SECTION 5: MATERNITY

Introduction

Pregnancy and childbirth are normal and natural events that should be a positive experience. It is now safer than ever to give birth in the UK and it is recognised that high quality care throughout pregnancy and childbirth can improve the health and life chances of the child in the short and long term. Early identification of need and risk will ensure that appropriate monitoring, screening and support is put in place and higher risk parents who may need additional support are identified. Early access to antenatal care is essential and has a positive effect on low birth weight, infant mortality rates and infant feeding choices.

Preconception Care

Preconception care is an opportunity for prospective parents to improve their health before trying for a baby. A healthcare professional can help assess the health, fitness and lifestyle of an individual or couple and identify areas that may benefit from improvement.

The chance of a successful pregnancy will be improved if one or both prospective parents are in good health. A bad diet, being overweight or obese, smoking, drinking and unhealthy working conditions can affect the quality of sperm and reduce the chances of pregnancy. Both prospective parents should try to make their lifestyle as healthy as possible before trying to conceive.

The Department of Health recommends that women of childbearing age should be made aware of the benefits of pre-natal and early ante-natal folate supplementation, and should be provided with appropriately timed nutritional advice and folate supplements.

The Children's national service framework (England and Wales) (2004), recommends health promotion arrangements need to include the provision of the following information for prospective parents:

- What becoming a parent might be like and the impact on wider family/adult relationships.

- The importance of:
    - pre-conceptual folic acid;
    - minimising intake of alcohol;
    - not using recreational drugs;
    - not smoking during pregnancy and having a smoke-free environment;
    - pre-pregnancy rubella immunisation, and
    - seeing a healthcare professional as early in pregnancy as possible.

Preconceptual care becomes even more important in the case of a chronic or long term condition in either parent such as diabetes and hypertension.

Promoting normality

The Department of Health recommends normal birth as the safest birthing method. The Caesarean section rate in Darlington is similar to the England average with 24.1% of deliveries by caesarean section. Recent trend data indicates that there has been an increase in the rate of deliveries by caesarean section.

Risks

Nationally infant mortality is a significant factor in overall life expectancy, with 61% of all deaths in children (0-19 years) being infant deaths. Many of these stillbirths and deaths are preventable. Reducing infant deaths and stillbirths is a priority for the NHS and government and this is captured in the NHS and Public Health Outcomes Frameworks. There are a number of risk factors for stillbirth and infant death. These include maternal age, maternal smoking, maternal obesity, socioeconomic position, multiple birth and influenza.

Vaccines in pregnancy

Pregnant women are more likely to develop complications from flu, including pneumonia. It has also been shown that flu can increase the risk of miscarriage, low birth weight and in extreme cases stillbirth or death in the first week of life; therefore it is vitally important that pregnant women are offered a flu vaccination.

Pertussis, also known as whooping cough, is a respiratory infection caused by *Bordetella pertussis* bacteria. Pertussis most commonly affects infants. Very young infants are at highest risk of serious complications requiring admission to hospital or of dying from pertussis. A vaccination programme for pregnant women has been introduced to protect infants by boosting pertussis immunity in pregnant women. The vaccine also enables the mother to transfer a high level of pertussis antibodies to her unborn child which will provide passive protection following birth until the baby receives their first dose of primary immunisations at two months old. Babies born to vaccinated mothers are 90% less likely to get disease than babies whose mothers were unvaccinated.

Maternal Nutrition and Diet

According to the Annual Report (2012) of the Chief Medical Officer, 'Maternal under-nutrition in pregnancy' is associated with the development of heart disease in the adult offspring. There may even be effects transmitted to future generations. This finding (another example of fetal programming) is a very active area of research at the moment.

Prenatal folic status in the mother can have an effect on the neurodevelopment of the foetus. Neural tube defects (NTDs), including spina bifida and anencephaly, are severe birth defects of the central nervous system that originate during embryonic development when the neural tube fails to close completely. Low maternal folic status has been identified as a risk factor in the development of NTD in children. Folic acid supplement to boost folate intake in pregnant women is recommended in current maternal nutritional guidelines.

