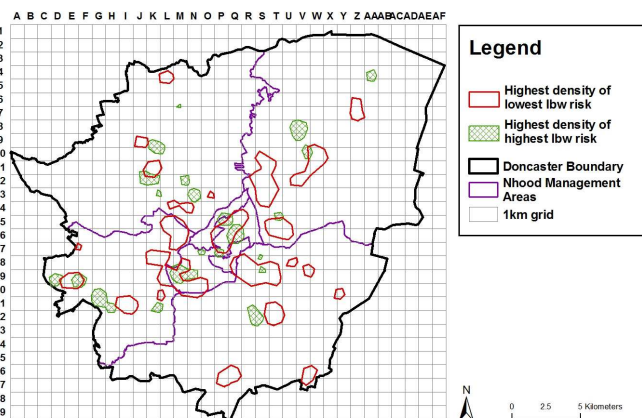


Low Birth Weight Babies in Doncaster

Aims

Low birth weight (usually defined as under 2.5kg) is linked to increased risk of future health problems and infant mortality. It can be affected by maternal nutrition, smoking and the danger to babies can be reduced by the availability of appropriate paediatric care at the time of the birth. Although the numbers of infant deaths is fairly small, they have a substantial effect on life expectancy in communities. This study set out to try and identify socio-economic risk factors which may help to identify mothers at greater risk of giving birth to a low birth weight baby.



Map showing concentrations of mothers at most and least risk of having a baby weighing under 2.5kg in Doncaster

Tailoring services to local needs

What we did

We used *nkm* matching techniques to link data on birth weights with socio-economic data from administrative data sets. From these matched data we used statistical models to identify the factors which are associated with higher or lower rates of low birth weight. We then assessed all women of child-bearing age (15-44) using these risk factors to identify the areas where mothers are more and less likely to have low birth weight babies should they become mothers.

Results

Overall, 7.4% of the babies in the study weighed less than 2.5kg at birth. The statistical model showed the odds of having a low birth weight baby were increased by 37% if the mother lives in council housing, 26% if she lives in a council tax band A house and 13% if there were 3 or more children in the household. These factors all have a significant effect on birth weight. Teenage motherhood and single-parent households were found not to have any effect on birth weight. The table shows the numbers of births in the study with each combination of factors and the actual rates of low birth weight.

Row	live in local authority housing	3 or more children in household	council tax band A	number in category	% low birth weight (<2.5kg)	95% confidence interval
1	Y	Y	Y	1,733	10.8	(9.4, 12.3)
2	Y		Y	2,598	9.4	(8.3, 10.6)
3		Y	Y	2,525	7.5	(6.5, 8.6)
4			Y	7,151	7.3	(6.7, 7.9)
5		Y		1,450	6.8	(5.5, 8.2)
6				5,279	5.5	(4.9, 6.1)
total	8,361	4,857	4,064	20,751	7.4	(7.0, 7.8)

Risk factor segmentation of Doncaster Low Birth Weight Babies. Base: Child Health records with birth weight recorded

The map shows the results of mapping the risk assessments across all women of child-bearing age in Doncaster, and demonstrates that the risk varies between different communities in the borough: more deprived households are more at risk of having low birth weight babies. Given the links between inequalities and low birth weight these results may be used to help to identify mothers in the at-risk groups, provide them with better access to ante-natal care and support throughout pregnancy. This may help to give their babies the best start in life, reduce infant mortality and health inequalities.

The map shows the results of mapping the risk assessments across all women of child-bearing age in Doncaster, and demonstrates that the risk varies between different communities in the borough: more deprived households are more at risk of having low birth weight babies. Given the links between inequalities and low birth weight these results may be used to help to identify mothers in the at-risk groups, provide them with better access to ante-natal care and support throughout pregnancy. This may help to give their babies the best start in life, reduce infant mortality and health inequalities.