Infant Mortality in Salford

1 Executive Summary

“Giving every child the best start in life is crucial to reducing health inequalities across the life course” (Marmot, 2010). For this reason, this was the highest priority recommendation from Fair Society, Healthy Lives. A good measure of the overall health of a population is the infant mortality rate (the number of deaths under the age of 1 year per 1,000 live births). This is because it is a signal of the general health of the population and it affects the life expectancy figures within an area.

Infant Mortality has shown a persistent downward trend in England since 2003/5. However the rate in Salford has not shown the same downward trend and the figure for 2008-2010 stands at 6 deaths per 1000 live births (compared to 4.6 in England). Despite small numbers, it is a critical issue because:

- it is linked to deprivation and to social inequalities
- the risk factors that contribute to infant mortality have a cumulative affect across a person’s lifetime
- the risk factors, and therefore infant mortality, are preventable

To affect a positive change on the infant mortality rate requires recognition of the importance of this issue at a strategic level, and a partnership approach to address health factors and the wider social determinants of health. From a public health point of view, the key modifiable risk factors locally at this time are the rate of breastfeeding initiation and the rate of smoking in pregnancy.

For Salford to achieve the England averages, and thus reduce the inequalities gap, an additional 175 pregnant smokers would need to quit and 100 additional mothers would need to initiate breastfeeding.

2 Background

2.1 In July 2011 the Strategic Review into the health needs of children and young people in Salford identified the need to monitor the trend in Infant Mortality locally. It was recommended that this was looked at on a yearly basis, together with those factors that have been identified as contributing to a reduction in the gap in infant mortality (Whitehead, 2011). This report is the response to that recommendation.

2.2 The contributing factors were identified through a Department of Health review into the Health Inequalities Infant Mortality PSA Target (Department of Health, 2007a) and subsequent implementation plan (Department of Health, 2007b). Certain specific risk factors are more prevalent in the routine and manual (R&M) group. They contribute to a gap in infant mortality between this group and other socio-economic groups. To reduce this inequalities gap requires work across the wider social determinants of health like poverty and overcrowded housing, as well as issues like smoking in pregnancy, maternal obesity, initiation of breastfeeding and teenage pregnancy. In 2007-09 the gap between the routine and manual group and the average for all other groups with an assigned socio-economic group, was 12% (Korkodilos et al, 2010). Reducing health inequalities in infant mortality is central to reducing health inequalities across the life course (Korkodilos et al, 2010).
2.3 The evidence-based interventions that can make an impact on the infant mortality gap between the R&M group and the population as a whole are represented in the diagram below:

Source: Infant Mortality National Support Team

3 Vulnerable Groups

3.1 Certain groups have been identified as particularly vulnerable to increased rates of infant mortality:
3.2 **Low socio-economic status**

There is a clear socio-economic gradient to infant mortality. The data for 2002–04 shows that the overall Infant Mortality Rate (IMR) in England and Wales was 4.9 deaths per 1,000 live births, while the rate for the routine & manual (R&M) group was 5.9 per 1,000 live births. The ‘other’ category of the National Statistics Socio-Economic Classification (NS-SEC), including the long-term unemployed, those who have never worked and students, also has particularly high infant mortality rates (DH, 2007a). Salford is ranked as the 15th most deprived local authority area in England (IMD, 2007), however there is wide variation across the city and 10 wards have a deprivation score that is above the Salford average. These are Little Hulton, Walkden North, Kersal, Irwell Riverside, Broughton, Ordsall, Langworthy, Weaste & Seedley, Barton and Winton. As of November 2010, 17.5% of the working age population in Salford were out of work and in receipt of benefits, compared to the national picture of 12.1% (JSNA Neighbourhood profiles).

3.3 **Ethnicity**

The IMR in babies of mothers born in Pakistan was 10.2 per 1,000 live births in 2002–04, and in babies of mothers born in the Caribbean it was 8.3 per 1,000 live births in 2002–04, much higher than the national average of 4.9 (DH, 2007a). Gray et al (2009) state that the reasons for these variations are complex, and are due to the relationship between deprivation, physiological, behavioural and cultural factors. Salford has a predominately white ethnicity within the city, however, this is becoming more diverse and the ethnicity of mothers from Chinese, Black African, mixed race (white & black African / Caribbean), Pakistani and other Asian ethnic groups are increasing. However, better local data is needed to draw anything from such increases.