Pregnancy and weight management

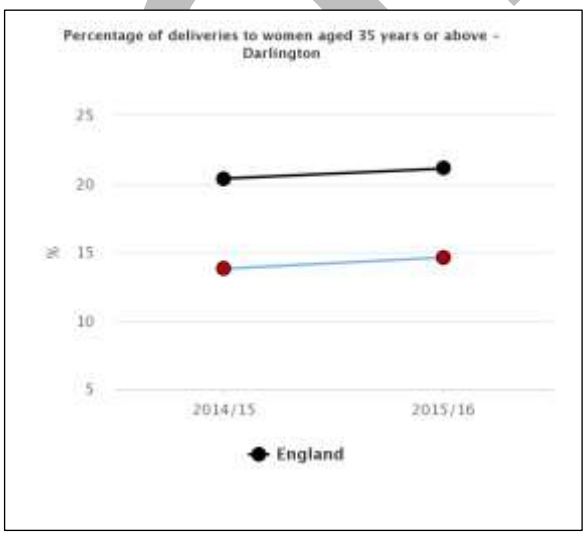
Maternal obesity and diabetes are known risk factors for NTDs' and other possible foetal complications. Obesity in women before pregnancy and excessive weight gain during pregnancy presents significant risk factors to the unborn child. These women are at an increased risk of pre-eclampsia, stillbirth, perinatal death, macrosomia and gestational diabetes.

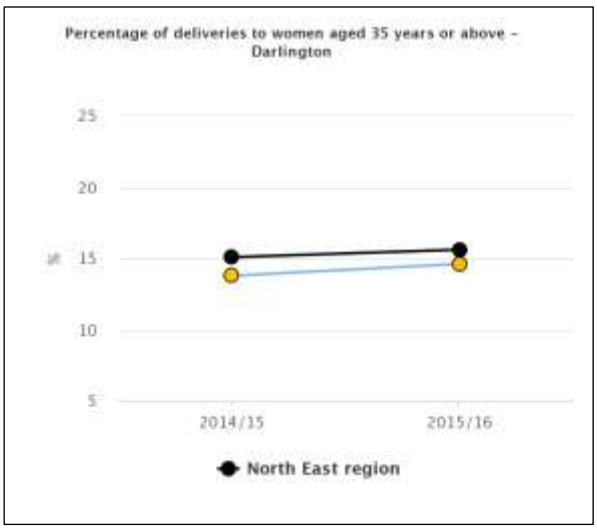
Women who are overweight or obese before pregnancy and those who gain an excessive amount during pregnancy are at an increased risk of gestational diabetes. Maternal diabetes can present in three different manifestations, pre-existing type 1, pre-existing type 2 diabetes or gestational diabetes, with gestational diabetes being the most common type amongst pregnant women. Exposure to diabetes in utero is a risk factor for a number of adverse outcomes for the child, including cardiomyothapy, hypoglycaemia, congenital abnormalities and SIDS (Sudden Infant Death Syndrome).

The National Institute for Health and Clinical Excellence (NICE) guidance recommends women with a BMI of over 30 should be referred to weight management interventions.

Maternal Age

Stillbirth rates are highest for women aged under 20 or over 40. The risk of giving birth to a child with a birth defect increases as the mother's age increases. The risk of a baby having Down's syndrome increases with the mother's age when she gives birth. Women over the age of 30 are at increased risk of developing risk high blood pressure and diabetes for the first time during pregnancy. Stillbirth is more common in women over age 35. Older women are also more likely to have low-birth weight babies. Caesarean birth is also slightly more common for women having their first child after age 35.





