Chapter title

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Executive summary

Introduction

The foundations for virtually every aspect of human development – physical, intellectual and emotional – are laid down in pregnancy and early childhood. The physical and mental wellbeing of the mother, foetal exposures in the womb and early childhood experience have lifelong impacts on many aspects of health and wellbeing (The Marmot Review, 2010).

Pregnancy is a particularly important period during which the physical and mental wellbeing of the mother can have lifelong impacts on the child. For example, during pregnancy, factors such as maternal stress, smoking, diet, and alcohol or drug misuse can place a child’s future development at risk. A wide range of research now shows that from conception to age two is a crucial phase of human development and is the time when focused attention can reap great dividends for society (Wave Trust, 2013).

Improvements in socio-economic conditions and obstetric care have made significant contributions to reducing maternal and infant mortality such that good outcomes from pregnancy have become the expectation and the norm. However, not all population groups have the same outcomes and there remains a gap nationally between routine and manual groups and the England average in key outcomes such as infant mortality.

A number of recently-published national and local policies and strategies recognise the importance of maternity services providing safer and more personalised care which is based around an individual woman’s needs. *Better Births* (NHS England, 2016) recommends that providers and commissioners work together in a Local Maternity System (LMS) to implement

changes to maternity services. The review recommended LMS be formed to provide place-based planning and leadership for transformation of maternity and neonatal services, aligning the professionals, providers and commissioners of services within a larger geographical area, co-terminus with the Integrated Care System (ICS) footprint.

To respond to the recommendations made in *Better Births* (2016), the Nottinghamshire LMS Transformation Board is developing local transformation plans. These plans are the mechanisms through which the Nottinghamshire ICS will collaboratively transform maternity services. It details where Nottinghamshire is now, where it wants to be and the shared vision to ensure that women and their babies have access to consistently high quality services from a range of providers that meets their needs as close to home as possible. The Nottinghamshire LMS Transformation Board has been identified as the most appropriate group to take forward the findings and recommendations within this JSNA chapter.

Unmet need and gaps

Antenatal care

1) The uptake of flu vaccinations by pregnant women in Nottingham during 2017/18 was (40.6%); this is significantly lower than the England average (45.7%)

2) Bump, Birth and Baby is a universal antenatal programme for expectant families currently delivered by the Children's Public Health Service (previously known as the Health Visiting service). The reach of this offer is not consistent across all areas in Nottingham City. There is an opportunity to work in partnership with the Midwifery Service to deliver this programme and to expand the reach to clients/service-users living within Nottingham City.

3) Nottingham CityCare's Children's Public Health and Nottingham City Council Early Help services are currently in the process of aligning their services. This gives the opportunity to review and develop a consistent offer that supports pregnant women, especially those with complex social factors.

Smoking

1) In Nottingham in 2017/18, in 17.2% of women were identified as smoking at time of delivery (SATOD), which is significantly higher than the England average (10.8%) and the fifth highest rate of our statistical neighbours.

2) White British women aged 21-25 living in areas of high deprivation, are least likely to access smoking cessation services and/or successfully quit. This is consistent with the trend of greater smoking prevalence in areas of greater deprivation.

3) There has been no statistically significant reduction in the proportion of women smoking at time of delivery since 2010/11. A new approach is needed that involves all partners across the local maternity system to support women to stop smoking during pregnancy and prevent high levels of postnatal relapse.

Complex social factors

1) There has been no reduction in indirect causes of maternal mortality for 10 years. Nationally, recent evidence shows that suicide is the leading cause of maternal death. Further risk factors include the rise in maternal obesity, the high smoking prevalence and the rise in the proportion of women with medically complex pregnancies, all of which are key concerns for Nottingham.

2) Women with complex social factors (substance misuse, domestic abuse, recent migrants, asylum seekers and refugees and young women under 20 years) are far less likely to seek antenatal care early in pregnancy or to stay in contact with maternity services. Delays in accessing maternity care often results in worse outcomes for both mother and baby; this is a key concern given Nottingham's diverse population.

3) Nationally, pregnant women with complex social factors are much less likely to access maternity services early in pregnancy and local data suggests this is mirrored in Nottingham. Early access amongst these groups during 2017 ranged from 42.6% to 82.6% (all below the 90% target). Delayed access prevents women receiving the care they need.

4) Pregnant women who are recent migrants, asylum seekers or refugees, or those who have difficulty reading or speaking English are the least likely to access maternity services within recommended timescales. Challenges in gaining timely access to translation services is a key barrier to accessing maternity services. This can sometimes result in the use of an inadequately trained (or no) interpreter (family member or friends) which poses risks for both the mother and healthcare provider. When this occurs, neither the healthcare provider nor patient can be assured that accurate and effective communication is taking place. Challenges around language barriers are a particular issue in Nottingham as over one-third of births (37%) are to mothers born outside the UK.

5) In Britain, FGM among pregnant women is mostly seen in women who are recent migrants, asylum seekers or refugees and has usually taken place before they arrive in the UK. Nottingham currently has an FGM clinic and an FGM specialist midwife; however, it is unclear as to the long-term succession arrangements for the continuity of the service, which may result in a service gap for survivors of FGM.

6) It is not recommended guidance for midwifery to have a dedicated appointment alone with pregnant women to ensure that opportunities for disclosure of domestic abuse are optimised.

7) There is no safe level of alcohol consumption in pregnancy. It is estimated that more than a quarter of Nottingham women of childbearing age are binge drinkers. Given that half of pregnancies in the UK are unplanned, this potentially poses significant risks to infant outcomes including foetal alcohol spectrum disorders if women continue to drink alcohol during pregnancy.

Perinatal mental health

1) Maternal mental health is a significant issue in Nottingham with 1,885 (44%) of pregnant women estimated to have mental health issues during 2017. The current perinatal mental health pathway may not be meeting the needs of pregnant women with low-level mental health needs.

System change

1) Information technology systems require improvement across the maternity pathway. Currently the maternity systems used in hospitals and in the community are different, which prevents maternity records being accessed and updated by midwives based in the community whilst ensuring safe and effective data-sharing with other services including GPs, health visiting and IAPT services.

Recommendations for consideration by commissioners

Antenatal care

1) Explore the barriers to flu vaccination uptake in pregnant women and continue to promote widely through midwifery, health visiting and other early help and early years providers.

2) The reach of Bump, Birth and Baby is not consistent across all areas in Nottingham City. CityCare could scope opportunities to work in partnership with the Midwifery service and Small Steps Big Changes (SSBC) to deliver this programme and to expand the reach to Nottingham City residents.

Smoking

1) Continue to implement routine Carbon Monoxide (CO) testing in pregnancy at booking, 32 weeks and at delivery clinics to identify women who smoke and who can be offered support to quit.

2) The public health subgroup of the Local Maternity System should lead work with partners to develop specific interventions to reduce smoking in pregnancy and support women who want to quit smoking, including the utilisation of the NHSE grant.

3) Explore the potential for nominated midwives, maternity support workers and sonographers to be trained to the same level as specialist NHS Stop Smoking advisers to enable them to offer more intensive support.

Complex social factors

1) Conduct a Health Equity Audit of timely access to maternity services and develop strategies for increasing early access among groups of women identified as least likely to access early, specifically recent migrants, refugees, asylum seekers and those who have difficulty speaking or reading English.

2) Further develop specialist midwifery support for women with complex social needs and ensure a more equitable service is provided, as detailed in the LMS Transformation Plan 2017/18 to 2020/21.

3) Pregnant women who experience domestic abuse and pregnant women who are homeless require additional specialist care and support. It is recommended that consideration be given to increasing capacity across the Specialist Midwife for Homelessness and Domestic Abuse team.

4) Maternity services to consider seeking an opportunity for pregnant women to be seen alone during pregnancy in order to provide an opportunity for disclosure of domestic violence and abuse.

5) Explore opportunities for all maternity staff to be trained in how to respond to domestic abuse in a way that makes it easier for pregnant women and new mothers to disclose abuse.

6) Ensure adequate provision of interpreting and translation services during pregnancy and birth. Face-to-face interpreting services should be encouraged and telephone interpreting used as a minimum at each appointment when required. Family members, legal guardians or partners should not be used as an interpreter in the antenatal or postnatal period unless in an emergency.