3.4 **Maternal age**

Maternal age also affects the IMR (Oakley et al, 2009). Infant mortality amongst mothers aged under 20 years is 60% higher than for older mothers aged 20 to 39 years. In 2002–04, the IMR for mothers under 20 was 7.9 per 1,000 live births (DH, 2007a). Salford has a particularly high teenage pregnancy rate (conceptions to under 18s) which has remained high for a period of years. The Langworthy, Little Hulton and Ordsall wards have a significantly higher rate of births to females under the age of 19 than the Salford average. Broughton and Kersal show a statistically higher rate for women delivering at age 40 and over than the Salford average. Both spectrums of age are known to be risk factors for Infant mortality.

3.5 **Births outside marriage**

There is also some evidence that marital status affects the infant mortality (Oakley et al, 2009). The IMR for births registered by the mother alone was 6.7 per 1,000 live births for 2002–04, 36% higher than that among all births inside marriage or jointly registered births (DH, 2007a). Within Salford in 2010, the proportion of births not within marriage was 58%, compared to 47% in England and Wales (VS tables, ONS). Fifteen years ago 50% of births were not within marriage in Salford. This suggests that the dynamics of families are changing. Data will become available soon from the Annual District Birth Extract which will show the number of births registered by the mother only, by ward.

### 4 Infant Mortality Headline Data

4.1 Infant mortality is the number of deaths under the age of 1 year per 1,000 live births. It is a good measure of the overall health of a population. Infant Mortality has shown a persistent downward trend in England and the Northwest since 2003/5. Worryingly, the rate in Salford is slowly rising over the same time period (the data has been
pooled to allow for greater accuracy). The actual number of deaths over 2008/10 may seem quite low at 62, however what is of significance is that the trend is not decreasing, and the gap with England is widening.

The infant mortality figures for 2008-2010 show that the Salford rate is high at 6 per 1,000 live births. This figure is a crude rate for all maternal ages and is higher than the regional and national rate of 4.9 and 4.6 per 1,000 live births respectively. Infant mortality is a city wide problem. Due to the wide confidence intervals and lack of a significant variation across the city, it is difficult to use the infant mortality data alone to identify areas for targeted work. However, the following data can help to identify key areas.

## Factors That Influence Infant Mortality

### 5.1

The factors that influence infant mortality are outlined in the diagram in para 2.3 above, along with their percentage impact upon the inequalities gap. The factors have a cumulative impact, for example, overcrowded housing affects the SUDI rate, families are poorer if they smoke due to extra expenditure on cigarettes, all of the factors are influenced by levels of deprivation. As the factors are interlinked, and not stand alone issues, work needs to be commissioned across the spectrum in order to have an impact on the infant mortality rate.

### 5.2

The factors are now listed in the order for which they are deemed to influence infant mortality, with the biggest impact first (see diagram in para 2.3 above).

### 5.3

**Breastfeeding initiation**

Breast milk promotes sensory and cognitive development, and protects the infant against infectious and chronic diseases. Exclusive breastfeeding reduces the risk of infant mortality as it protects against common childhood illnesses, such as diarrhoea or pneumonia, and supports a quicker recovery from illness. The graph below shows initiation in Salford from 2007/08 onwards. Salford is on a par with the North West average, but consistently below England.
5.4 Breastfeeding is strongly associated with higher maternal age, social-economic status and educational attainment. White women in deprived circumstances are least likely to breastfeed, but have a higher incidence of low birth weight infants and their children experience higher incidences of childhood infectious disease (Sachs, 2010). This pattern is reflected in the Salford data recorded by Health Visitors. In 2011, areas where breastfeeding at birth was statistically higher than the Salford average were Broughton, Kersal, Eccles and Worsley but statistically lower in Irlam, Little Hulton and Walkden north (based on Health Visitor data).