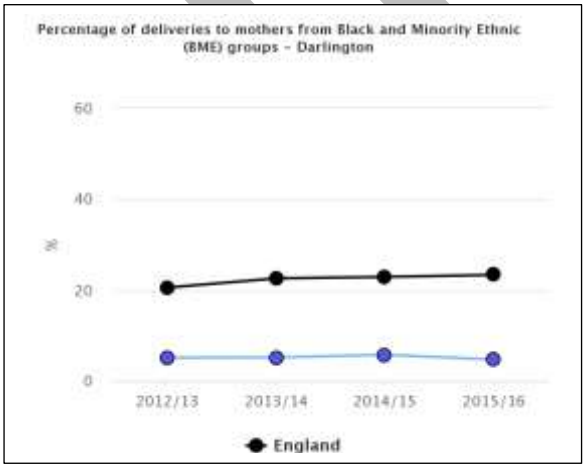
The percentage of deliveries to women over the age of 35 years in Darlington is lower than England and statistically similar to the North East Region. Trend data shows that it has increased in Darlington but at a similar rate to England.

Ethnicity

Black and Minority Ethnic women and children have an increased risk of some poor outcomes including:

- Stillbirth and infant death – Babies of mothers born in India, Bangladesh and East Africa have an increased risk. Infant mortality in the Gypsy Roman Traveller community is three times higher than in the rest of the population.
- Low birthweight – Babies of mothers born in the Caribbean, East Africa, India and Pakistan have an increased risk.
- Preterm birth – Babies of mothers of Afro-Caribbean and African origin are at increased risk compared to babies of mothers of other ethnic origins.
- Congenital abnormalities – Babies of mothers of born in India and Bangladesh are at increased risk.
- Severe maternal morbidity – Black and Minority Ethnic women are 50% more likely than White women to suffer severe maternal morbidity and the risk is more than double for women of African and Afro-Caribbean origin.
- Maternal death – In the UK mothers of Black Caribbean and Black African origin are more than three times more likely to die in pregnancy or in the year after birth than White women.

In Darlington the percentage of deliveries to mothers from Black and Minority Ethnic (BME) groups is significantly lower that England and statistically significantly lower than the North East Region.