7) Given Nottingham's diverse population, multilingual leaflets and materials should be available as standard practice and developed or sourced by midwifery services.

8) Prioritisation should be given to finding a solution for effective longer-term succession of the Nottingham FGM clinic and specialist midwives to ensure continuity of services for FGM survivors.

9) Public Health England to support work in Nottingham to develop clear consistent messages to pregnant women on alcohol usage in pregnancy based on the Chief Medical Officer Guidance and local consultation.

10) NUH to continue to ascertain alcohol usage in pregnancy through the Audit C tool and support women to stop drinking, where appropriate, with support from alcohol services.

Perinatal mental health

1) As detailed in the LMS Transformation Plan 2017/18 to 2020/21, implement an overarching perinatal mental health pathway that reflects NICE guidance and sets out a plan for the perinatal mental health pathway, to include the identification of and support for women with mental health needs and access to psychological therapy (IAPT) services via direct referral from universal services.

2) At the first contact with primary care or at the pregnancy booking visit, and at all contacts thereafter, the HV and other health care providers who have regular contact

with a woman in pregnancy and during the postnatal period (one year after) should consider asking the two Whooley depression identification questions and the GAD- 2 as part of a general discussion about her mental health using the EPDS or the PHQ-9 as part of monitoring.

System change

1) Improve information technology to ensure electronic records are accessible across the maternity pathway, as detailed in the LMS Transformation Plan 2017/18 to 2020/21.

2) Support the development and implementation of the Nottinghamshire Local Maternity System (LMS) Local Transformation Plan 2017/18 to 2020/21.

3) Feedback from extensive consultation with women, both nationally (*Better Births*) and locally, found continuity of carer to be an integral part of maternity services. Nottinghamshire LMS to consider implementing continuity of carer as detailed in the LMS Transformation Plan 2017/18 to 2020/21.

4) A healthy lifestyle during pregnancy can help to keep mother and baby healthy, including not smoking or drinking alcohol and maintaining a healthy weight. Multi-agency colleagues, including midwifery, health visiting and early years, should continue to provide advice through information and brief advice and referral into more specialist services where appropriate.

What do we know?

1) Who is at risk and why?

1.1 Maternal mortality

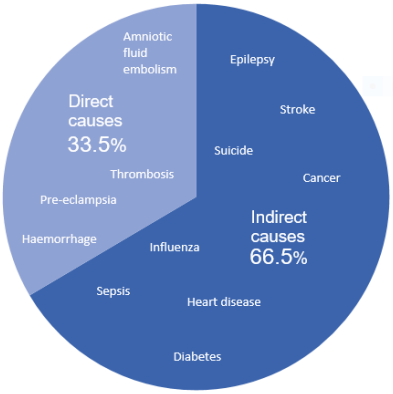
Maternal death is fortunately now extremely rare in the UK. In 2014-16, 231 women died during or within six weeks of the end of their pregnancy in the UK. This represents a decrease in the maternal mortality rate, which is now 8.3 per 100,000 maternities[3] down from 9.02 in 2011-13 (MBBRACE, 2016).

Figure 1 shows that deaths due to indirect causes remain the major proportion (66.5%) of maternal deaths in the UK. As previously, cardiac disease remained the largest single cause of indirect maternal deaths in 2012–14. There was no significant change in the maternal mortality rate from cardiac disease between 2009 and 2014. Deaths from neurological causes were the second most frequent cause of indirect maternal death. There was a 25% decrease in the rate of deaths due to neurological causes in 2012–14 compared with 2009-11 but this decrease is not statistically significant.

In the UK, the maternal death rate from pre-eclampsia and eclampsia was the lowest ever reported; only two women died from hypertensive disorders in this triennium. There was one death from influenza in 2014 and no deaths in 2012 and 2013, which also contributed to the decrease in the overall rate of maternal deaths in this triennium. This was mainly due to a low level of influenza activity in 2012–14 (compared to 2009 and 2010) rather than an increase in the uptake of vaccination among pregnant women in the UK. Increasing immunisation rates in pregnancy against seasonal influenza must remain a public health priority (MBBRACE 2016).

There were no statistically significant changes in the rates of maternal death due to indirect causes between 2009 and 2014. Thrombosis and thromboembolism continue to be the leading cause of direct deaths, followed by deaths due to amniotic fluid embolism, and suicide. Other than the decrease in deaths due to influenza (noted above), there were no statically significant changes in the rates of maternal deaths due to specific direct or indirect causes between 2009 and 2014.

Figure 1: Direct and indirect causes of maternal deaths in the UK (2012-14)



Source: Adapted from MBBRACE UK (2014).

Due to improvements in technology and the rise in economic prosperity, it is expected that maternal mortality will reduce. However, a number of risk factors may be working against this:

- Rising numbers of older mothers
- Rising numbers of obese mothers
- Rising numbers of women whose lifestyle puts them at risk of poorer health
- A growing proportion of women with medically complex pregnancies

1.2 Vulnerable women with complex social factors

There is a body of evidence to suggest that women with complex social factors are far less likely to seek antenatal care early in pregnancy or to stay in contact with maternity services. NICE (2010) and the Confidential Enquiry into Maternal and Child Health reports (2016) identified the following four key groups as key risk factors for maternal and infant health and at risk of having poorer pregnancy outcomes.

Group 1 - Women who misuse substances (alcohol and/or drugs)

Drug misuse in pregnancy
Approximately 70% of infants born to drug dependent mothers are affected in some way, and are at increased risk of perinatal mortality and Sudden Infant Death Syndrome (SIDS) (SCODA, 1997). Heavy use of cannabis during pregnancy can cause babies to startle more easily (Nottingham Neonatal Service, 2014). Use of amphetamines and ecstasy may lead to decreased birth weight and increased risk of cleft palate and heart defects. Cocaine may be associated with placental abruption, prolonged rupture of membranes, intra-uterine growth retardation and differences in organisational responses and interactive behaviour. Heroin use in pregnancy can lead to low birth weight and premature birth. Infants may also show signs of heroin withdrawal, which is treated with barbiturates and methadone (Nottingham Neonatal Service, 2014).

Alcohol misuse in pregnancy
Alcohol is classed as a teratogen, in that it causes harm to the foetus by interrupting the correct coding of amino acids, which leads to the development of abnormal proteins and ultimately damages the frontal lobe of the brain. The frontal lobe is responsible for executive functions such as development of sensory processes and the development of fine motor skills (Smith et al 2014).

A number of risks are associated with drinking alcohol during pregnancy, including:

- Increased risk of miscarriage.
- Risk of Foetal Alcohol Syndrome (FAS) whose features include growth deficiency for height and weight, a distinct pattern of facial features and physical characteristics and central nervous system dysfunction.
- Risk of Foetal Alcohol Spectrum Disorders (FASD),
- Alcohol-Related Birth Defects (ARBD)
- Alcohol-Related Neurodevelopment Disorder (ARND), increased risk of learning disability (without either of the above conditions).

Group 2 - Women who experience domestic violence abuse and/or sexual abuse

One of the most common forms of sexual violence is perpetrated by an intimate partner. Being married or co-habiting is thought of as one of the most important risk factors for vulnerability to sexual assault. This places women at greater risk of unintended pregnancies, induced abortions, gynaecological problems and sexually transmitted infections, including HIV. Intimate partner violence in pregnancy also increases the likelihood of miscarriage, stillbirth, pre-term delivery and low birth weight babies (NICE, 2010).

Women who experienced domestic violence abuse during pregnancy – whether physical, verbal or mental are at risk of adverse physical, emotional and psychological effects for both the mother and foetus. A study by Dykes et al (2016) suggests there can be an increased incidence of domestic violence during or shortly following pregnancy.

See link for the NCC domestic and sexual violence and abuse JSNA chapter (2018) Domestic and sexual violence and abuse (2018) - Nottingham Insight.

