HARKNESS, DEPUTY CHIEF OFFICER PUBLIC HEALTH

SABA RAI, SENIOR COMMISSIONING MANAGER

SUMMARISED BY:

TANITH PALMER, SPECIALTY REGISTRAR IN PUBLIC HEALTH

HAZEL MALCOLM, SENIOR COMMISSIONING MANAGER

INTRODUCTION

In late 2016/early 2017, a strategy was developed by Sandwell and West Birmingham CCG (SWBCCG) and Sandwell Local Authority to address infant mortality and stillbirths within the CCG. This report summarises the findings and recommendations of that report, and provides an update of the current position.

For the purpose of this report, infant mortality is defined as:

"The death of an infant before his or her first birthday"[1]

And a stillbirth as:

"A baby born with no signs of life at or after 28 weeks' gestation"[2]

KEY POINTS

1. Rates of stillbirth and infant mortality are higher in Sandwell and Birmingham than they are nationally.

2. Although both stillbirth and infant mortality rates have decreased in Sandwell Local Authority in recent years, there has been an increase in Birmingham.

3. Numerous risk factors are associated with infant mortality and stillbirth but this strategy highlighted the following as especially important:
    - Smoking
    - Ethnicity
    - Infant Nutrition/Breastfeeding
    - Deprivation and Poverty

4. Four interventions were recommended within the strategy which were:
    - Commissioning of a Family Support Nurse Service
    - Recruitment of Health Pregnancy Advocates (peer support system)
    - Supply of an enabling fund to assist health behaviour change
    - Health education and promotion to encourage healthy choices

5. All of the interventions were agreed in principal by both SWBCCG Governing Body and the Health and Wellbeing Board in early 2017 but are required to go through the SWBCCG prioritisation process. Current service provision is covered in Figure 5.

[1] Center for Disease Control: https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm "

[2] World Health Organisation: http://www.who.int/maternal_child_adolescent/epidemiology/stillbirth/en/ "

INFANT MORTALITY AND STILLBIRTH RATES

The death of a baby in pregnancy, at birth or after birth is a tragedy to parents, their families and their communities.

Nationally, there has been a gradual decrease in both stillbirths and infant mortality with the highest rates seen in both the youngest and the oldest mothers.

Sandwell and West Birmingham have some of the highest infant mortality rates in the country. Although these rates have been decreasing in Sandwell over the past three years, there has been an increase in infant mortality in Birmingham (Figure 1).

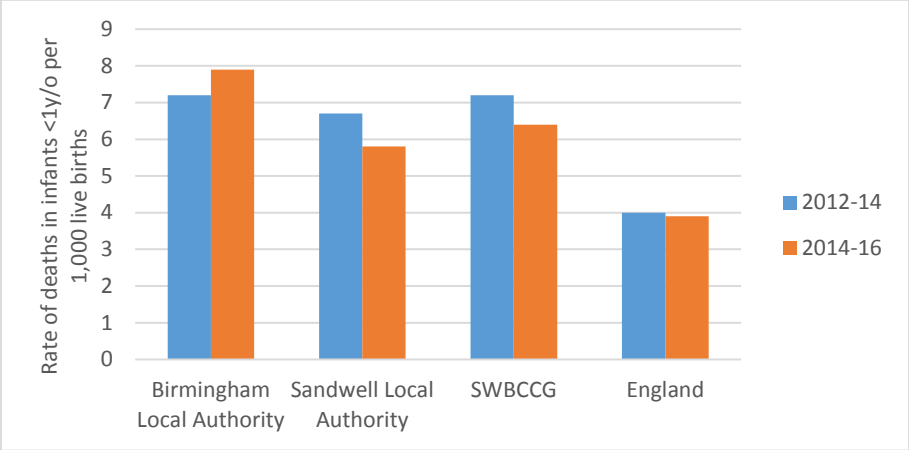

Figure 1. Average rates of Infant Mortality in Birmingham and Sandwell Local Authorities, Sandwell and West Birmingham Clinical Commissioning Group and England in 2012-2014 and 2014-2016

Stillbirth rates have decreased across SWBCCG but remain significantly higher than England. Stillbirth rates are similar in both Birmingham and Sandwell wards. Similar to the picture portrayed above, Sandwell's rates of stillbirth have decreased over recent years, whereas there has been an increase in Birmingham (Figure 2).

