

## Low Birth Weight

### Introduction

Low birth weight increases the risk of childhood mortality, developmental problems and poorer health in later life. A low birth weight is considered as under 2500g for a gestational age of at least 37 complete weeks.

### Summary

There were 228 full-term babies born with a low birth weight in Norfolk in 2014; this gives Norfolk a rate of low birth weight that is not statistically significantly different to the national average. Having a child with a low birth weight is associated with poor lifestyle during pregnancy, including smoking and insufficient nutrition.

### Headlines

There were 228 full-term babies born with a low birth weight in Norfolk in 2014; this gives Norfolk a low birth weight rate of 2.7%, which is not statistically significantly different to the national average of 2.9% (see Figure 1). The rate in Norfolk has fluctuated over the past three years and has risen slightly over the last year.

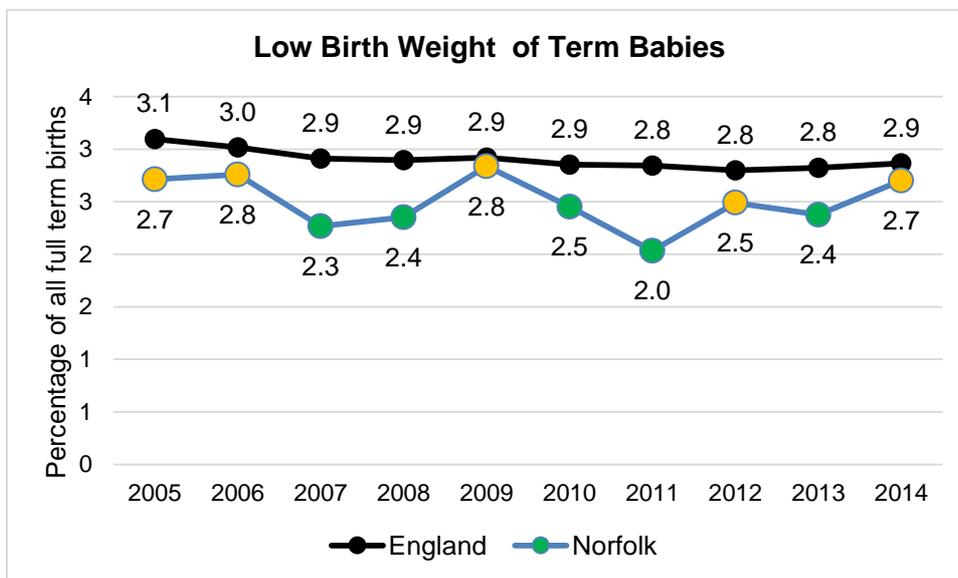


Figure 1: Low birth weight of full term babies. Source Public Health England.<sup>1</sup>

Note: Data points are coloured red if they are statistically significantly worse than the England average, yellow if not significant difference and green if statistically significantly better.

None of the seven districts in Norfolk have a rate of low birth weight that is statistically significantly different to the national average (or to each other). Norwich has the highest rate, followed closely by Broadland and South Norfolk, although these differences cannot be considered statistically significant (see Figure 2).<sup>2</sup>

<sup>1</sup> Public Health England Public Health Outcomes Framework <http://www.phoutcomes.info/public-health-outcomes-framework#page/4/qid/1000042/pat/6/par/E12000006/ati/102/are/E10000020/iid/20101/age/235/sex/4>

<sup>2</sup> Wolfe, I. et al (2014) Why Children Die: Death in infants, children and young people in the UK. Royal College of Paediatrics and Child Health.