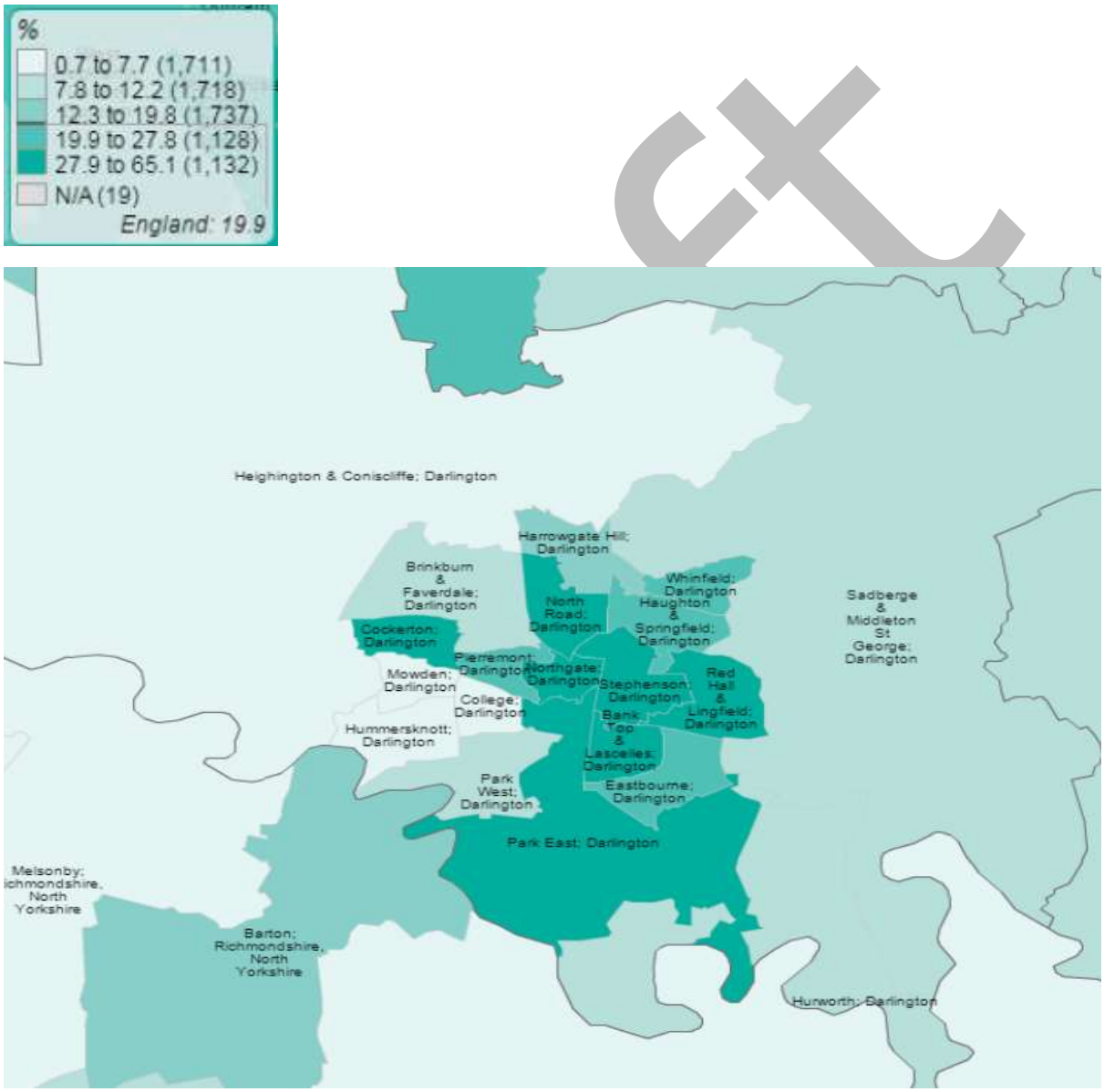


Area	Value	Lower CI	Upper CI
England	23.3	23.2	23.4
North East region	9.3	9.0	9.7
Newcastle upon Tyne	25.0	23.6	26.6
Middlesbrough	21.9	20.1	23.8
Sunderland	11.4	10.3	12.7
North Tyneside	8.5	7.4	9.7
Stockton-on-Tees	7.4	6.4	8.6
South Tyneside	6.9	5.8	8.3
Gateshead	6.9	5.9	8.0
Northumberland	5.5	4.7	6.4
Darlington	4.7	3.6	6.0
Redcar and Cleveland	3.4	2.5	4.6
County Durham	2.8	2.4	3.3
Hartlepool	2.2	1.4	3.2

Poverty

Most causes of pre term birth and infant deaths show a socio-economic gradient with an increase in poverty associated with an increased risk. Reducing poverty through economic development, maximising income and improving educational aspiration and attainment is a core strategic aim of the borough. This is a long term strategic aim and the outcomes will be generational.

The map below shows Income Deprivation Affecting Children Index (IDACI).



The evidence and examples of best practice suggest that children and families disadvantaged through poverty should be supported in their efforts to improve their life chances particularly in the early or foundation years.

The evidence suggests that this is best achieved through agencies working together to target their knowledge and expertise to identify and support those most in need and affected by poverty.

Darlington has a history of joint working between health, social care and education professionals including co-location of staff in Children's Centres. This has been continued through the new commissioning responsibilities of the Authority for Health Visiting and School Nursing Services. Examples of joint working and sharing of information and support for those children identified as disadvantaged can be seen through the work to join up health and early years developmental assessments.

Mental health in pregnancy

Pregnancy and childbirth for most women is an exciting positive event in their lives and for those around them. However for some women pregnancy and childbirth can bring some risks or impacts on their physical and mental health. Some women experience a range of mental health problems during pregnancy (the antenatal period) and the postnatal period (which is defined as up to one year after childbirth). The antenatal and postnatal periods are often called the perinatal period, when referring specifically to mental health. It is believed that overall between 10% and 20% of women are affected by mental health problems at some point during pregnancy or the first year after childbirth.