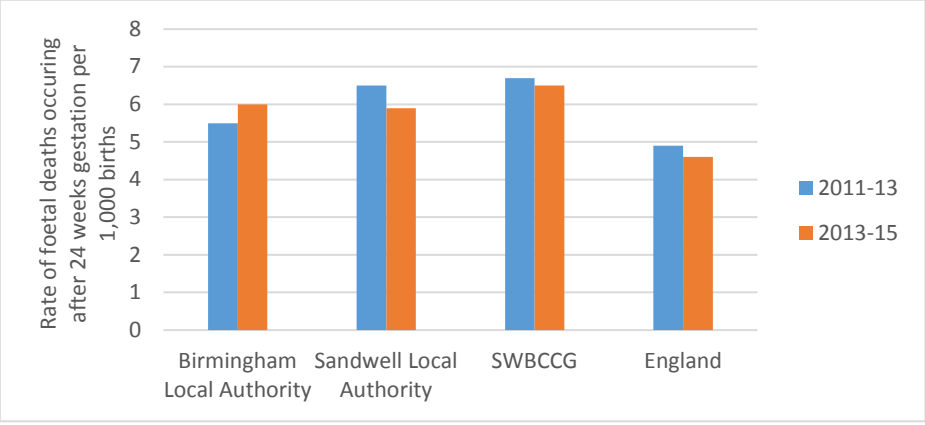

Figure 2. Average rates of Stillbirth in Birmingham and Sandwell Local Authorities, Sandwell and West Birmingham Clinical Commissioning Group and England in 2011-2013 and 2013-2015

This equated to 150 stillbirths and 147 infant deaths in SWBCCG in 2013-15.

RISK FACTORS ASSOCIATED WITH INFANT MORTALITY AND STILL BIRTH

There are numerous factors implicated in infant mortality and still birth and some of these can be modified to help lower the risk of both of these.

The Sandwell and Birmingham's Child Death Overview Panel identified the risk factors associated with infant mortality and stillbirth in the local area as outlined in Figure 3.

