Briefing paper – Review of Infant Mortality Rates (IMR) in Harrow	
Prepared by:	***Dr Anandhi Nagaraj*** ***Public Health Consultant*** ***NHS Harrow***
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1. Introduction

This report presents the current trends in the rates of Infant Mortality in Harrow, examines the potential causes of infant death at a population level, reviews the actions taken to address the issue and outlines future priorities for action.

2. Background

Data from the Office for National Statistics (ONS) for the year 2009 had shown an increase in the number of infant deaths compared to 2008; provisional data for 2010 appears to confirm this finding. A detailed epidemiological analysis was undertaken by the public health team in Harrow to examine this trend (a summary of the work is attached at appendix one). A stakeholder workshop was held to discuss the findings of the analysis, and agree priorities for future work.

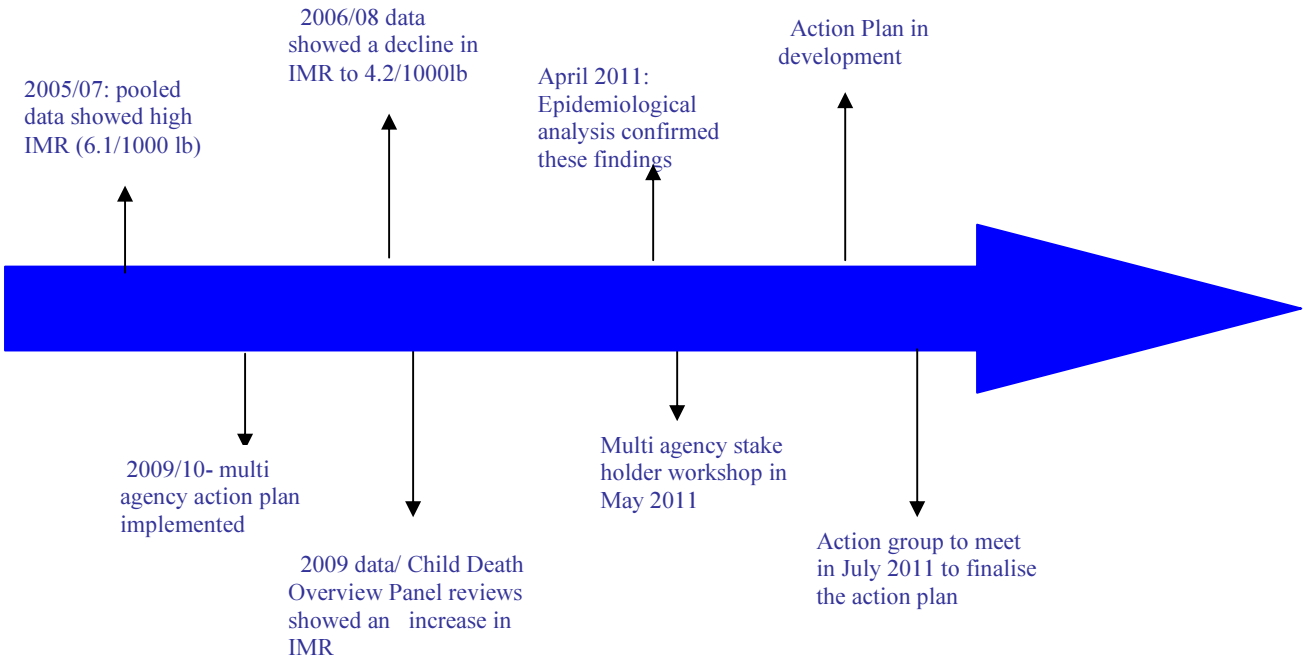
3. Key findings from the analysis of Infant Mortality rates (appendix one)

The analysis confirmed:

1. An increase in the number of infant deaths in 2009 and 2010 compared to 2008
2. No single factor could be considered as a main determinant of this recent increase in the number of infant deaths
3. The majority of deaths were in infants from the Black and Minority Ethnic groups
4. National and local research evidence suggests that a number of risk factors for infant mortality need to be addressed:
    - Child poverty and overcrowding
    - Late antenatal booking (after 12 weeks) and late access to antenatal screening
    - Low birth weight babies
    - Vaccination rates by one year of age
    - Access to interpretation services

4. Addressing infant mortality rates in Harrow: future action

It is apparent that action has been ongoing for at least the last 4 years to address this issue in Harrow.