The mental health problems that pregnant women or new mothers can experience are the same as those that can affect people at other times in their lives and are often similar in nature. However there are a number of reasons why mental health problems in pregnant women and new mothers are different and are particularly important to address. These include the effect they can have on the foetus, baby, wider family and mother's physical health and the fact that problems often are not disclosed, recognised or treated during this period. Additionally, there are some mental health problems from which women are at increased risk during this period.

Mental health problems occurring during the perinatal period can range from relatively mild through to severe mental illness. Mental health conditions that can occur in the perinatal period can include depression, anxiety, post-traumatic stress disorder (PTSD), postpartum psychosis and adjustment disorders and distress. Mothers who are managing an existing mental health condition can find that they are increased risk of relapse or exacerbation particularly during the postnatal period.

It is recognised that fathers or partners can also experience mental health problems during this period but for this purpose the data and narrative will refer to women only.

Estimates of numbers of women with mental health problems during pregnancy and after childbirth in Darlington

In order to plan services for pregnant women and new mothers, it is important to understand the likely number of women who are affected by particular mental health conditions. Based on the number of women giving birth in Darlington, the figures below show how many women would be expected to have certain mental health problems in pregnancy and the postnatal period.

In Darlington, where 1,239 women gave birth in 2015/16:

- Estimated number of women with postpartum psychosis: 5
- Estimated number of women with chronic SMI: 5
- Estimated number of women with severe depressive illness: 40
- Estimated number of women with mild-moderate depressive illness and anxiety (lower estimate): 125
- Estimated number of women with mild-moderate depressive illness and anxiety (upper estimate): 190
- Estimated number of women with PTSD: 40
- Estimated number of women with adjustment disorders and distress (lower estimate): 190
- Estimated number of women with adjustment disorders and distress (upper estimate): 375

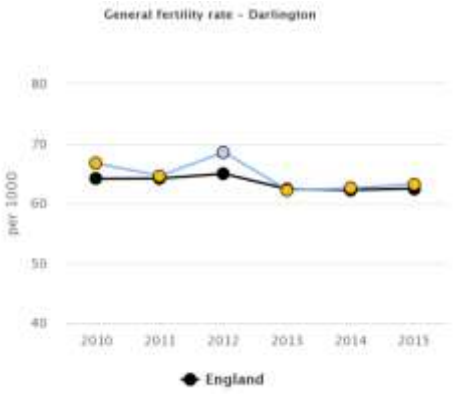
Adding all these estimates together will not give an overall estimate of the number of women with antenatal or postnatal mental health conditions for Darlington, as some women will have more than one of these conditions.

The Levels of need in the Population

Fertility

(Source: Public Health England Pregnancy and Birth Profile)

The fertility rate is useful for planning a whole range of services for a local area as they can be a good indicator of future population growth for an area. The general fertility rate for Darlington is similar to England but increasingly higher than the North East rate, as the graphs below demonstrate.