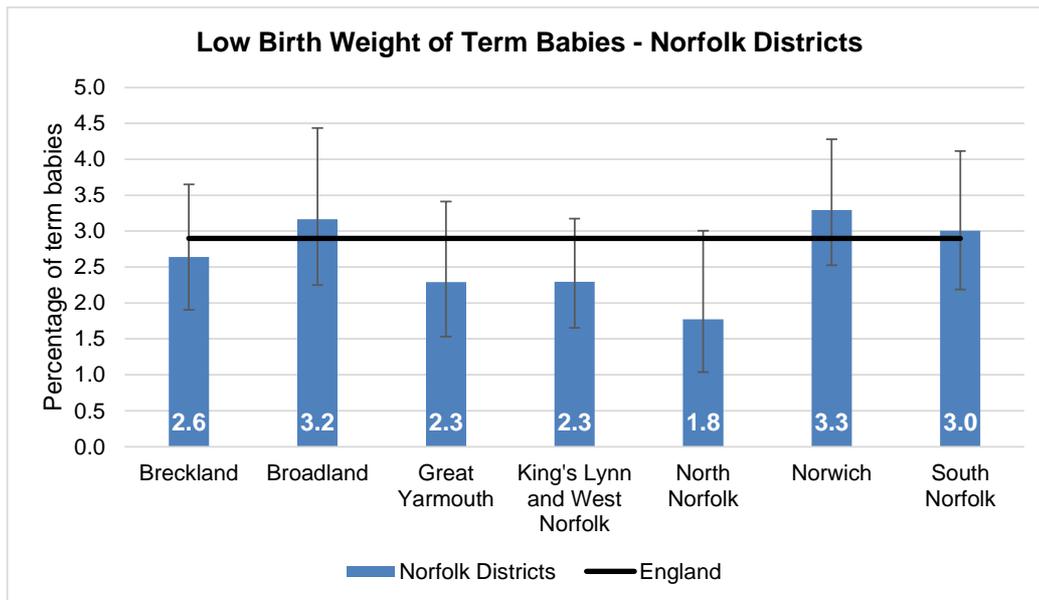


Figure 2: Low birth weight of full term babies at Norfolk District. Source Public Health England.<sup>3</sup>

## Influences on Health and Wellbeing

Babies with a low birth weight are at increased risk for both obesity and type 2 diabetes, especially when 'rapid catch up growth' occurs.<sup>4</sup> Higher infant mortality rates in the UK are driven by the fact that nearly two thirds of the children who die before their first birthday were born preterm, and/or with low birth weight.<sup>5</sup> A high proportion of low birth weight births in a population could indicate lifestyle issues of the mothers and/or issues with the maternity services.

## Social, environmental, population context

Smoking is a major risk factor contributing to low birth weight. Babies born to women who smoke weigh on average 200g less than babies born to non-smoking women. The incidence of low birth weight is twice as high among smokers as non-smokers.<sup>6</sup>

There is a recognised link between low birth weight and deprivation, as rates are higher in less advantaged socio-economic groups. Low birth weight is linked to a number of negative health behaviours such as poor prenatal care, substance abuse and smoking which are more common in these groups. In addition there is a relationship between teenage pregnancy and low birth weight, where there is competition for nutrients between the foetus and the growth needs of the mother. Inadequate nutrition can also drive low birth weight, and given that there are increasing numbers of families being referred to foodbanks in Norfolk, this is a growing concern.<sup>7</sup>

## Current services, local plans and strategies

Effective smoking cessation interventions reduce the prevalence of low birth weight among pregnant women who quit as a result of intervention.<sup>8</sup> Norfolk has a higher than average rate of smoking during pregnancy (12.7% of mothers in 2015/16 compared to 11.4% on average in England).<sup>9</sup> In Norfolk a range of smoking cessation support is available both as a group and one-to-one. Support is offered via pharmacies, GPs, and specialist 'Level three' Smoking Advisers. Level three specialist support services work specifically with more complex cases and would tend to be where pregnant women would be referred. NICE guidance recommends

<sup>3</sup> Public Health England Public Health Outcomes Framework <http://www.phoutcomes.info/public-health-outcomes-framework#page/3/gid/1000042/pat/6/par/E12000006/ati/101/are/E07000149/iid/20101/age/235/sex/4>

<sup>4</sup> Rudolf, M (2010) Tackling Obesity through the Healthy Child Programme: A framework for action. National Obesity Observatory.