5.5 For Salford to have an initiation rate similar to that of England (74.1% in Q3 2011/12) at least another 100 women per quarter need to initiate breastfeeding, assuming the amount of maternities remains stable.

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NB. Where data is shown as a dotted line, data did not meet the Department of Health quality standard.

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1 This data is collected a few weeks after delivery by Health Visitors, and therefore differs from the maternity data supplied by Midwives, but the midwifery data is not available at lower geographical levels.
5.6 Child Poverty

Using the child poverty indicator\(^2\), thirteen out of the 20 Salford wards are showing more children under 16 living in poverty than the England average in 2009. Irwell Riverside and Langworthy have more than 50% of children under 16 living in poverty.

<table>
<thead>
<tr>
<th>CODE</th>
<th>WARD</th>
<th>Children in families in receipt of CTC (&lt;60% median income) or IS/JSA</th>
<th>% of Children in &quot;Poverty&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Under 16</td>
<td>All Children</td>
</tr>
<tr>
<td>00BRGE</td>
<td>Irwell Riverside</td>
<td>880</td>
<td>965</td>
</tr>
<tr>
<td>00BRGG</td>
<td>Langworthy</td>
<td>1,010</td>
<td>1,135</td>
</tr>
<tr>
<td>00BRGJ</td>
<td>Ordsall</td>
<td>645</td>
<td>760</td>
</tr>
<tr>
<td>00BRGH</td>
<td>Little Hulton</td>
<td>1,425</td>
<td>1,615</td>
</tr>
<tr>
<td>00BRFZ</td>
<td>Broughton</td>
<td>1,550</td>
<td>1,730</td>
</tr>
<tr>
<td>00BRGR</td>
<td>Winton</td>
<td>1,090</td>
<td>1,235</td>
</tr>
<tr>
<td>00BRFX</td>
<td>Barton</td>
<td>785</td>
<td>885</td>
</tr>
<tr>
<td>00BRGN</td>
<td>Walkden North</td>
<td>755</td>
<td>855</td>
</tr>
<tr>
<td>00BRGQ</td>
<td>Weaste and Seedley</td>
<td>585</td>
<td>675</td>
</tr>
<tr>
<td>00BRGK</td>
<td>Pendlebury</td>
<td>685</td>
<td>780</td>
</tr>
<tr>
<td>00BRGL</td>
<td>Swinton North</td>
<td>575</td>
<td>650</td>
</tr>
<tr>
<td>00BRGD</td>
<td>Ham</td>
<td>570</td>
<td>640</td>
</tr>
<tr>
<td>00BRGM</td>
<td>Swinton South</td>
<td>485</td>
<td>555</td>
</tr>
<tr>
<td>00BRGF</td>
<td>Kersal</td>
<td>765</td>
<td>895</td>
</tr>
<tr>
<td>00BRGA</td>
<td>Cadishead</td>
<td>435</td>
<td>495</td>
</tr>
<tr>
<td>00BRGC</td>
<td>Eccles</td>
<td>315</td>
<td>380</td>
</tr>
<tr>
<td>00BRGP</td>
<td>Walkden South</td>
<td>225</td>
<td>265</td>
</tr>
<tr>
<td>00BRGB</td>
<td>Claremont</td>
<td>170</td>
<td>195</td>
</tr>
<tr>
<td>00BRFY</td>
<td>Boothstown and Ellenbrook</td>
<td>130</td>
<td>155</td>
</tr>
<tr>
<td>00BRGS</td>
<td>Worsley</td>
<td>40</td>
<td>50</td>
</tr>
</tbody>
</table>

| England | 2,131,350 | 2,429,305 | 21.9% | 21.3% |

Source: Salford City Council

5.7 Obesity in Pregnancy

Overweight/obesity in pregnancy can cause complications for both the mother and baby. Cases of gestational diabetes, late foetal loss, stillbirth, premature birth and

\(^2\) An indicator of child poverty is children living in families in receipt of Child Tax Credit (where the reported income is less than 60 per cent of the median income) or in receipt of Income Support or (Income-Based) Job Seekers Allowance, divided by the total number of children in the area as determined by Child Benefit data.
congenital anomalies are more prevalent within this group, and obesity can cause respiratory and other problems during labour. The mothers’ BMI is recorded at the 12 week booking visit at the hospital, this information is recorded at source but left on the expectant mothers’ hand held pregnancy notes. Access to this information would be invaluable in monitoring infant mortality risk factors. Unfortunately this data was unavailable for Salford Women at this time.