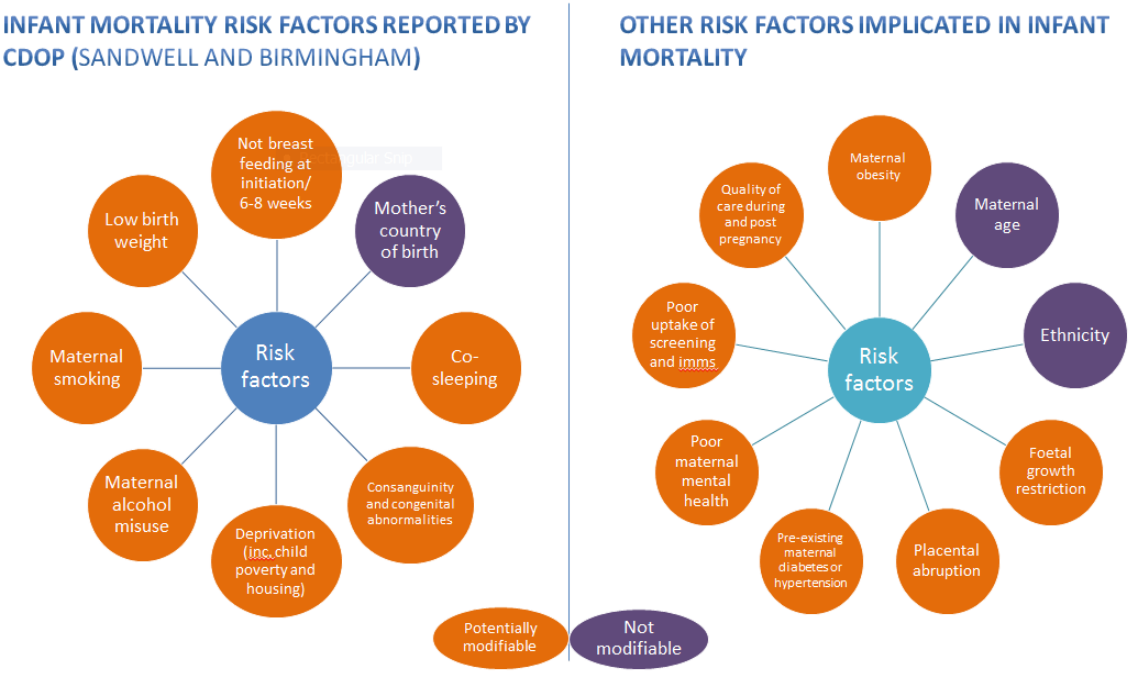

Figure 3. Modifiable and non-modifiable risk factors as identified by Sandwell and Birmingham's Child Death Overview Panel

Some of these risk factors are likely to have a strong and immediate impact on rates if death if they were modified/removed, whilst others would have less of an impact or may take considerably longer to effect change.

Of the risk factors outlined in Figure 1, key risk factors identified in the Infant Mortality Strategy are:

1. Smoking
2. Infant Nutrition and Breastfeeding
3. Deprivation and Child Poverty
4. Ethnicity

These are explained further here.

Smoking

Smoking is a risk factor strongly associated with stillbirths and infant mortality. Sandwell CDOP identified smoking as the most common risk factor in infant mortality in the local area.

Smoking in pregnancy accounts for approximately:

- More than 1 in 20 premature births
- Up to 1 in 5 cases of low birth weight in babies carried to full term
- More than 1 in 20 preterm-related deaths
- Up to 1/3 of sudden unexpected deaths in infancy (SUDI)

Maternal smoking in childhood is also associated with various child health and developmental issues.

Although a larger proportion of people smoke in SWBCCG than they do nationally, a smaller proportion of women were smoking when they delivered their babies in 2017/18 in SWBCCG than they were nationally [3]. Additionally, data would suggest that the numbers of women smoking at delivery has decreased over recent years in SWBCCG.

Despite this, only 1 in 20 women managed to successfully quit smoking in SWBCCG in 2015/16 and 851 women were recorded smoking in pregnancy across the region, demonstrating that more is needed to be done.

Infant Nutrition (Breast Feeding)

The benefits of breastfeeding to mother and baby are well documented. Evidence suggests that the risk of SUDI is smaller for breastfed babies.

In 2014/15[4], breastfeeding rates were considerably lower in SWBCCG than they were nationally:

- About 60% of women initiated breastfeeding in SWBCCG whereas 75% of women did nationally.
- Approximately a third of women were still breastfeeding at 6-8 weeks in SWBCCG compared to almost half nationally.

Deprivation and Child Poverty

In the West Midlands, evidence suggests that there is a link between deprivation and infant mortality (Figure 4) – the most deprived areas experience the highest levels of infant mortality including Sandwell, Wolverhampton, Birmingham and Stoke on Trent.

This finding is further supported by Sandwell CDOP, who found that the majority of infant mortality was seen in mothers who lived in the most deprived areas.

Despite this, deprivation is unlikely to be the sole cause of infant mortality, as rates differ amongst the most deprived areas in the region. In addition to this, a number of the risk factors associated with infant mortality/stillbirths are found more commonly in more deprived areas (e.g. smoking, bottle feeding).

[3] NHS Digital - Statistics on Women's Smoking Status at Time of Delivery, England - Quarter 1, 2017-18 https://digital.nhs.uk/catalogue/PUB30070

[4] More recent data was not available for the local area due to data quality issues

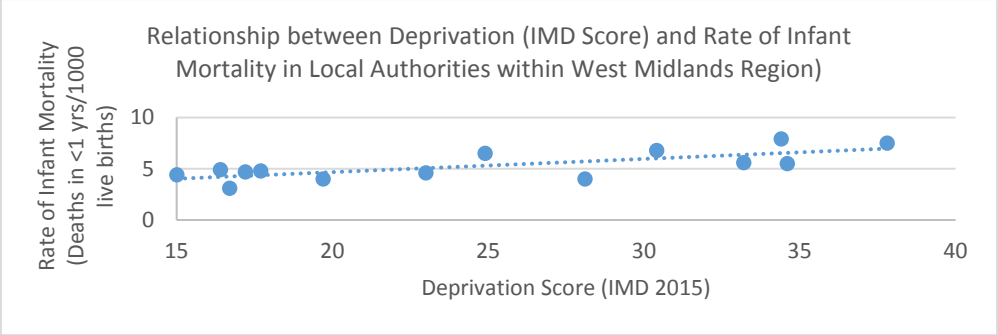

Figure 4. Graph showing the relationship between deprivation and infant mortality rates in the West Midlands