Group 3 - Women who are recent migrants, asylum seekers or refugees, or who have difficulty reading or speaking English

Black African women, including asylum seekers and newly arrived refugees, have a maternal mortality rate nearly six times higher than white women. In addition, it has been found that the proportion of Black African infant deaths is disproportionately higher than amongst other ethnicities. A quarter of women who died in 2012–14 were born outside the UK. Those women who died and who had been born abroad, had arrived in the UK a median of 4 years before they died (range 1 month to 22 years). 65% were from Asia (mainly Pakistan, Sri Lanka and Bangladesh) and Africa (mainly Nigeria, Somalia and Democratic Republic of Congo); about 14% were from Eastern Europe (mostly from Poland) and the remainder from other parts of Europe, North America and the Caribbean. Overall, there was no statistically significant difference in maternal death rate between women born in the UK and those born outside the UK in 2012–14, a finding similar to 2011–13 (UNHCR, 2017).

The maternal death rate among women born outside the UK in 2012–14 was not statistically significantly different from the 2011–13 rate. However, women born in some countries had a significantly higher risk of death compared to women born in the UK. In this triennium the non-UK country from which the highest number of women died was Pakistan (10 deaths). These women died from a variety of both direct and indirect causes. A direct cause is a death due to a direct obstetric cause, but aggravated by physiological effects of pregnancy (equating to 5 deaths). An indirect cause is a death resulting from a previous existing disease or disease developed during pregnancy (equating to 5 deaths). Of the 26 women who were not UK citizens and born outside the UK, 3 were refugees (12%) and 4 were visitors (15%); 17 (65%) had another status, including wife of UK resident. The status of 2 women (8%) was unknown (UNHCR, 2017).

See link for NCC Asylum seeker or refugee JSNA chapter (2017) Asylum seekers, refugee & migrant health (2018) - Nottingham Insight

Group 4 - Young women aged under 20

Teenage mothers and their babies are at increased risk of maternal ill health due to late presentation to maternity services, lifestyle risk factors such as smoking in pregnancy, and complex social issues including deprivation and low educational attainment. The proportion of births to women under 20 years in England was 3.3% during 2016.

See NCC teenage pregnancy JSNA chapter (2017) Reducing unplanned teenage pregnancy and supporting teenage parents (2017) - Nottingham Insight.

It should be recognised that vulnerable women might experience a number of complex social factors at the same time. In addition to the above, the national maternity pathway payment system also identifies the following women with complex social factors as requiring increased support:

- Pregnant women with a learning disability
- Pregnant women who are homeless
- Pregnant women with safeguarding concerns

Table 1 gives estimates of live births for the four main exemplar groups of women considered in the guideline on Pregnancy and Complex Social Factors (NICE clinical guideline 110).

Table 1: Breakdown of births in England by exemplar group (2017)

Group	Percentage (estimate)	Number of births
Women who misuse substances	4.5%	30,200
Women who are recent migrants, asylum seekers or refugees, or who have difficulty reading or speaking English	10.2%	68,400
Young women aged under 20	3.2% (2016 data)	22,465 (2016 data)
Women who experience domestic abuse	7.0%	47,000

Source: Confidential Enquiry into Maternal and Child Health reports (2017)

1.3 Maternal age

In England, the average age of first time mothers was 28.8 years in 2017, compared with 28.1 years in 2012 and the average age of all mothers increased to 30.4 years in 2016, compared with 29.8 years in 2012/13. Mothers and their babies at the lower and upper age bands are at greater risk. In England and Wales, pregnancy rates in the older age groups almost doubled in the last 20 years. Older mothers have a greater chance of developing diabetes, high blood pressure and/or other chronic diseases. Risk factors for conditions such as Downs Syndrome and other congenital anomalies are strongly related to increased maternal age and therefore older mothers can require additional screening and intervention. The likelihood of stillbirths and multiple births also increases with the mother's age. (Confidential Enquiry into Maternal and Child Health reports, 2017).

1.4 Multiple births

In England, there were 10,786 women who gave birth to twins in 2017, 160 to triplets and 5 to quads and above. The definition of multiple maternities includes both live births and stillbirths. Although most multiple births occur naturally, many occur as a result of fertility treatment. On average, multiple births tend to have lower birth weights than single births; multiple pregnancies are also associated with a higher risk of stillbirth, infant death and birth-related disability. The multiple maternity rate in 2017 increased slightly to 16.03 per 1,000 women giving birth, compared with 16.00 in 2014 (PHOF, 2017).

1.5 Maternal obesity and nutrition

1.5.1 Maternal obesity

Maternal mortality and morbidity are strongly related to obesity. Women with a Body Mass Index (BMI) greater than 40 are particularly at risk. Women who are obese when they become pregnant face an increased risk of complications during pregnancy and childbirth. These include the risk of impaired glucose tolerance and gestational diabetes, miscarriage, pre-eclampsia, thromboembolism and maternal death (Centre for Maternal and Child Enquiries and the Royal College of Obstetricians and Gynaecologists 2010). If a pregnant woman is obese then this will have a greater influence on her health and the health of her unborn child than the amount of weight she gains during pregnancy (NICE, 2011).

In England, about half of women of childbearing age are either overweight (BMI 25–29.9 kg/m²) or obese (BMI greater than or equal to 30 kg/m²). At the start of pregnancy, 15.6% of women in England are obese. Maternal obesity and weight retention after birth are related to socioeconomic deprivation (Heslehurst et al, 2010). The prevalence of maternal obesity increases with age. Maternal obesity is also a contributor to perinatal mortality.

1.5.2 Women with vitamin D deficiency

Vitamin D is essential for skeletal growth and bone health. Severe deficiency can result in rickets (among children) and osteomalacia (soft bones) (among children and adults). A national survey highlights that 24% of children and around 20% of adults may have low vitamin D status. Dietary sources are limited and the main source of vitamin D is from sunlight on the skin (NICE 2014). NICE guidance PH56 aims to increase supplement use to prevent vitamin D deficiency among at-risk groups; these include:

- Infants and children aged under 5
- Pregnant and breastfeeding women, particularly teenagers and young women.

It is recommended that all women are informed at the maternity booking appointment about the importance of maintaining adequate vitamin D stores during pregnancy and whilst breastfeeding. Women should be advised to take a vitamin D supplement (10 micrograms of vitamin D per day), as found in the Healthy Start multivitamin supplement. Women who are not eligible for the Healthy Start benefit should be advised where they can buy the supplement. Women at increased risk are:

- Those with darker skin (such as those of African, African–Caribbean or South Asian family origin)

- Those who have limited exposure to sunlight, such as women who are housebound or confined indoors for long periods, or who cover their skin for cultural reasons.

1.5.3 Women who have insufficient folic acid intake

There is strong evidence that having higher folic acid intakes before pregnancy and in the first 12 weeks of pregnancy will reduce the risk of neural tube defects (NTD), including anencephaly and spina bifida. The body cannot make or store folic acid, so it needs to be consumed or taken regularly. The recommended dose is 400 micrograms per day. Almost half the pregnancies in the UK are unplanned and even though women are advised to take folic acid supplements, many do not or start taking them too late. Women in lower socioeconomic groups are the most likely not to meet recommended guidelines regarding folic acid intake. In England, evidence shows that 800 pregnancies in a year – or about 1 in every 1000 pregnancies – are affected by NTDs or spina bifida; it is estimated that nearly half of these could be prevented by increasing folic acid intake (Blake, 2002).

1.6 Smoking in pregnancy

Smoking in pregnancy increases thrombotic risk and risk of pulmonary embolus, a significant cause of maternal deaths. Women who smoke are also at increased risk of miscarriage, pre-term birth and stillbirth. Smoking during pregnancy is also associated with lower birth weight, which itself is associated with poorer long-term outcomes). Children exposed to smoking in the womb are also at increased risk of infant mortality by an estimated 40% and are more likely to be wheezy, be asthmatic, have problems with their ear, nose and throat and have behavioural issues (NICE, 2010).Compared with other mothers, women who smoke in pregnancy are more likely to be aged under 20 (57%) and from the routine and manual occupational group (40%) (McAndrew et al 2010).

Mothers aged under 20 are the least likely to give up smoking at some point before or during pregnancy (Health and Social Care Information Centre, 2010). Nationally, the proportion of women smoking at the time of delivery is decreasing (see Table 2).