5.8 National trend data from the Health Survey for England (HSE) for the period 1993 to 2008 show an increase in the prevalence of obesity (BMI at least 30 kg/m²) from 14.4% in 1997 to 20.2% in 2008 amongst women of childbearing age (16 to 44 years). Within this age group, the prevalence of obesity also increases with age; in 2008, obesity prevalence was 14% in those aged 16-24 and 25.0% in those aged 35-44.

5.9 Smoking in Pregnancy
Babies born to mothers who smoke are more likely to be born prematurely and with a low birth weight, their organs are smaller, they have a poorer lung function and the infant is twice as likely to die from SUDI (see below). They are more prone to diseases such as inflammation of the middle ear and asthmatic bronchitis in early childhood and are more likely to become smokers themselves in later years. In addition, pregnant women who smoke increase their risk of early miscarriage. In later pregnancy, smoking mothers are at increased risk of the baby’s placenta coming away from the womb before the baby is born (placental abruption). This may cause birth complications or stillbirth.

5.10 Smoking at time of delivery in Salford in Q4 of 2011/12 was at 17.4% and had been at that level for much of 2010/11. However, there was a dip in Q2 2011/12 to under 15%. The national target is 11% by 2015, Salford has some way to go to reach this target. For Salford to also reach this target an extra 175 pregnant mothers would need to give up smoking compared to current figures. (This is assuming that the number of maternities is the same as in 2011/12.) Previous analysis has shown particular areas of concern, where more than 50% of mothers were smoking at the time of delivery. These areas were to the north of Winton and to the east of Little Hulton.

Source: NHS Salford
5.11 **Overcrowded Housing**

In England, the number of households living in overcrowded conditions has risen from 630,000 in 2009-10 to 655,000 in 2010-11. The proportion of households in England considered to be overcrowded is now 3%. Overcrowding rates are much higher among social and private renters than among owner occupiers (The Housing Report, 2012).

5.12 There are currently 487 households who are registered for rehousing into social housing in Salford because of overcrowding\(^3\). Of these, 6 households are overcrowded by 3 bedrooms or more (i.e. they currently live in a 2-bed property, but require a 5-bed to meet their needs).

<table>
<thead>
<tr>
<th>Overcrowded</th>
<th>Owned Mortgage</th>
<th>Owned Outright</th>
<th>Rented RSL</th>
<th>Rented Private</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nr</td>
<td>%</td>
<td>Nr</td>
<td>%</td>
<td>Nr</td>
</tr>
<tr>
<td>Severely Over Occupied</td>
<td>59</td>
<td>27.2%</td>
<td>0</td>
<td>0.0%</td>
<td>100</td>
</tr>
<tr>
<td>Over Occupied</td>
<td>1054</td>
<td>31.9%</td>
<td>331</td>
<td>10.0%</td>
<td>141</td>
</tr>
<tr>
<td>Satisfactory</td>
<td>7924</td>
<td>36.0%</td>
<td>2325</td>
<td>10.6%</td>
<td>3495</td>
</tr>
<tr>
<td>Under Occupied</td>
<td>13759</td>
<td>41.2%</td>
<td>10346</td>
<td>31.0%</td>
<td>2032</td>
</tr>
<tr>
<td>Severely Under Occupied</td>
<td>8778</td>
<td>33.5%</td>
<td>15090</td>
<td>57.7%</td>
<td>793</td>
</tr>
<tr>
<td>Grand Total</td>
<td>31574</td>
<td>37.1%</td>
<td>28092</td>
<td>33.0%</td>
<td>6560</td>
</tr>
</tbody>
</table>

Source: Salford City Council

5.13 In the private sector, from the Private Sector Stock Condition Survey (PSSCS) in 2011, there are 3,527 households classed as overcrowded (4.2% of the stock). Within private sector housing, ward estimates around overcrowding have been done from the PSSCS. Pendlebury and Swinton, Irwell Riverside and Broughton have the highest percentages of overcrowded homes.