On the 23rd May 2011 a multiagency stakeholder workshop took place attended by representatives from the local authority, the acute hospital trust (consultant paediatricians, midwifery lead), health visitor services, the PCT, General Practice and the Local Safeguarding Children's Board. The meeting examined the findings of the report (appendix one) and discussed and agreed areas for further action. The previous 2009/10 action plan is currently being refreshed but is likely to bring renewed focus to:

- Addressing the issue of children living in poverty
- Addressing overcrowding
- Improving antenatal booking by 12 weeks and improving uptake of antenatal screening
- Improving maternal and child nutrition and breastfeeding coverage with a special focus on hard to reach groups
- Implementing a programme of access to healthy start vitamins for pregnant women which will reduce the number of low birth weight babies
- Ensuring that adequate interpretation services are available

The stakeholder group will be meeting again in July 2011 to agree the final implementation plan. Future progress will be overseen and monitored by the Children's Commissioning Executive group for Harrow.

Appendix one

DRAFT

Analysis of Infant Mortality in Harrow

May 2011

1. Introduction

In 2008 the infant mortality rates (IMR) in Harrow were found to be higher than the national and London rates from the pooled 2005-07 data. A multiagency group was convened in 2008 to look into this issue which met 4 times a year and an infant mortality action plan was developed based on local and national evidence. This was implemented in 2009. The Harrow 'Be Healthy' group which was a subgroup of the Children's trust acted as the monitoring board for the action plan. The subsequent pooled data for 2006 -08 showed a substantial reduction in the number of deaths (IMR reduced to 4.1 per 1000 live births).

However, the ONS data for 2009 and the data from the Child Death Overview Panel (CDOP) which reviews every child death in Harrow highlighted the problem of a higher number of infant deaths in 2009. Moreover, provisional data from the ONS for 2010 also showed a similar picture. To investigate this further, the Harrow public health team carried out a detailed analysis of all infant deaths that happened in Harrow in 2009 using the data from the National Centre for Health Outcomes Development, the Office for National Statistics (ONS) and hospital activity data.

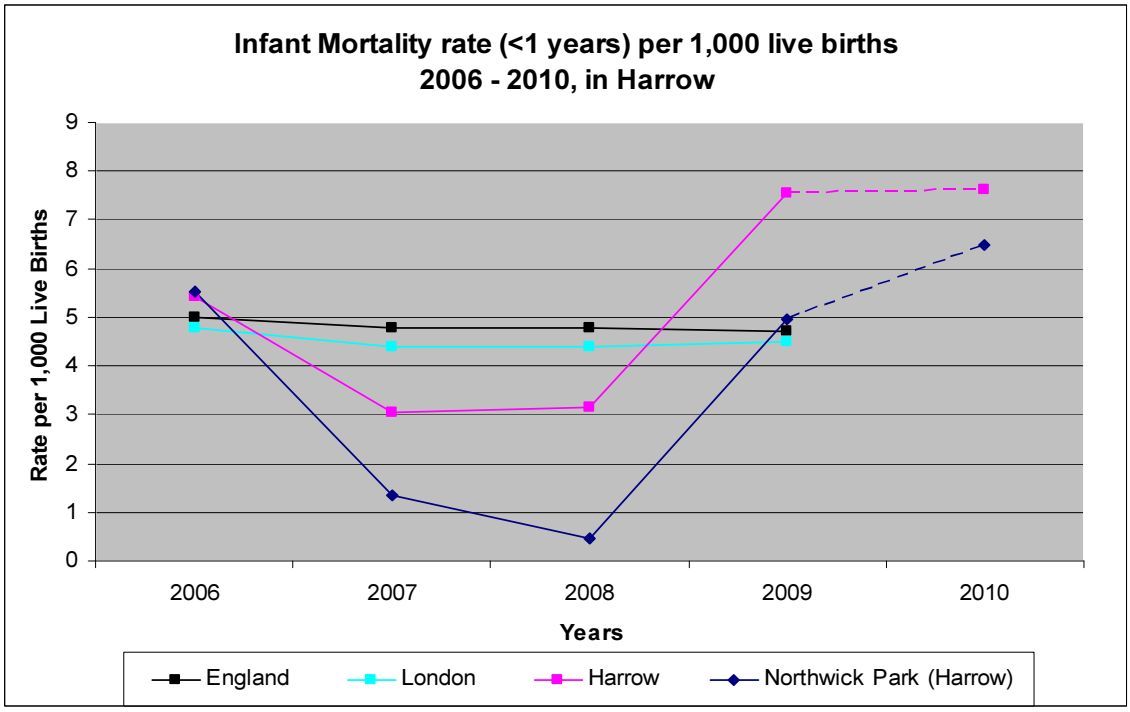
This report aims to investigate this issue in detail by considering the evidence available locally and also by looking into the evidence base for tackling infant mortality. This report aims to address the following issues:

1. the possible causes for this rising trend
2. the evidence base to tackle this problem
3. whether any additional audit or study is required
4. what further action is needed

2. Trends in Infant mortality rates: what the data shows

The IMR in Harrow has shown an increase in the years 2009 and 2010 when compared to the previous years and the rates were also higher than the London and national rates in these two years (figure one). The IMR in North West London Hospitals, as the major provider of maternity services for Harrow, was also examined and shows a corresponding increase in IMR over these two years.
Examination of the the neonatal mortality rate (deaths in the first 28 days of life) also confirmed an increase in 2009 and 2010.

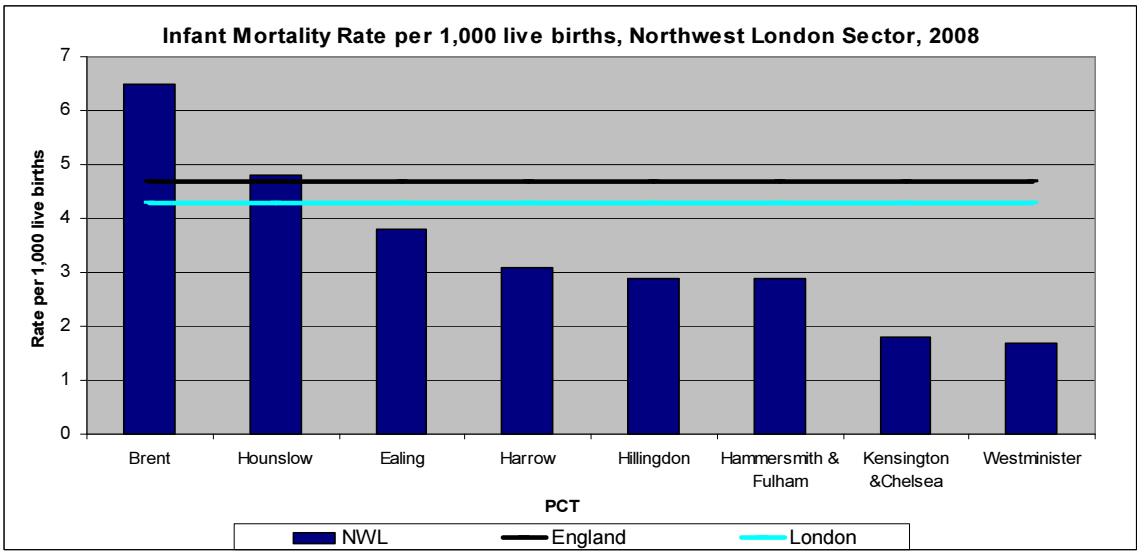
Figure 1 Graph of Infant Mortality rate, in Harrow 2006-2010



Source: ONS Mortality Statistics: Childhood, Infant and perinatal, 2006 to 2009 and ONS Public Health Mortality and Birth Files, analysed by Harrow Public Health Informatics, March 2011

Harrow had lower infant mortality rates when compared to other boroughs in the North West London Sector in 2008 which is the most recent comparative data currently available (figure 2).