Table 2 – Decline in smoking at the time of delivery rate from 2006/7 to 2016/17

	Number of maternities	SATOD (number)	SATOD (%)
2006/7	601,262	90,887	15.1
2016/17	619,234	67,195	10.8

Source: HSCIC published in April (2018)

1.7 Perinatal mental health

Development begins before birth and evidence demonstrates that children born to mothers who experience antenatal stress, anxiety or depression perform at a lower cognitive level and experience more emotional or behavioural difficulties. Parental mental health (before and after birth) is a key determinant of the quality of the parent/infant relationship and of the ability to provide a number of other conditions for foetal and child development. It is a key factor in safeguarding children from abuse and neglect (Wave Trust (2013).
Up to 20% of women develop mental health problems in pregnancy or in the first year after childbirth. This can range from low mood and depression to psychosis. Nationally, around one-quarter of maternal deaths between 6 weeks and 1 year are related to mental health

problems (RCOG, 2017). Furthermore it is estimated that in England, two out of every one thousand new mothers will suffer from a postpartum psychosis and be admitted to a psychiatric unit. A further two out of every thousand mothers will be admitted suffering from other serious/complex disorders and will require support through a Specialised Mother and Baby Unit. 3% of maternities will be referred to secondary psychiatric services; approximately 1% of maternities will require specialised perinatal outreach teams. 10-15% of all delivered women will suffer from mild to moderate postnatal depression, the majority of whom will be cared for in primary care.

For more information, see link to the NCC Mental Wellbeing JSNA chapter: Mental wellbeing (2016) - Nottingham Insight.

1.8 Female Genital Mutilation (FGM)

In Britain, FGM among pregnant women is mostly seen in women who are recent migrants, asylum seekers or refugees and has usually taken place before they arrive in the UK. FGM comprises all procedures that involve partial or total removal of the external female genitalia or other injury to the female genital organs for non-medical reasons. Procedures are mostly carried out on young girls some time between infancy and age 15, and occasionally on adult women. The practice is most common in the western, eastern, and north-eastern regions of Africa, in some countries in Asia and the Middle East, and among migrants from these areas (UNICEF, 2013).

Women who have undergone FGM are much more likely to suffer obstetric complications at childbirth than women who have not been subject to the procedure. These women have complex needs and often initial access to health care services may be via maternity services. Since September 2014, it has been mandatory for NHS acute hospital providers to collect data on FGM. For the period of April 2015 to March 2016 there were:

- 5,702 newly identified cases of FGM reported nationally
- 106 newly identified cases of FGM reported nationally were under the age of 18
- In 18 newly-recorded cases, the FGM was reported to have been undertaken in the United Kingdom, including 11 women and girls who were also reported to have been born in the UK.

For more information: NCC FGM JSNA chapter (2017): Female genital mutilation (2017) - Nottingham Insight.

1.9 High risk pregnancies

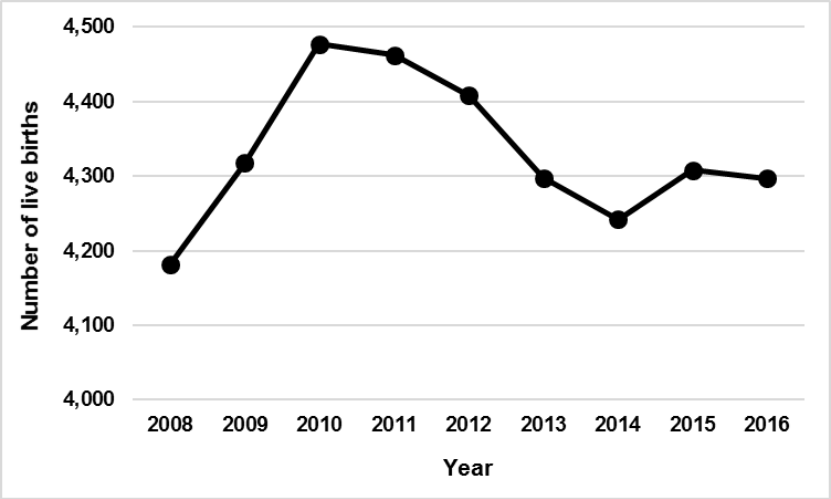
A "high-risk" pregnancy means a woman has one or more things that raise her or her baby's chances of health problems. High-risk pregnancies include underlying health conditions such as diabetes, epilepsy, depression and high blood pressure. Women who are pregnant with twins, triplets, or other multiples, or women who have had problems with a previous pregnancy, including premature labour or having a child with a genetic problem or birth defect, are also at increased risk of complications.

2) Size of the issue locally

2.1 Fertility

During 2016, there were 4,315 live births to Nottingham women, having risen from 3,540 in 2008 but lower than the recent peak of 4,477 in 2010.

Figure 2: Number of live births – Nottingham City (2008 -2016)

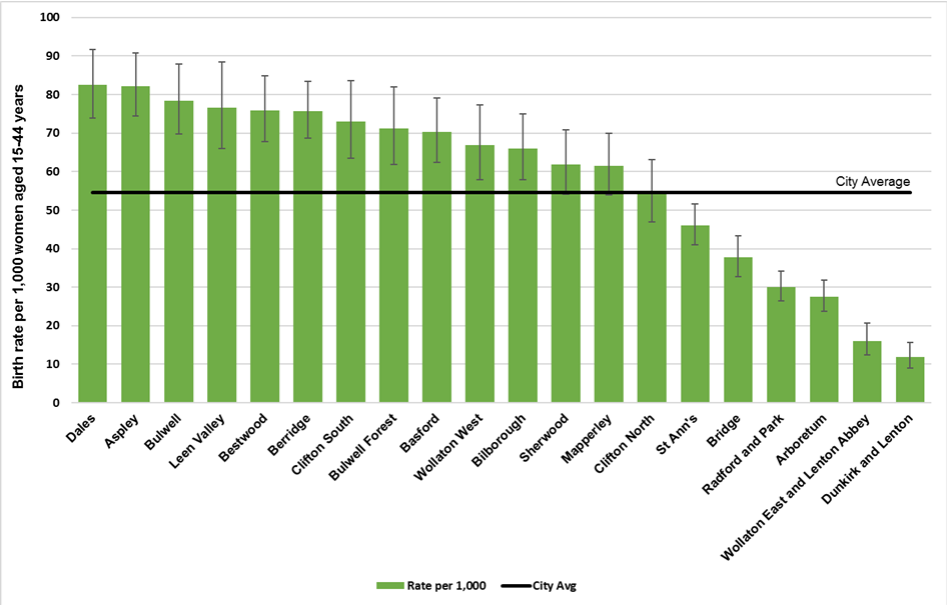


Source: NUH Medway Maternity data (2008 - 2016)

Nottingham has a Total Fertility Rate (TFR) of 1.68 per woman aged 15-44 in 2016; this is equivalent to each woman in Nottingham City having 1.68 babies if the current age-specific trends continued throughout her childbearing life. This is compared to 1.78 at the recent peak in 2011. Nottingham's TFR is lower than the England average (1.81).

Each year during October 2014–Sept 2016, there were 54.9 births per 1,000 women (aged 15-44 years) in Nottingham City. Local patterns of fertility reflect the distribution of the national birth rates within different occupational groups within the population. The wards with the highest number of births per 1,000 women were in Dales, Aspley, Bulwell and Leen Valley (Figure 3).

Figure 3: Rate of birth per 1,000 women aged 15-44 years in Nottingham City Wards (2014-16)



Source: NUH Medway Maternity data 2014/16

Higher pregnancy rates mirror the geographic distribution of teenage pregnancy and are associated with areas of disadvantage. These are also the areas where higher rates of complex health and social needs can be anticipated alongside a need for social support and help with parenting skills. The wards with the most births between 2014/16 were Dales and Aspley.

2.2 Termination of pregnancy/abortion

There were 177,535 abortions to residents of England in 2017. This represents an age-standardised abortion rate of 16.2 per 1,000 resident women aged 15-44. This is 0.1% higher than in 2013, 4.6% lower than in 2003 but double the rate of 7.8 per 1,000 resident women aged 15-44 recorded in 1970 (NUH Medway Maternity data, 2017).