<table>
<thead>
<tr>
<th>Ward</th>
<th>Overcrowding</th>
<th>Fuel Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barton</td>
<td>167 (3.9%)</td>
<td>1483 (34.1%)</td>
</tr>
<tr>
<td>Broughton</td>
<td>288 (6.0%)</td>
<td>1615 (33.9%)</td>
</tr>
<tr>
<td>Eccles</td>
<td>204 (4.5%)</td>
<td>1181 (26.2%)</td>
</tr>
<tr>
<td>Irwell Riverside</td>
<td>223 (6.1%)</td>
<td>983 (27.0%)</td>
</tr>
<tr>
<td>Kersal</td>
<td>55 (1.3%)</td>
<td>1719 (39.5%)</td>
</tr>
<tr>
<td>Langworthy</td>
<td>225 (4.9%)</td>
<td>1710 (37.2%)</td>
</tr>
<tr>
<td>Little Hulton</td>
<td>152 (5.1%)</td>
<td>454 (15.0%)</td>
</tr>
<tr>
<td>Walkden North</td>
<td>150 (3.9%)</td>
<td>1395 (36.7%)</td>
</tr>
<tr>
<td>Ordsall</td>
<td>162 (2.2%)</td>
<td>574 (7.7%)</td>
</tr>
<tr>
<td>Winton</td>
<td>26 (0.7%)</td>
<td>1176 (31.8%)</td>
</tr>
<tr>
<td>Islam and Cadishead</td>
<td>136 (2.0%)</td>
<td>1796 (25.9%)</td>
</tr>
<tr>
<td>Claremont, Weaste and Seedley</td>
<td>377 (4.1%)</td>
<td>1578 (17.4%)</td>
</tr>
<tr>
<td>Boothtown and Ellenbrook, Worsley, Walkden South</td>
<td>234 (1.9%)</td>
<td>3309 (26.6%)</td>
</tr>
<tr>
<td>Pendlebury, Swinton North and South</td>
<td>1070 (8.6%)</td>
<td>2528 (20.3%)</td>
</tr>
</tbody>
</table>

Source: Salford City Council

5.14 **Sudden Unexpected Death in Infancy (SUDI)**

SUDI is the term used to describe any sudden and unexpected death during infancy. Subsequent investigations may determine the cause of death, but there will remain some that are unexplained even after examination. These maybe classified as

\(^3\) Overcrowding is determined by looking at the age and gender of occupants to determine the number of bedrooms required, and comparing this with the number of bedrooms present within the dwelling.
sudden infant death syndrome (SIDS), particularly if the child died during sleep. The risk factors for SUDI include smoking, especially if the mother smoked in pregnancy, consumption of alcohol, medication or drugs that induce heavy sleep and sleep position (including how and where the baby lies). The protective factors include breastfeeding, room sharing for the first six months and lying the baby down on their back (Sleep Safe, 2011).

5.15 A review of all SUDI cases across Bolton, Salford and Wigan was undertaken by the Consultant in Public Health in Bolton across 2008/09 – 2011/12. 30 cases were categorised as SUDI by the Child Death Overview Panel. 3 were neonatal cases, with the deaths occurring in, or soon after leaving, hospital. Of those remaining, 24 cases were reviewed for analysis. This revealed that, where this information was recorded, smoking was a feature of over 80% of the deaths, and there were low levels of breastfeeding, and a high proportion of the families had complex social needs, including mental health issues, substance misuse, domestic abuse and housing issues. 21% of the deaths were in Salford (although there are a number of cases that remain outstanding, pending review and closure by the CDOP panel, so this may increase). In 60% of these, co-sleeping with a parent was a feature, in the parent’s bed and on a sofa.