<sup>5</sup> Wolfe, I. et al (2014) Why Children Die: Death in infants, children and young people in the UK. Royal College of Paediatrics and Child Health.

<sup>6</sup> Bull, J.; Mulvihill, C. and Quigley, R. (2003) Prevention of low birth weight: Assessing the effectiveness of smoking cessation and nutritional interventions. NHS Health Development Agency.

<sup>7</sup> As above

<sup>8</sup> As above

<sup>9</sup> Public Health England (2016) Smoking status at time of delivery. <https://www.gov.uk/government/statistics/statistics-on-womens-smoking-status-at-time-of-delivery-england-apr-2015-to-mar-2016>

that midwives routinely assess a woman's smoking status at the booking in appointment, and at subsequent appointments, so that appropriate support is offered.

A number of nutritional factors influence low birth weight, including pre-pregnancy maternal weight, gestational weight gain, energy intake, iron and anaemia. There is good evidence to suggest that calcium supplements during pregnancy reduce the incidence of low birth weight, especially in women at risk of hypertensive disorders.<sup>10</sup> The Healthy Start scheme offers vouchers to eligible families to exchange for cow's milk, frozen or fresh fruit or vegetables, formula milk. Together with the food vouchers, Healthy Start vitamins are provided to the mother during pregnancy and the first year after the baby is born as tablets. The vouchers are sent out every four weeks and can be redeemed at supermarkets and local stores that have registered for the scheme, (a full list of which is accessible on the Healthy Start website).<sup>11</sup> Norfolk's midwifery, health visiting and children's centre services all have a responsibility to promote Healthy Start. Currently around 70% of eligible families are signed up to the scheme, just below the national average of 75%.<sup>12</sup>

Also as there is a link between being a teenage mother and low birth weight, action to reduce teenage pregnancy should also reduce the prevalence of low birth weight. And finally, given the link between low birth weight and deprivation, strategies to reduce inequalities in Norfolk may also have a positive impact on reducing the number of babies born with a low birth weight.

## Considerations for HWB and commissioner

The rate of low-birth weight should be monitored as it is an indicator of infant and maternal health and wellbeing, and is closely linked to infant mortality.

There is a need to ensure that interventions are available to support mothers to make healthy lifestyle choices. Commissioners should ensure that the responsibility to identify women in need, and offer or signpost to support is clearly set out in services specifications for relevant services (i.e. all those coming into contact with pregnant women and young families). In particular action should be taken to promote the Healthy Start voucher scheme.

Co-ordinated, multi-agency activity is needed to address the issue of teenage pregnancy.

## References and information

Public Health Outcome Framework (Public Health England)

<http://www.phoutcomes.info/public-health-outcomes-framework#page/4/gid/1000042/pat/6/par/E12000006/ati/102/are/E10000020/iid/20101/age/235/sex/4>

World Health Organisation Low Birth Weight Policy Briefing

[http://www.who.int/nutrition/topics/globaltargets\\_lowbirthweight\\_policybrief.pdf](http://www.who.int/nutrition/topics/globaltargets_lowbirthweight_policybrief.pdf)

Bull, J.; Mulvihill, C. and Quigley, R. (2003) Prevention of low birth weight: Assessing the effectiveness of smoking cessation and nutritional interventions. NHS Health Development Agency.

[http://webarchive.nationalarchives.gov.uk/20160105160709/http://nice.org.uk/nicemedia/documents/low\\_birth\\_weight\\_evidence\\_briefing.pdf](http://webarchive.nationalarchives.gov.uk/20160105160709/http://nice.org.uk/nicemedia/documents/low_birth_weight_evidence_briefing.pdf)

Healthy Start

<http://www.healthystart.nhs.uk/>

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<sup>10</sup> Bull, J.; Mulvihill, C. and Quigley, R. (2003) Prevention of low birth weight: Assessing the effectiveness of smoking cessation and nutritional interventions. NHS Health Development Agency.

<sup>11</sup> <http://www.healthystart.nhs.uk/>

<sup>12</sup> Data from NHS Business Services Authority

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