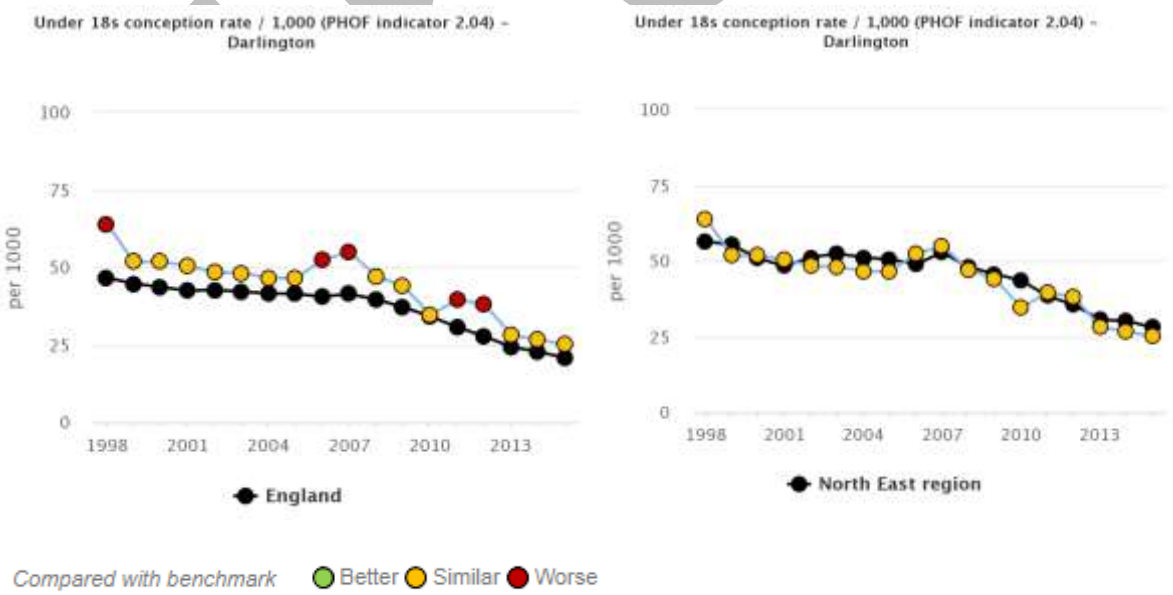


Under 18 conceptions

As described above, age is a significant factor in the risks of poor outcomes such as still birth and low birthweight. Teenage conceptions are often part of a cross generational spiral of deprivation resulting in enduring poverty and disadvantage for both the mother and child. Teenage conception is associated with an increase in the risk of poor outcomes for both the mother and child. These risks are often due to the circumstances found in many teenage conceptions with mothers more likely to be living in poverty and deprivation, and more likely to engage in certain lifestyle choices including smoking, excess consumption of alcohol and recreational drug use. Many teenage conceptions are not disclosed which results in risks to the mother and child through poor or late access to pre-conceptual and antenatal care.

Reducing teenage conceptions will have an impact on reducing poor outcomes such as pre-term births, low birth weights and still births as well as helping reduce inequalities through breaking the cycle of enduring cross generational poverty and disadvantage.

The graph below shows the rate of conceptions per 1,000 females aged 15 – 17 years for the period 1998 to 2015. Rates for Darlington, the North East and England are shown. There has been a decline in rates between 1998 and 2015. The 1998 rate in Darlington was 64.0 per 1,000 falling to 25.1 per 1,000 in 2013. This represents over a 50% reduction which is higher than the reduction seen in England (48%). The 2015 rate in Darlington (25.1 per 1,000) is higher than the England rate (20.8 per 1,000) but lower than the North East rate which was 28.0 per 1,000.



(Source: Public Health England Sexual and Reproductive Health Profile)

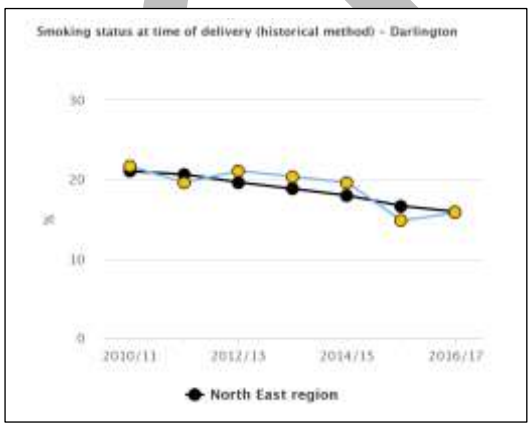
In comparison to our CIPFA nearest Neighbours, Darlington has the fourth highest proportion of teenage mothers.