5.16 Teenage Pregnancy
Infant mortality for children of teenage parents is 60% higher than for babies of older women (Berthoud, 2001). Historically the rate of teenage conceptions in Salford has consistently been higher than the regional and national figures. A downward trend has been shown since a peak in 2007 but the rate is almost 40% higher than that of England in 2009 at 54.1 (per 1000) compared to 38.2 (per 1000) in England.

5.17 Teenage conception data has been calculated locally to offer more timely information than published figures. Areas with a rate more than 25% above the Salford average for the time period are Ordsall, Langworthy, Irwell Riverside, Winton, Swinton North and Little Hulton.

5.18 Ante-natal care:
The proxy indicators chosen for this are booking by teh 12th week of pregnancy and Healthy Start uptake.
5.19  **Booking by the 12th week of pregnancy**
This is encouraged to ensure that pregnant women receive advice, support and appropriate tests and scans to ensure a healthy pregnancy. Salford Royal Foundation Trust (SRFT) provided data relating to pregnant women from July 2009 to June 2011. Worsley and Swinton South have a significantly lower result than the Salford average for women not booking in with a midwife, however Broughton and Kersal are significantly higher than the Salford average. This means that more women in Broughton and Kersal were not booking in with a midwife by 12 weeks, as compared to the Salford average of 8.5% over the same time period. There is significant variation across the city but the reasons for this remain unclear.

![Patients not booked in with a midwife by 12 weeks by Ward, Salford Q2 2009/10 - Q1 2011/12](chart)

Source: SRFT

5.20  **Healthy Start Scheme**
This is a statutory scheme providing a nutritional safety net and encouragement for breastfeeding and healthy eating for over half a million pregnant women and children under four in low income and disadvantaged families across the UK. It provides vitamin supplements and vouchers for fruit and vegetables and baby milk powder.

<table>
<thead>
<tr>
<th>June 2011</th>
<th>Healthy Start scheme uptake</th>
<th>Children’s drops uptake</th>
<th>Women’s tablets uptake</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>79.6%</td>
<td>2.0%</td>
<td>2.7%</td>
</tr>
<tr>
<td>North west</td>
<td>80.9%</td>
<td>2.1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Salford</td>
<td>81.6%</td>
<td>0.9%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>

Source: Department of Health

5.21  The scheme uptake is based on those who are in the scheme with those who are eligible according to HMRC tax credits and Job CentrePlus. The vitamin uptake is based on assumptions of how many women and children are actually on the scheme and should therefore be getting vitamins. The Salford take up of the Healthy Start Scheme is higher than that of the North West and England. However, the actual uptake of vitamins for both women and children is under 2%.
6 Evidence for Effective Interventions

6.1 The key strategic messages from the work of the NST were around the need for clear leadership, effective cross-agency working, integrated commissioning, community engagement, understanding of the preferences and needs of the local population and monitoring of a scorecard/database of risk factors for infant mortality.

6.2 The key messages from the small group discussions conducted by the NST were around the importance of promoting breastfeeding and raising the awareness of Healthy Start, the need for closer working between health and housing agencies, clear care pathways for the management of obese pregnant women and their partners, clear communication plans about the risk factors for sudden unexpected deaths in infancy, clear referral pathways to stop smoking services and the importance of a coherent approach to reducing teenage pregnancies in disadvantaged groups.

7 Current Service Provision

7.1 What follows is a snap-shot of some of the interventions currently taking place within Salford.

7.2 Breastfeeding
Salford is working towards the UNICEF Baby Friendly Initiative in the community. The stages of this award ensure that organisations have systems, training and practice in place to promote, support and protect breastfeeding. Salford community services have attained a Stage One award. Peer breastfeeding support is offered to all breastfeeding women to help support them in continuing. There are paid staff and volunteers within the Health Improvement Service. The volunteers assist the breastfeeding groups which take place across the city every week, where women can find the real-life support they want.

7.3 Family Poverty Work
Ending family poverty and improving the life chances of residents is a top priority for the council and its partners. Salford’s strategy to end family poverty (Aug 2011) provides the vision through which the council and partners can work together to improve life chances, building on what works and joining up investment, services and community effort. Shared outcomes have been agreed and these are providing the framework for investment to improve the life chances of residents and reduce family poverty. Salford’s Supporting Families programme will provide a targeted and joined up approach to help families with multiple needs. The City Council and its partners will work together to help families improve economic prosperity, reduce health inequalities, raise aspirations and achievement and make a positive contribution to a safe and stable living environment.