During 2017 there were 1,206 abortions to Nottingham women, which is an age-standardised rate of 14.0 per 1,000 women aged 15-44. This rate is significantly lower than the England rate (16.2). The age group in Nottingham that had the most abortions was those aged 20-24 (388 abortions), although the highest rate of abortions was in the 25-29 age group (25 per 1,000 women aged 25-29). During 2017, there were 61 abortions to women aged under 18 years, which is a rate of 12 per 1,000 women for this age group, higher than the England rate (9 per 1,000) (NUH Medway Maternity data, 2017).

2.3 Stillbirths

A stillborn baby is one born after 24 completed weeks of pregnancy with no signs of life. Stillbirth rates in the UK are higher than might be expected in a high-income country: approximately one in 200 babies. During 2016 and 2017 there were 41 stillbirths in Nottingham, a rate of 4.8 per 1,000 births, which is higher than the England average of 4.4 stillbirths per 1,000 births (NUH Medway Maternity data, 2017). Many of these stillbirths are preventable. Although the causes of stillbirths are often unclear, there are associated risk factors (DOH, 2012), these include, but are not limited to:

- Maternal age (stillbirth rates are highest for women aged under 20 or over 40)
- Smoking in pregnancy
- Maternal obesity
- Deprivation
- Multiple births
- Influenza

2.4 Maternal mortality

In Nottingham there were no maternal deaths during 2017; however, it is important not to become complacent. Local factors such as the high adult obesity prevalence and the prevalence of smoking in pregnancy increase the risk of a rise in maternal mortality.

2.5 NHS screening in pregnancy

Women are offered three NHS screening programmes during pregnancy. Nationally, the uptake for the NHS screening programme for infectious diseases is approximately 98% (Public Health England, 2014). Table 3 shows the incidence of infectious diseases nationally, as well as the East Midlands region and the Nottingham estimate.

Table 3: NHS screening programme for Infectious Diseases in pregnancy 2016/17 – incidence of infectious disease nationally and East Midlands region and Nottingham estimate

Infectious disease	National incidence	East Midlands incidence	Estimated number of infected pregnant women in Nottingham per annum*
Hepatitis B	0.4%	0.3%	13
Syphilis	0.1%	0.2%	9
HIV	0.1%	0.1%	6
Rubella infection susceptibility	8.3%	6.4%	284

Source: Based on East Midlands data 2016/17

2.5.1 Sickle cell disease and thalassaemia

Sickle cell disease and thalassaemia conditions are serious inherited blood disorders and are most prevalent in Black African and Black Caribbean backgrounds (Public Health England (2018). In 2016/17, the NHS Sickle Cell and Thalassaemia Screening Programme screened approximately 677,000 pregnant women for sickle cell and thalassaemia in England. In the East Midlands, 47,746 women were eligible for sickle cell and thalassaemia screening; 47,422 women were screened, resulting in a 97.3% coverage rate, which is in line with the England average of 99.3% (Public Health England, 2018).

The NHS screening programme also screens newborn babies for sickle cell disease. In 2016/17, approximately 667,500 newborn babies were screened in England. In the East Midlands, 47,188 babies were eligible: 46,084 were screened, resulting in a 95.1% coverage rate, which is lower than the England average of 96.5%. However, coverage remains high in both antenatal and newborn screening (Public Health England 2018). NUH collects data on

sickle cell disease and thalassaemia screening during pregnancy: in 2015/16, 10,868 women were eligible and 10,622 women were screened. This figure has seen a slight decrease during 2016/17 with 10,421 women being eligible for screening and 10,274 women being screened (NUH Medway Maternity data 2016).

2.6 High risk pregnancies

2.6.1 FGM

In Britain, FGM among pregnant women is mostly seen in women who are recent migrants, asylum seekers or refugees and has usually taken place before they arrive in the UK. In 2017/18 there were 85 individual Nottingham City residents treated for FGM, of whom 65 were newly identified. 30 (31.6%) of the women were originally from Northern Africa, 25 (26.3%) from Eastern Africa; 20 (21.1%) from Western Africa; 5 (5.3%) from Western Asia; 5 (5.3%) from the rest of Asia; 5 (5.3%) from the rest of the world and 5 (5.3%) unknown. The exact number of these women who were pregnant at the time of identification was unknown but out of 85 attendances at NHS Clinics, 80 involved pregnancies (UNICEF, 2013).

See NCC FGM JSNA chapter: Female genital mutilation (2017) - Nottingham Insight.

2.6.2 Multiple births

There is an indication that the rate of multiple births was higher in Nottingham in 2017 than the England average: 17.2 births in every 1,000 compared to 15.9 per 1,000 births. However, this data should be viewed with caution, as there was no statistical difference.

2.6.3 Diabetes

Data on the number of pregnant women in Nottingham with diabetes was not available. However, the National Pregnancy in Diabetes (NPID) Audit (2016) provides data at regional level. Of the six Trusts which participated from the East Midlands (including NUH), the audit identified that there were 152 women with diabetes during pregnancy in 2016. This will be an underestimation of the true number as not all Trusts in the East Midlands participated in the audit.

2.6.4 Maternal obesity

Nottingham has a high prevalence of maternal obesity. In 2017/18, NUH recorded 1,550 pregnant women as having a BMI of over 30, which equates to 21% of all pregnancies. This number is significantly higher than the England average of 15.6%. There is a significant correlation between deprivation and maternal obesity. The high obesity level amongst pregnant women in Nottingham is due to the high proportion of Nottingham City being within the most deprived fifth of England (IMD, 2016).

2.7 Complex social factors

NUH collects data on women who present with complex social factors during pregnancy. Table 4 shows the number of women who presented with complex social factors during 2017/18. The data shows there were significantly more women with mental ill health than presented with other complex factors, followed by: those who had difficulty speaking English; mothers aged under 20; recent migrants. These findings are in line with the national picture and are attributed to Nottingham's demographics. For example:

- It is estimated that between 2017 and 2018, 1,224 women in Nottingham experienced mental health issues during pregnancy (PHO 2017)

- Nottingham is a very diverse city: the 2011 Census shows 35% of the population as being from BME groups; an increase from 19% in 2001. In 2016, 37.9% of Nottingham's births were to mothers born outside of the UK, an increase from 2012 (31.8%), and more than double the percentage in 2001 (14.5%)
  (Nottingham City Council Demography JSNA (2018)

- There is a significant correlation between deprivation and teenage pregnancy with half of all under-18 conceptions in England occurring in the 20% most deprived wards. Nottingham is within the most deprived fifth of England: teenage pregnancy rates in the most deprived 10% of wards are four times higher than in the 10% least deprived wards (NCC Reducing unplanned teenage pregnancy JSNA, 2017).

Table 4: The number of pregnancies to women in Nottingham with complex social factors 2017/18

Complex social factor	Number of pregnancies during 2017/18
Mental health issues	1,224
Those who have difficulty reading or speaking English	475
Aged under 20 years	306
Recent migrant	245
Misuse substances (drugs or alcohol)	134
Asylum seekers or refugees	20
Experiencing domestic abuse	19

Source: NUH Medway Maternity data 2017/18

2.7.1 Maternal mental health

Maternal mental health is a significant issue in Nottingham with 1,224 (44%) of pregnant women estimated to have mental health issues during 2017/18. Table 5 shows an estimate of the number of women in Nottingham with a mental illness during the post-partum period during 2017/18 (PHOF, 2017). Women are at greater risk of adjustment disorders and stress, followed by mild-moderate depressive illness and anxiety states.

Table 5: Estimates of mental illness in post-partum mothers, Nottingham City 2015/16

Illness	Numbers
Post-partum psychosis	10
Chronic serious mental health	10
Severe depressive illness	125
Mild-moderate depressive illness and anxiety states	405 – 605 *
Post traumatic stress disorder	125
Adjustment disorders and stress	1,210

Source: Public Health England, Perinatal Mental Health Profile 2015/16.
*Note: Numbers quoted are estimates calculated by applying the national prevalence estimates to the number of deliveries in Nottingham City, rounded to the nearest 5. * lower – upper estimates*

Data from the Nottingham Citizen's survey 2014-16, estimates that the ward with the highest proportion of women of childbearing age (16-44 years) with poor mental health is Mapperley, followed by Aspley and Bilborough. However, confidence levels are wide which may be masking true differences across areas.