Figure 2. Infant Mortality rate for Northwest London Sector, 2008



Source: NCHOD, Compendium of Indicators 2008, analysed by NHS Harrow Public Health Informatics, March 2011

3. Potential causes for the rise in infant mortality in Harrow

Examination of information on the cases of child death in Harrow has revealed:

- Prematurity and congenital anomalies were the two major contributory factors for infant deaths in Harrow
- The number of deaths due to extreme prematurity (<22 weeks) has increased over the years both nationally and in Harrow. For example, the CMACE (Centre for Maternal and Child enquiries) report shows that there were no deaths due to extreme prematurity in Harrow in 2006 but in 2009, approximately 11% of infant deaths were due to extreme prematurity.
- Late registration for antenatal care (registering after 12 $^{+6}$ days in several cases)
- Declining the offer of screening due to religious reasons was noted in some child death reviews. This may be due to lack of provision of adequate information to aid informed decision making.
- Access to interpretation services for mothers from BME groups was also highlighted as an issue in some cases
- The majority of deaths were in infants from the Black and Minority Ethnic groups

Infant mortality is a national indicator for tackling inequalities. ChiMat (the Child and Maternal Observatory) has looked into all the possible risk factors for Infant Mortality and has produced IMR profiles for each PCT in England (fig 3). This shows that the key risk factors for Harrow (i.e. were current performance is below average for England) were children in poverty, overcrowding, low birth weight babies, late antenatal booking and poor vaccination rates by 1 year of age.

Figure 3. Infant mortality profile for Harrow.

Source: CHIMAT database 2009/10

Infant Mortality Profiles

Indicator	Area	Number	Value	Eng. Avg.	England Worst	Current Performance	England Best
Children living in poverty	Harrow PCT	10,239	24.40	22.44	66.5		10.2
Index of Multiple Deprivation	Harrow PCT		15.59	23.73	48.3		8.1
Child Wellbeing Index	Harrow PCT		125.05	168.68	358.8		69.4
▼ Socio-demographics							
Overcrowded households, %	Harrow PCT	9,454	11.95	7.13	29.8		2.7
BME population, %	Harrow PCT	114,500	53.36	16.35	68.4		3.6
▼ Teenage conceptions							
Teenage conception rate (age <18 years)	Harrow PCT	338	27.30	41.2	79.1		21.1
Change in teenage conception rate, %	Harrow PCT		9.90	1.20	-12.7		17.8
▼ Pregnancy and infancy							
Smoking in Pregnancy, %	Harrow PCT	44	5.75	13.48	30.7		2.6
Breastfeeding Initiation, %	Harrow PCT	643	84.05	73.54	39.8		96.6
Low birth weight (<2500g), %	Harrow PCT	274	8.60	7.50	11.2		4.9
Totally or partially breastfed (age 6/8 weeks),%	Harrow PCT	492	73.7	44.91			
Antenatal assessement by 12 weeks, %	Harrow PCT	478	68.80	83.10	61.8		100
▼ Immunisations							
Completed MMR (by age 2 years), %	Harrow PCT	2,320	84.4	88.20			
Completed Diphtheria, Tetanus, Polio, Pertussis, Hib (by age 2 ye...	Harrow PCT	2,618	95.2	95.30			
Completed MenC immunisation (by age 2 years), %	Harrow PCT	2,548	92.69	94.20	79.8		99.1
Completed Diphtheria, Tetanus, Polio, Pertussis, Hib (by age 1 ye...	Harrow PCT	2,622	91.58	93.60	81.2		98.3
Completed MenC (by age 1 year), %	Harrow PCT	2,561	89.45	92.70	73.3		98.2

Significance compared with England average: worse ● better ● none ● could not be calculated