7.4 Healthy Weight
ABL Health have been commissioned to provide weight management support to pregnant women, as part of the new adult level 3 weight management service which began Autumn 2011. This is a multi-disciplinary approach providing structured interventions, including nutritional support, physical activity and behaviour change. In addition, the Family Weight Management programme is delivered to families with children aged 0-16. The programme is run over a 12 week period and combines group and one to one support in nutrition and behaviour change for the family, and physical activity sessions for the children. For families with children under 5 years, the programme is delivered universally and children above a healthy weight are given additional support.
7.5 **Stop Smoking**
Smoking in pregnancy is addressed through the Stop Smoking in Pregnancy team consisting of three part time staff. All pregnant smokers should be identified at booking and front line staff refer pregnant smokers to the service. New resources have been made for the team recently in an attempt to increase referrals. The team get about 400 referrals a year but only about 50% of those actually make an appointment for help to quit. Unlimited Potential (social enterprise) is commissioned to deliver Smoke Free Spaces with a focus on protecting families with children under 16 from second hand cigarette smoke. Data collected since 2007-08 shows that this programme has achieved 14,500 smoke free homes (82% with a Gold Award where smokers agree to only smoke outside their home) and 13,300 children under age 16 are protected from the harmful effects of second hand smoke.

7.6 **Housing Provision**
Salford has recently undertaken a pilot project to tackle overcrowding in social housing. In addition to granting additional priority for rehousing to households who are under-occupying social housing, there is an improved programme of mutual exchanges, which makes it easier for social housing tenants to swap homes, enabling overcrowded tenants to move to larger homes. Following the successful pilot, a series of customer events will be held to enable tenants to receive high quality advice and assistance to tackle their housing needs.

7.7 **Sleep Safe Campaign**
The Bolton, Salford and Wigan Child Death Overview panel, and the Safeguarding Children Boards in each area, have developed and agreed a three-year joint campaign to promote safe sleeping across the areas to reduce Sudden Infant Death Syndrome (SIDS). There is a particular focus on the risks associated with sharing a sleep surface with the baby. The campaign has clear guidance for staff from a variety of agencies, to ensure consistent messages are given to parents around the risk and protective factors for SIDS. In addition, all new parents are offered a Sleep Safe risk assessment by their midwife and health visitor to promote safer sleeping arrangements.

7.8 **Teenage Pregnancy**
There is a local strategy and action plan outlining the key actions being undertaken to reduce teenage pregnancy. These include increasing provision of contraception and sexual health services to ultimately increase young people’s usage of contraception; delivery of Teens and Toddlers Programmes in High schools with high conception rates for targeted young people at risk of teenage pregnancy; delivery of Gencia’s Social Norming programmes in targeted high schools, to engender positive peer pressure to reduce risky health behaviours, including early pregnancy; provision of tailored support packages for pregnant teenagers and teenage parents to mitigate the impact of teenage pregnancy; working with high schools to increase attendance and attainment, by early identification and preventative intervention through team around the school; offering schools online materials and training on relationships and sex education and training frontline staff on brief interventions on sexual health through Make Every Contact Count programme.

7.9 **Preconception Social Marketing**
A Social Marketing company were commissioned by NHS Salford to explore the possibility of a preconception social marketing campaign, focusing on encouraging local women of childbearing age, and their families, to adopt healthy lifestyle options whilst looking to conceive and also in the antenatal period. This would cover healthy weight and vitamins, smoking and alcohol consumption. Messages were tested with local women to explore what works for Salford women in encouraging them to take...
on board health advice and also to understand where and how these messages need to be promoted. The results from this work will form part of the Way to Wellbeing Portal when this is finalised.