Table 6: Percentage of women (aged 16-44 years) with poor mental health by ward (2014-2016)

Ward	% of women with poor mental health	Ward	% of women with poor mental health
Arboretum	11.0	Clifton South	15.1
Aspley	22.3	Dales	11.3
Basford	11.1	Dunkirk and Lenton	7.1
Berridge	12.9	Leen Valley	11.8
Bestwood	10.1	Mapperley	26.6
Bilborough	21.7	Radford and Park	13.9
Bridge	11.0	Sherwood	12.9
Bulwell	16.0	St Anns	18.1
Bulwell Forest	12.3	Wollaton East and Lenton Abbey	12.7
Clifton North	15.1	Wollaton West	2.0

Source: Nottingham Citizen Survey 2014/16

2.7.2 Recent migrants, asylum seekers and women who have difficulty reading and speaking English

The rise in fertility rates has, in part, been due to increased migration. Ten countries joined the European Union in 2004 and another two in 2007. In 2016, 1,636 (37.9%) of Nottingham's births were to mothers born outside of the UK, an increase from 2012 (31.8%) and more than double the percentage in 2001 (14.5%) (NCC Pregnancy JSNA, 2016).

The Office for National Statistics (ONS) estimated that the City gained 4,465 people due to international migration in 2015/16 alone. The number arriving from the EU Accession countries was 2,945. The majority of these were from Poland (1,397) and Romania (970). In 2018, there were 971 asylum seekers residing in Nottingham City, the highest number being Iraqi (149), Pakistani (117) and Iranian (95) (NCC Asylum seeker refugee migrant health, 2018).

2.7.3 Mothers aged under 20

In Nottingham during 2017, there were 179 births to women aged under 20 years. Of these, 51 were to mothers aged 12 to 17. The rate of teenage conceptions in 2016 was 31.2 per 1,000 women aged 15-17, which is significantly higher than the England rate of 20.8 per 1,000 women. Table 7 shows the number of births to women aged under 20 years per ward in Nottingham during 2017.

For more information see: Reducing unplanned teenage pregnancy and supporting teenage parents (2017) - Nottingham Insight.

Table 7: The number of births to women aged under 20 years per ward in 2017

Ward	Number of births
Arboretum	8
Aspley	23
Basford	13
Berridge	17
Bestwood	12
Bilborough	10
Bridge	7
Bulwell	10
Bulwell Forest	12
Clifton North	11
Clifton South	12
Dales	13
Dunkirk and Lenton	Less than 5
Leen Valley	Less than 5
Mapperley	6
Radford and Park	Less than 5
Sherwood	Less than 5
St Anns	9
Wollaton East and Lenton	Less than 5
Wollaton West	Less than 5

Note: ref we do not share data under 5 births to protect the identity of individuals

2.7.4 Alcohol and drug use

There is an underestimation of alcohol consumption among pregnant women as data on rates of alcohol consumption during pregnancy is commonly based on self-reporting. Such reporting is unreliable due to poor estimation, poor recollection and the social stigma associated with heavy drinking during pregnancy (Plant, 2005). Comprehensive local data on alcohol consumption in pregnant women is not available.

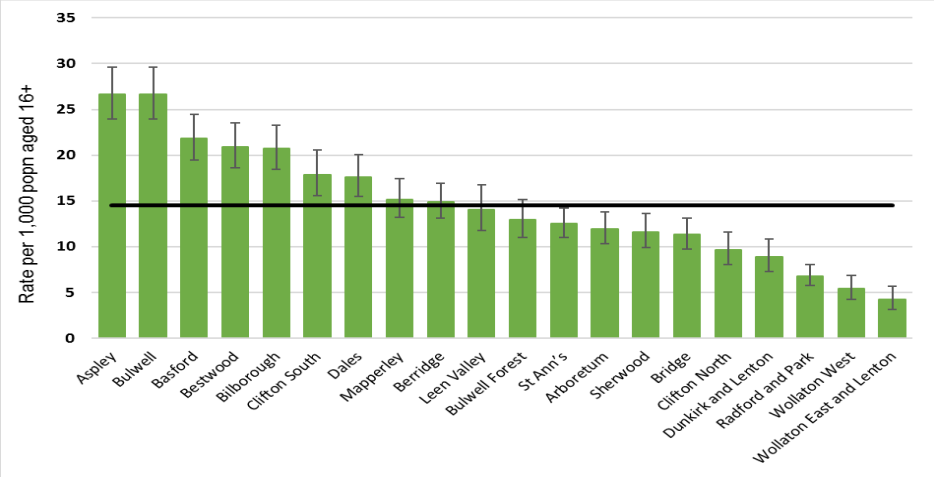
Data collected by NUH records "substance misuse" and it is therefore not possible to differentiate between alcohol and drugs. However, according to the Nottingham Citizen Survey (2014), it is estimated that more than a quarter (25.8%) of women of child-bearing age (16 – 44 years) are binge drinkers (defined as consuming six or more units of alcohol at one time/in a day). It can be assumed that women who are planning a pregnancy may reduce their alcohol consumption; however this remains a concerning percentage, particularly given that half of pregnancies in the UK are unplanned.
For more information see Nottingham City Council JSNA (2015) Adult drug users (2015) - Nottingham Insight.

2.7.5 Women who experience domestic abuse

NUH records the number of women who disclose domestic abuse at maternity booking appointments. In 2017/2018, 19 cases were recorded; however, local intelligence suggests that the numbers recorded are not a true reflection of the issue and that many cases go unreported. A report by Best Beginnings (2017) states that 15% of women report violence during their pregnancy and that 40–60% of women experiencing domestic violence are abused while pregnant. In 2017/18, the ward with the highest rate of domestic abuse-related calls to th police was Aspley, followed by Bulwell and Basford (Figure 4).

For more information see: Domestic and sexual violence and abuse (2018) - Nottingham Insight.

Figure 4: Domestic abuse-related calls to police (rate per 1000 population) by Ward (2017/18)

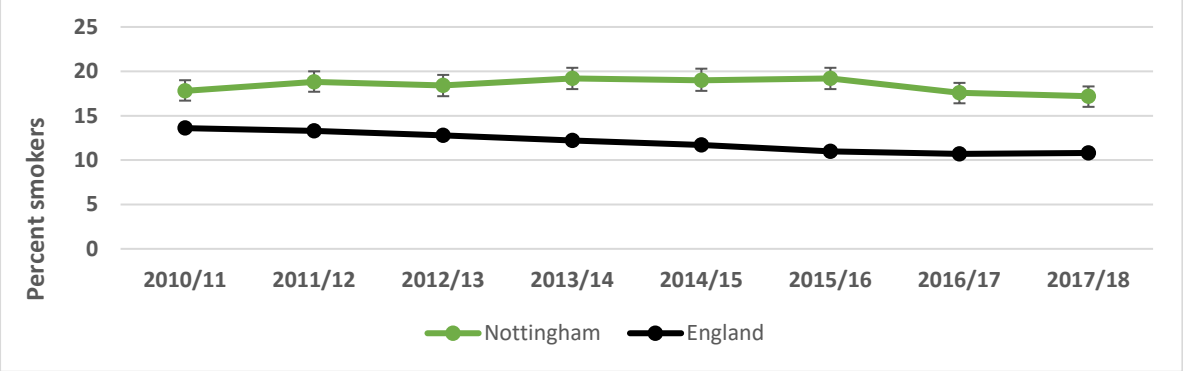


Source: Nottingham Crime and Drugs Partnership 2017/18

2.8 Smoking in pregnancy

Nottingham City has a high smoking prevalence in the adult population of 21.5 %, which is significantly higher than the England average of 15.5% in 2017. Smoking status at time of delivery (SATOD) rates in all pregnant women have remained fairly static. In 2017/18, 17.2% of Nottingham women were reported to be current smokers at the time of delivery, significantly higher than the England average (10.8%) (Figure 5).

