Reducing inequalities in infant mortality in Leeds

Dr Sharon Yellin
Consultant in Public Health Medicine
NHS Leeds
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Why infant mortality?

INFANT MORTALITY:
The numbers of deaths of children aged under one year per 1000 live births

- Sensitive indicator of a broad range of factors affecting children’s health
- “Tip of the iceberg” of child health problems
- Important health problem
## INTERNATIONAL IM RATES: COMPARISON BETWEEN SELECTED COUNTRIES 2005-10

<table>
<thead>
<tr>
<th>RANK</th>
<th>COUNTRY</th>
<th>IM RATE /1000 LIVE BIRTHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Iceland</td>
<td>2.9</td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>3.2</td>
</tr>
<tr>
<td>5</td>
<td>Norway</td>
<td>3.3</td>
</tr>
<tr>
<td>12</td>
<td>France</td>
<td>4.2</td>
</tr>
<tr>
<td>14</td>
<td>Germany</td>
<td>4.3</td>
</tr>
<tr>
<td>22</td>
<td>England</td>
<td>4.8</td>
</tr>
<tr>
<td>23</td>
<td>Canada</td>
<td>4.8</td>
</tr>
<tr>
<td>33</td>
<td>USA</td>
<td>6.3</td>
</tr>
<tr>
<td>48</td>
<td>United Arab Emirates</td>
<td>8.2</td>
</tr>
<tr>
<td>58</td>
<td>Thailand</td>
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<tr>
<td>71</td>
<td>Argentina</td>
<td>13.4</td>
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<td>81</td>
<td>Russia</td>
<td>16.1</td>
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<td>103</td>
<td>China</td>
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<tr>
<td>115</td>
<td>Egypt</td>
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<tr>
<td>130</td>
<td>South Africa</td>
<td>44.8</td>
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<tr>
<td>194</td>
<td>Afghanistan</td>
<td>157.0</td>
</tr>
<tr>
<td>195</td>
<td>Sierra Leone</td>
<td>160.3</td>
</tr>
</tbody>
</table>
Figure 1. Infant mortality rates, selected countries, 2005

Singapore 2.1
Sweden 2.4
Hong Kong 2.4
Japan 2.8
Finland 3.0
Norway 3.1
Czech Republic 3.4
Portugal 3.5
France 3.6
Belgium 3.7
Greece 3.8
Germany 3.9
Ireland 4.0
Spain 4.1
Switzerland 4.2
Austria 4.2
Denmark 4.4
Israel 4.6
Italy 4.7
Netherlands 4.9
England and Wales 5.0
Australia 5.0
New Zealand 5.1
Scotland 5.2
Canada 5.4
Hungary 6.2
Cuba 6.2
Northern Ireland 6.3
Poland 6.4
United States 6.9
Slovakia 7.2

Rate per 1,000 live births

## INFANT MORTALITY RATES 2008-2010 FOR LEEDS, YORKSHIRE & HUMBER, AND ENGLAND & WALES

Source: NCHOD

<table>
<thead>
<tr>
<th></th>
<th>Rate per 1000 live births</th>
<th>LCI</th>
<th>UCI</th>
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<tbody>
<tr>
<td><strong>ENGLAND &amp; WALES</strong></td>
<td>4.5</td>
<td>4.5</td>
<td>4.6</td>
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<tr>
<td><strong>YORKSHIRE AND THE HUMBER</strong></td>
<td>5.4</td>
<td>5.0</td>
<td>5.7</td>
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<tr>
<td><strong>LEEDS PCT</strong></td>
<td>4.9</td>
<td>4.2</td>
<td>5.7</td>
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46 Leeds babies aged under 1 year died in 2010

Leeds rate is not statistically significantly higher than England & Wales
INFANT MORTALITY TRENDS FOR LEEDS, YORKSHIRE & HUMBER, ENGLAND 1999-2010

Rate per 1,000 live births

- England
- Y & H
- Leeds

Years:
- 1999-2000
- 2000-2002
- 2001-2003
- 2002-2004
- 2003-2005
- 2004-2006
- 2005-2007
- 2006-2008
- 2007-2009
- 2008-2010
National statistics and ethnicity

- Caribbean and Pakistani babies are more than twice as likely to die before age one than White British or Bangladeshi babies.
- For Caribbean babies, in part due to higher prevalence of pre-term delivery.
- For Pakistani babies, in part due to higher prevalence of congenital anomalies.
The national inequalities target

- Starting with children under one year, by 2010 to reduce by at least 10% the gap in mortality between the routine and manual group and the population as a whole. The baseline is 1997-9.

- Routine and manual group includes lower supervisory and technical, semi-routine and routine occupations eg porters, cleaners, bar staff, waiters, sales assistants, catering assistants, train drivers, call centre workers, electricians and sewing machinists.
Infant mortality by Socio-economic Group
England and Wales 1994 – 2008 and target and projection\(^1\) for the year ‘2010’

Rate per 1,000 live births

- **Baseline**
- “Routine and Manual” Socio-economic Groups
- “All\(^3\)”

- Absolute difference in rate\(^1\)
- Target
- Relative difference in rate\(^1\)
- Projection\(^2\) of infant mortality amongst all\(^3\) deaths
- Target Reduction

Target: 10% minimum reduction in relative gap, from 13% in 1997-99 to 12% in 2009-11
What can we say about inequalities between different parts of Leeds?