Ethnicity

Substantial inequalities in infant mortality rates are known to exist between white and ethnic minority groups in England and Wales.

In 2014, the infant mortality rates for babies of mothers born outside the UK are significantly higher than for mothers born inside the UK. The highest infant mortality rates were seen in babies of mothers born in Pakistan and Western Africa. Birmingham CDOP found that over half of infant deaths were in black and minority ethnic groups.

Evidence suggests that these differences are likely to reflect underlying factors such as differences in the mother's age, together with a range of other socio-demographic characteristics.

Any new intervention for infant mortality and stillbirths that is commissioned should be developed with due consideration to these factors.

RECOMMENDED INTERVENTIONS ARISING FROM STRATEGY

Following the analysis of data from a wide range of data including the CDOPs, Public Health England, and the NHS, the Infant Mortality Strategy outlined 4 recommended interventions to try and help reduce infant mortality and stillbirths in the area. These interventions were supported by NHS Outcomes framework, Public Health Outcomes Framework and SWB CCG operational plan and NHS England's Improvement and Assessment Framework (IAF).

The proposed interventions were as follows:

1. In Sandwell, Family Support Nurses (FSN) would deliver an intensive service, specific to the part of the pathway that the client is in, and appropriate to their needs up until the child reaches 2 years of age. After this point, clients would be transitioned to universal or universal+ health visiting. In West Birmingham, the vulnerable families pathway would provide additional health visitor led support to vulnerable women.

2. Healthy pregnancy advocates (HPA) would fit into the model by providing a consistent skilled peer-support through the antenatal period up until babies reach 1 year of age. After this point, HPA support would be withdrawn and clients would be transitioned back to the care of FSNs, vulnerable families health visiting, or universal health visiting services.

3. An enabling fund would provide additional scope for HPAs to support clients to make healthy choices through pregnancy which would assist with behaviour change.

4. Health education & promotion through social marketing/advertising would provide a universal offer to encourage healthy choices through pregnancy and early access to maternity services.

CURRENT POSITION OF INFANT MORTALITY SERVICES

This Infant Mortality Strategy went to SWBCCG's Governing Body in early 2017. The proposed interventions were agreed in principal, however it was advised that it would be required to go through the SWBCCG prioritisation process.

The strategy was also presented to Sandwell Health and Wellbeing Board.

Current initiatives and responsibilities are outlined in Figure 5.

Stage	*Lead Organisation*	*Initiatives currently in place*
Pre-conception	Local Authority Public Health	• Obesity Weight Management • Teenage Pregnancy Programme • Alcohol and Drug Awareness Programme • Low Birth Weight Strategy • Smoking Cessation
Pregnancy	Sandwell and West Birmingham Maternity Service /Sandwell and West Birmingham Clinical Commissioning Group	• Maternity Pathway which includes identification of high risk women and appropriate signposting/ immunisations and flu vaccination programme
	Sandwell MBC Public Health	• Best Start Programme • Ante-natal programme (which includes breastfeeding) • Perinatal Mental Health Clinic • CO_2 monitoring and BMI measuring • Smoking Cessation Service
Birth	Sandwell and West Birmingham Maternity Service / Sandwell and West Birmingham Clinical Commissioning Group	• Protocols for recording of infant • Perinatal Mortality Programme • Infant Breastfeeding Programme • 72 hour baby checks
Early Years	Local Authority Public Health	• Health Visiting Services • Children's Centres • 6 -8 week baby checks • Immunisation Programme

Figure 5. Table highlighting existing services and their corresponding Lead Organisations at each stage of pregnancy

More data is currently being collated and analysed to ensure effective monitoring of impacts and outcomes.