England Average | Regional Value ◆

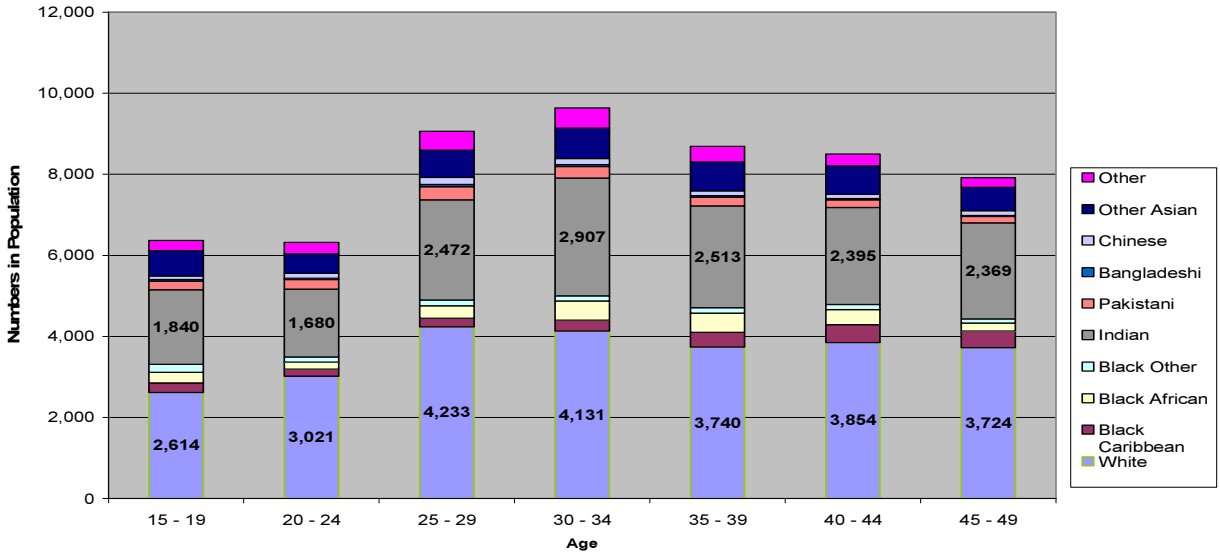
Q0 to Q1 Q1 to Q3 Q3 to Q4

Changing demographic trends in births

One of the reasons underlying such an increase in the number of infant deaths could be the change in the demographic structure with an increasing BME population. However, the maternity needs assessment carried out in 2010 showed that less than 50% of women in the reproductive age group were from BME groups in 2008 (figure 4). It should be noted and this is likely to increase by 6% by 2016 while there will be a decline in the number of white women by 15% during the same period. There is no evidence to show that there has been a significant change in the population structure in 2009 when compared to 2008.

A national review of maternity care by the Care Quality Commission in 2008 showed that women from BME groups were less likely to exercise choice regarding the place of delivery, less likely to book by 12 weeks and less likely to receive a scan by 20 weeks.

Figure 4. Ethnic composition of women aged 15 to 50 years in Harrow (2008)



Source: GLA Population Round Population Projections, 2008.

4. Evidence base for preventing infant mortality

The Department of Health's 'Implementation Plan for Reducing Health Inequalities in Infant Mortality: A Good Practice Guide' has identified seven interventions that will contribute to reducing the IMR in the routine and manual (R&M) groups by 11.4 percentage points and help meet the national inequalities target in areas with high IMR. The interventions are:

- Reducing the prevalence of obesity in the R&M group to the current levels in the population as a whole;
- Meeting the national target to reduce smoking in pregnancy from 23% to 15% and meeting this target in the R&M group;
- Reducing sudden unexpected death in infancy (SUDI) by persuading 1 in 10 women in the R&M group to avoid sharing a bed with their baby or putting their baby to sleep prone (on its front);
- Achieving the teenage pregnancy strategy to reduce the under-18 conception rate in the R&M group by 50% compared with 1998 levels;
- Meeting the child poverty target to halve the number of children in relative low-income households between 1998–99 and 2010–11, by increasing the income in the R&M group by an average of 18%;
- Reducing housing overcrowding in the R&M group through the effect on reducing SUDI.

Additional research evidence suggests that other key interventions that can be applied to the entire population include:

- Promoting early antenatal booking especially among the hard to reach groups
- Improving antenatal screening
- Reducing obesity in pregnancy
- Improving maternal and child nutrition

5. Conclusions

The findings from the different information sources show that despite a drop in 2006-08 following the implementation of the Infant Mortality Rate action plan, the infant mortality rate has increased again in 2009 and in 2010.
Prematurity and congenital anomalies are significant contributors to the increase in the IMR; this finding is in line with the national picture. Late antenatal booking and low birth weight are other major risk factors for a high IMR.
The increase in the number of infant deaths in BME groups shows that this group remains a hard to reach group for antenatal, natal and postnatal care. Access to interpretation services for mothers from BME groups is also an issue in Harrow.

6. Recommendations

Action is required from all partner agencies to:

1. Review the current Infant Mortality Rate action plan
2. Address the the issue of children living in poverty
3. Address overcrowding
4. Improve antenatal booking by 12 weeks and breastfeeding coverage with a special focus on hard to reach groups.
5. Ensure distribution of healthy start vitamins through children centres and other venues as appropriate
6. Ensure that interpretation services are available to reach women from BME groups

Dr. Anandhi Nagaraj
Consultant in Public Health Medicine
NHS Harrow