7.10 Healthy Start Vitamins
Training on vitamin D and Healthy Start is mandatory training for HV teams, Infant Feeding Workers and Children's Centre workers. This aims to ensure that all women receive the message about vitamin D to reduce the risk of rickets, fractures and fits due to vitamin D deficiency. Salford is participating in the Supra District Audit looking at midwifery and Health visiting staff to check that the message about Healthy Start is getting out. The number of clinics and children's centres where the vitamins are available has been increased recently, also increased are the number of stockists that sell the vitamins as well as accept the vouchers.

8 Conclusions

8.1 Infant mortality in Salford is not following a steady downward trajectory as is the case in England and the North West, however it is hard to interpret this data at individual ward level. This is why it is important to examine the contributing factors to high rates of infant mortality. Maternal health is closely related to infant health, and information is needed on both to help reduce infant mortality. The breastfeeding initiation rate in Salford remains below the England rate and it is important to focus on areas traditionally unlikely to breastfeed to encourage the 'normalising' of breastfeeding in these areas. For Salford this includes Irlam, Little Hulton and Walkden North, predominately white areas in disadvantaged neighbourhoods. Tackling poverty remains critical to the success of reducing infant mortality in Salford, particularly those areas with an above average percentage of children in poverty like Irwell Riverside, Langworthy, Broughton, Ordsall and Little Hulton.

8.2 The data on levels of obesity amongst pregnant women in Salford was unavailable, and there is a recommendation to try to resolve this. Regarding smoking during pregnancy, it is important to continue to address this Salford-wide as Salford is above the target for England. However work needs to be targeted in areas where higher numbers of women smoke in pregnancy so that this does not widen inequalities, areas like Winton and Little Hulton in particular. Work needs to be undertaken to address rates of overcrowding within social housing and the private sector because of the impact that this has upon levels of SUDI.

8.3 Ordsall, Langworthy, Irwell Riverside, Winton, Swinton North and Little Hulton are more than 25% above the Salford average for teenage pregnancy and need to be the focus of continued work. The number of mothers booked in with a midwife by the 12th week of pregnancy remains high across Salford, which is positive. However there is a pocket within Broughton and Kersal where this is not the case and this should be investigated further. There is a clear need to work to increase uptake of Healthy Start vitamins across Salford, and this remains a key piece of work for the future.

9 Recommendations

9.1 To reduce the numbers of infant deaths in Salford, a partnership approach is needed recognising the complex and cumulative nature of the key risk factors. In response to this there needs to be:
   • a focus on the promotion of breastfeeding because of its importance to babies long-term health
• a recognition of the importance of reducing the impact of deprivation on a child’s health, social, emotional, material and cultural development and delivering the Family Poverty Strategy
• routine collection and dissemination of maternal health data including smoking status and the BMI data of pregnant mothers
• the targeting of smoking messages in key wards with a high percentage of women who smoke during pregnancy
• monitoring and evaluation of the Sleep Safe campaign to determine its effectiveness
• a recognition of the importance of suitable housing to a child’s long term health
• a recognition of the importance of raising aspirations amongst young women in Salford and delivering the teenage pregnancy strategy
• the need for awareness-raising and training around the importance of Vitamin D
• given the importance of midwifery to this agenda, investigate opportunities to influence the training programme for midwives within Salford University

9.2 In the light of the above, NHS Salford and Salford City Council governance groups need to recognise the part they play in reducing the risk factors that contribute to a lowering of infant mortality, and the importance of targeting their work to ensure a reduction in inequalities in infant mortality. There is a need to disseminate the information within this report to promote wider awareness through a key facts document.

9.3 Data collection remains a key issue:
• investigate the reason for the unavailability of key data items (see missing data items below) and negotiate with contracting the recording of required data items, including the BMI of the mother
• investigate further the significance of the anomaly within Broughton and Kersal regarding 12 week booking data

9.4 Delivery of the above recommendations will support the achievement of the principle Marmot recommendation of ensuring that all children receive the best start in life.

Missing data items
Previous pregnancies
Previous terminations
Nationality
Birthplace of mother
Booked in by 12 weeks
Gestational age
Multiple births
Congenital abnormalities
Smoking during pregnancy
Gestational diabetes
(Information recorded at source but left on mothers’ hand held pregnancy notes).

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