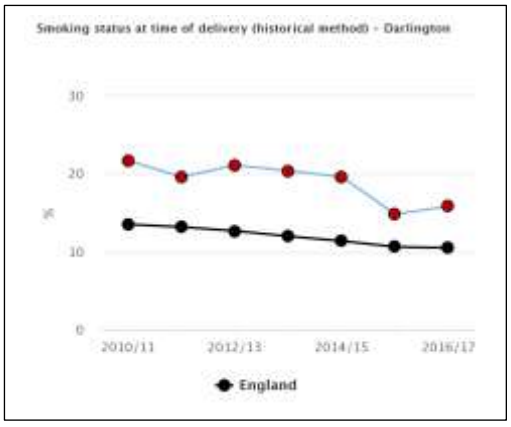
Area	Value	Lower CI	Upper CI
England	0.9	0.8	0.9
County Durham	1.6	1.3	2.0
Halton	1.6	1.1	2.4
Wirral	1.6	1.2	2.1
Darlington	1.5	1.0	2.4
Wigan	1.5	1.1	2.0
Stockton-on-Tees	1.4	1.0	2.0
Gateshead	1.3	0.9	1.9
North Tyneside	1.2	0.8	1.7
Calderdale	1.0	0.7	1.5
St. Helens	1.0	0.6	1.6
Sefton	0.7	0.5	1.1

Smoking at time of delivery

Smoking during pregnancy can result in low birthweight, premature births, miscarriages and perinatal deaths. It also increases the risk of developing a number of different enduring conditions in the baby and infant following birth including respiratory conditions, attention and hyperactivity difficulties, learning difficulties, problems of the ear, nose and throat, obesity and diabetes.

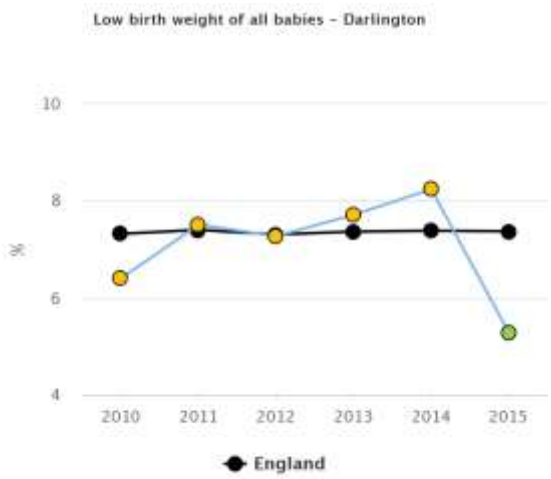
The graphs below show the prevalence of smoking at the time of delivery for women in Darlington in 2016/17 at 16.2% of women who are recorded to be smokers at the time of delivery of their baby, which is statistically similar than the North East region average (16.1%) and statistically significantly worse than the national average of 10.7%.





Low Birth Weight Babies

Darlington's percentage of all live births with a low birth weight (under 2500 grams) has improved and at the current time is significantly better than the England average. Darlington is also significantly better than its CIPFA nearest neighbours for this indicator.



Area	Value	Lower CI	Upper CI
England	7.4	7.3	7.4
Calderdale	8.4	7.4	9.6
County Durham	8.2	7.5	8.9
Wigan	8.2	7.3	9.1
Stockton-on-Tees	7.7	6.7	8.9
Wirral	7.3	6.5	8.2
Sefton	7.3	6.4	8.3
Gateshead	7.1	6.1	8.3
St. Helens	7.1	6.0	8.3
North Tyneside	6.4	5.4	7.5
Halton	6.3	5.2	7.6
Darlington	5.3	4.2	6.7

Source: Office for National Statistics

Services in relation to need

The single most important factor to contribute to maximising maternal and child health outcomes is early access to high quality maternity and obstetric services. It is recommended that all women should access maternity services for a full health and social care assessment of needs, risks and choices by 12 weeks of their pregnancy. The latest data for September 2017 shows that 62% of women using County Durham and Darlington NHS Trust had a booking appointment with the first 10 weeks of pregnancy, compared to 54% overall in England .

[Source: CCG outcome indicator set: June 2015. HSCIC]