Figure 5: SATOD in Nottingham compared to England (2010/11 -2017/18)

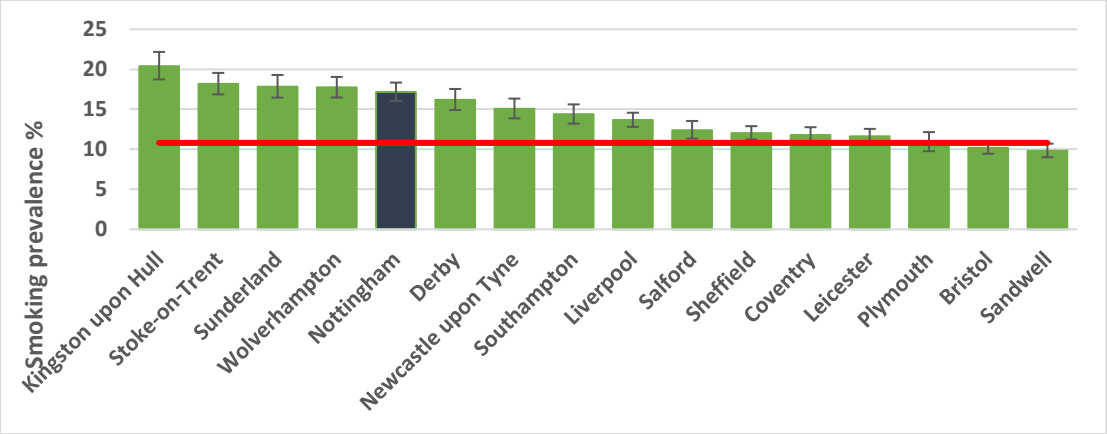


Source: Public Health England, Tobacco Control Profiles 2017/18

Nottingham has one of the highest percentages of women smoking at time of delivery: Figure 6 shows that when compared to statistical neighbours, Nottingham has the fifth highest rate. Whilst there has been no statistically significant reduction in the rate from 2016/17 to 2017/18, Nottingham's position compared to statistical neighbours has improved from the third highest rate in 2016/17 to fifth highest rate in 2017/18. There has

been no statistically significant reduction since 2010/11, the first year the data was published in this form.

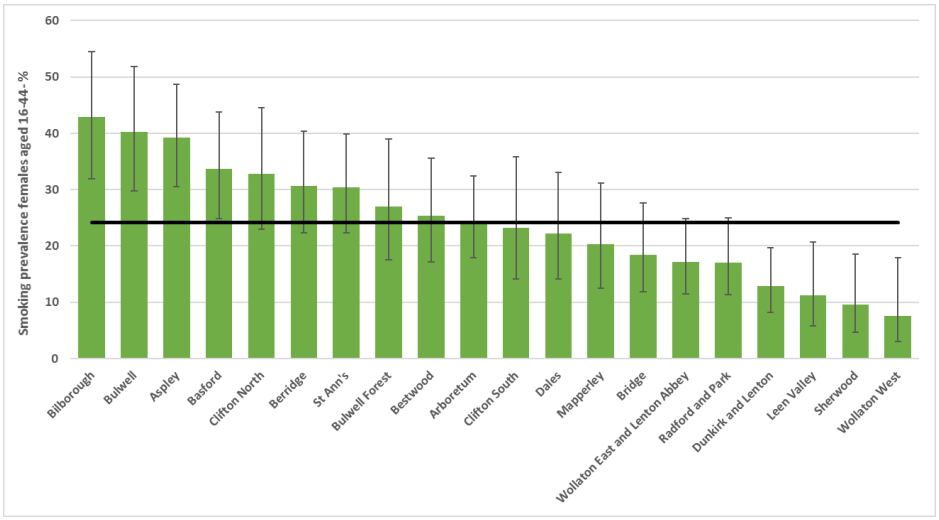
Figure 6: SATOD in Nottingham compared to statistical neighbours and England (2017/18)



Source: Public Health Outcomes Framework (2018)

SATOD data at ward level is not available. The Nottingham Citizen Survey (2016), however, estimates that 24.2% of women of child-bearing age (16-44 years) in Nottingham smoke. The wards with the highest prevalence among women of childbearing age are Bilborough (42.9%) Bulwell (40.3%) and Aspley (39.3%) see Figure 7.

Figure 7 : Estimated smoking prevalence among women of childbearing age (16-44 years) by ward (2014-16)



Source: Public Health England, Tobacco Control Profiles 2018

3) Targets and performance

Nottingham City Council - Nottingham Plan 2015 - 2020

The Nottingham Plan has various targets around adult health, which would contribute to improved maternal health. These include:

- Reduce smoking prevalence to 20%
- Reduce the proportion of overweight and obese adults to the 2000 average levels for England
- Increase levels of physical activity to 32% of adults participating in 3 x 30 mins moderate physical activity per week
- Reduce alcohol-related hospital admissions to 1,400 per 100,000 population
- Improve mental health and wellbeing across the city

http://www.onenottingham.org.uk/wp-content/uploads/2016/08/Nottingham_Plan_Year_2_Annual_Report_Final.pdf

Nottingham City Children and Young People's Plan 2016 - 2020

This plan brings together the children and young people's elements of other Nottingham City Council partnership plans – including the Nottingham Plan; the Health and Wellbeing Strategy; and the Education Improvement Board 10-year strategic plan, 'A brighter future for Nottingham children' – providing one shared framework for the Children's Partnership. The following targets are within the plan that relate to pregnancy:

- Percentage of women reporting smoking at the time of delivery
- Placeholder for performance measure on improving mental health for new mums and Mums-to-be
- Percentage of mothers who breastfeed their babies 6-8 weeks after delivery
- Rate of infant mortality per 1,000 live births (aged under one year)
- Percentage of eligible children who have received 3 doses of Dtap/IPV/Hib1 vaccine by their first birthday

http://www.nottinghamchildrenspartnership.co.uk/media/413594/cypp-2016_20_web.pdf

Public Health Outcomes Framework (PHOF) 2016-2019

There are indicators in the PHOF related to pregnancy and maternal health as shown in Table 8. Please note that, other than infant mortality, indicators for infants are included in the 0-5 JSNA chapter.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/545605/PHOF_Part_2.pdf

Table 8: PHOF indicators related to pregnancy and current performance compared to England

Domain	Indicator	Nottingham current	England average	Comparison
Wider determinants of health	Domestic abuse	15.6 per 1,000	22.1 per 1000	This is not compared for statistical differences due to data quality
Health improvement	Smoking status at time of delivery	17.6%	10.7%	Statistically higher
	Under 18 conception rate	31.2 per 1,000 (age 15-17)	20.8 per 1,000 (age 15-17)	Statistically higher
	Antenatal infectious disease screening	99.0%	Not available	Unknown
	Antenatal sickle cell and thalassaemia screening	99.7%	Not available	Unknown
Healthcare and preventing premature mortality	Infant mortality	5.9 per 1,000 live births	3.9 per 1000 live births	Statistically higher

NHS Outcomes Framework 2016/19: Indicators related to pregnancy in the NHS Outcomes Framework include:

Preventing people from dying prematurely domain:

- Infant mortality
- Neonatal mortality and stillbirths

Ensuring that people have a positive experience of care domain:

- Improving women and their families' experience of maternity services

Treating and caring for people in a safe environment and protecting them from avoidable harm domain

- Improving the safety of maternity services - Admission of full-term babies to neonatal care

https://digital.nhs.uk/data-and-information/publications/clinical-indicators/nhs-outcomes-framework/current

Nottinghamshire Local Maternity System (LMS) Local Transformation Plan 2017/18 to 2020/21

The Nottinghamshire LMS Transformation Plan is the key driver for transforming maternity services across Nottinghamshire. The Plan aims to respond to the recommendations made in *Better Births* to ensure that by the end of 2020/21:

We have improved choice and personalisation in maternity services so that:

- All pregnant women have a personalised care plan.
- All women are able to make choices about their maternity care during pregnancy, birth and postnatally.
- Most women receive continuity of the person caring for them during pregnancy, birth and postnatally.
- More women are able to give birth in midwifery settings (at home and in midwifery units).