- Statistical problems
- Small numbers
- Difficult to compare different areas within Leeds – confidence intervals are wide
INFANT MORTALITY BY WARD: 10 YEAR AGGREGATED DATA

Infant Mortality 10 Year Aggregate Rates

Rate Per 1000 Live Births

Geographical Area
A local target: To reduce IM rate in “deprived Leeds” to 5.5 per 1000 live births by 2013 (baseline 2008-10)
Low birthweight rate: number of babies weighing under 2500g as a percentage of total births

Low Birth Weight 5 year Aggregate Rates

Deprived
Not Deprived
Leeds
Low Birthweight

- Closely linked with infant mortality
- Two thirds of infant deaths are among LBW babies
- Similar risk factors to infant mortality: congenital anomaly, multiple pregnancy, socio-economic deprivation, teenage pregnancy, older motherhood, poor nutrition, alcohol & drug use during pregnancy, smoking during pregnancy
The Leeds Infant Mortality Programme

- Based on the “Scarf” diagram – evidence based interventions published in national implementation plan.
- Assisted by NST visit January 2009
- Targeted into areas of greatest need
- “Demonstration sites” in Chapeltown and Beeston Hill
Identifiable actions to reduce the gap in infant mortality


Reducing conceptions in <18 years in R&M group by 44% to meet the 2010 target

Targeted interventions to prevent sudden unexpected infant death by 10% in the R&M group

Reducing the prevalence of obesity in the R&M group to 23%

Reducing over-crowding in the R&M group, through its effect on sudden unexpected infant death

Reducing smoking in pregnancy rate by 2 percentage points by 2010

Meeting the child poverty strategy

Immediate actions
- Optimising pre-conception care
- Early booking
- Access to culturally sensitive healthcare
- Reducing infant and maternal infections

Long term actions
- Improving infant nutrition
- Improving maternal educational attainment
Aspects of the Leeds IM Action Plan (1)

- **Breastfeeding**
  - 67% initiation 47% maintenance
  - Food4Life Action Plan
  - Baby Friendly Initiative – community & hospital
  - Social marketing work in South Leeds
  - Peer support programmes

- **Maternity Services**
  - 97% assessment by 12 weeks
  - Health equity audit of early booking
  - BME midwife
  - Asylum seeker pathway, G&T pathway
  - Caseload midwifery
Aspects of the Leeds IM Action Plan (2)

- **Screening**
  - 99% uptake of Hepatitis B screening
  - Combined Down’s Syndrome screen Dec 2010
  - Review of antenatal haemoglobinopathy screen
  - Review of bloodspot pathways

- **Child Poverty**
  - Leeds Strategic Outcomes Group established
  - Child poverty needs assessment complete
  - Strategy and implementation plan being developed
Aspects of the Leeds IM Action Plan (3)

- **Reducing obesity in women of child bearing age**
  - BMI data collection improved. 19% with BMI >30
  - Ministry of Food established
  - Dietetic post concerned with maternal obesity
  - Care pathway for overweight pregnant women developed and being implemented

- **Reducing smoking in pregnancy**
  11-12% current smoking at delivery
  - Mandatory training for midwives, CO monitoring
  - Smoke Free Homes, SOS scheme, MLASS
  - Fresh Air Babies
Aspects of the Leeds IM Action Plan (4)

- **Sudden unexpected death in infancy**
  - Local health visiting policy reviewed
  - Social marketing work in target areas
  - Early Start Pathway to be developed

- **Reducing over-crowding**
  - Work in Demonstration Sites
  - Training for health staff, and for housing staff
  - Pathway for referral of teenage parents
Aspects of the Leeds IM Action Plan (5)

- **Reducing teenage conceptions and supporting teenage parents**
  - Rate 44.5 conceptions per 1000 women aged 15-17. This is 12% reduction from baseline in 1998
  - Wide ranging programme under TPP Board
  - Teenage pregnancy maternity pathway
  - Family Nurse Partnership expansion

- **Cousin marriage**
  - Links with Bradford & Kirklees, event held May ‘12
  - Influenced commissioning of Genetics services
  - Training for frontline staff
  - Social marketing project with Sheffield University
Demonstration Sites

- Small areas with high levels of need
- Chapeltown and Beeston Hill
- “Flood” the areas initiatives drawing on the evidence base of the Scarf diagram
- Positive evaluation
- Local work on all aspects: housing, poverty, DV, co-sleeping, maternity access, Smoke Free Homes, baby cafes, Healthy Start
- Currently exploring longer term sustainability of the sites
“Programme of Programmes”

Large programme areas
- Safeguarding
- Immunisation
- Teenage pregnancy and parenting
- Early Start Service and FNP

The IM Action Plan aims to add value over and above other ongoing programmes