We have improved the safety of maternity care so that all services:

- Have reduced rates of stillbirth, neonatal death, maternal death and brain injury during birth by 20% and are on track to make a 50% reduction by 2025.
- Are investigating and learning from incidents and sharing this learning through their Local Maternity System and with others
- Are fully engaged in the development and implementation of the NHS Improvement Maternal and Neonatal Health Safety Collaborative.

CCG Outcomes Framework 2017/18

The Outcomes Framework for CCGs has four indicators relating to pregnancy and Nottingham City's performance is outlined below:

Maternity indicator	Indicator value
Stillbirth & neonatal mortality rate	4.4 per 1,000 births
Women's experience of maternity services	80.7 out of 100
Choices in maternity services	60.2 out of 100
Rate of maternal smoking at delivery	17.2%

4) Current activity, service provision and assets

4.1 Strategic Leadership

4.1.1 Nottinghamshire Local Maternity System (LMS) Transformation Board

Clinical Commissioning Groups (CCGs) are the main commissioners of NHS maternity services across the country. In Nottinghamshire, in line with the STP footprint, a Nottinghamshire LMS Transformation Board is in place covering Mansfield & Ashfield, Newark & Sherwood, Nottingham North & East, Nottingham West, Rushcliffe and Nottingham City CCGs. Bassetlaw CCG is part of the South Yorkshire and Bassetlaw LMS. The LMS Transformation Board has overseen production of the Nottinghamshire LMS Plan, which has been co-produced with local service users and maternity staff.

Five 'sub-groups' of the LMS Transformation Board have been established. These sub-groups are responsible for the delivery of specific, identified recommendations from *Better Births*, the sub-groups are as follows:

- **Choice and personalisation**: including supporting decisions and choice, personalised / intermediate and intensive care pathways, continuity of carer.

- **Commissioning**: including local commissioners, commissioning for outcomes, pricing and payment system reform, contracting, prevention and public health, workforce training and innovation bids, CCG IAF, public health outcomes framework, national screening programmes and mental health.
- **Safe and effective care**: including culture, clinical governance, saving babies' lives care bundle, safety training fund and incident investigation and learning.
- **Engagement**: Maternity Voices Partnership, staff engagement and stakeholder engagement.
- **Workforce and information technology**: including STP workforce transformation, local digital roadmap, multi-professional training, electronic maternity records, information governance, multi-professional peer review (supported by Trusts and RCOG and RCM) and harnessing digital technology.

4.1.2 Maternal Public Health Steering Group (part of the LMS work plan) aims to:

- Reduce the prevalence of smoking in pregnancy across Nottingham City and Nottinghamshire County
- Develop a co-ordinated approach to preventing and reducing alcohol-related harm in pregnancy, promoting the view that 'No Alcohol equals No Harm'
- Develop a co-ordinated approach to preventing and reducing obesity during pregnancy.

4.1.3 Nottingham and Nottinghamshire Female Genital Mutilation (FGM) Steering Group:

The FGM Steering Group brings together partners, including maternity, safeguarding, public health, primary care, community and police leads. The group aims to drive local activity contributing to:

- Preventing FGM
- Identifying and supporting survivors of FGM
- Fulfilling legal obligations to report FGM.

The partnership work of this group has led to a Zero-Tolerance Action Plan being developed which encompasses training, awareness, establishment of clinical pathways, publicity and community engagement.

4.2 Service provision and assets

4.2.1 Maternity workforce

NUH is committed to ensuring that levels of maternity staff, including registered midwives and midwifery support workers, are correct to meet the care requirements for the women of Nottinghamshire and have used a recognised midwifery staffing assessment Birthrate plus©. Within the Birthrate plus©methodology are national standards which include the minimum standard of 1 midwife to 1 woman for care in labour. Community antenatal care is based on NICE guidance, as is postnatal care, with allocation of average midwife hours for women to cover their standard antenatal and perinatal assessments, parentcraft, socio-economic issues

and all clinical needs. It is recommended that there is an annual review of midwifery staffing using a recognised tool/methodology.

4.2.2 Pregnancy pathway

There are several service providers along the pregnancy pathway and commissioning arrangements: the providers and commissioners of key services are listed in Table 9.

Table 9: Commissioners and providers of services for the pregnancy pathway

Service	Provider	Commissioner 2015/16	Commissioner 2016/18
Maternity Services	Nottingham University Hospitals NHS Trust	NHS Nottingham City CCG	NHS Nottingham City CCG
Health Visiting	Nottingham CityCare Partnership	Nottingham City Council	Nottingham City Council
Family Nurse Partnership	Nottingham CityCare Partnership	Nottingham City Council	Nottingham City Council
Early Help Services (provided through Children's Centres)	Nottingham City Council/Voluntary sector providers	Nottingham City Council	Nottingham City Council
General Practice	Various	NHS England	NHS England
Public Health interventions	Various	Nottingham City Council	Nottingham City Council

4.2.3 NUH - Maternity services

As described in Table 9, maternity services in Nottingham are provided by Nottingham University Hospitals (NUH). Maternity services at NUH include community midwifery services, antenatal, birth and post-natal inpatient care and out-patient/day care and are provided by the maternity team (midwives, midwifery support workers, specialist midwifery teams, obstetricians and anaesthetists) The current services aim to:

- Ensure all women receive appropriate information and support during pregnancy, childbirth and the post-natal period to improve their own health and that of their unborn child
- Ensure all women with complex health and social care needs (e.g. substance misuse, domestic violence, diabetes, cardiac disease) are assessed and provided with specialist health and social care support and advice where indicated
- Ensure pregnant women with mental health problems have equitable access to specialist mental health services
- Increase early engagement of interagency partners in integrated support for pregnant teenagers and their partners.

4.2.4 Maternity pathway tariff

A mandatory Maternity Pathway Payment System came into effect from April 2013 with the aim of encouraging a more proactive and woman-focused approach to the delivery of maternity services. Women are identified as requiring a standard, intermediate or high risk pathway and the tariff payment is set according to the identified pathway. Under the new system, commissioners pay the provider a tariff for the pregnancy-related care a woman may need for the duration of her pregnancy, birth and postnatal care. The main emphasis of the new system is to ensure that women receive the highest quality, proactive maternity care that delivers the best outcomes and experience and prevents the onset of avoidable conditions and complications. This new system removes the financial reward for undertaking all interventions in a hospital setting, however it has limitations in that some maternal diagnoses are made after the pathway has been identified and, dependent on the gestation of the diagnosis, changes to the pathway may not be possible.

4.2.5 Information systems

An acute maternity system – for example, Maternity Medway – should be implemented in the community to enable maternity records to be accessed and updated seamlessly through the whole maternity pathway and from a range of locations. Currently, community records are updated on SystmOne, which may be upon return to a midwife's base, and paper copies of information are sent to NUH input clerks for entry on to Medway. This introduces delays and the opportunity for inaccuracy due to human error. The same level of information needs to be accessible to the maternity teams whether they are working in the community or in the acute setting and information technology solutions are required to achieve this, whilst ensuring information sharing to universal and community health services is not compromised**.** Within the Nottinghamshire Maternity Transformation Plan there is a specific IT work stream, which aims to transform information systems and data sharing across the LMS footprint.

4.2.6 Midwifery and Communication

Midwives inform the GPs of booking via a confirmation of booking letter which is generated from SystmOne. A Core Offer to GPs was made by NUH in 2012 and part of this involves the development of bespoke communication routes with each practice and the allocation of a link/named midwife at each practice. If there are any complications in pregnancy, information is shared in an agreed way between each GP practice and their midwife.

4.3 Maternity Access

Early access to maternity care is important to ensure that women and their babies have the best support and access to healthcare. It is also an opportunity for healthcare professionals to interact and build relationships with women and families. NICE Quality Standard for Antenatal Care (QS22) outlines that pregnant women need to be supported to access antenatal care, ideally by 10 weeks 0 days. The 10-week access overall performance for NUH ranged from 44% - 58% in 2017-18, which was less than other areas in the East Midlands. However, work is being undertaken as part of the LMS Transformation Plan to improve early access across Nottingham City.

4.3.1 Maternity access for women with complex social factors

NICE Guidance for Pregnancy and Complex Social Factors (CG110) outlines that facilitating early booking for women with complex social factors is even more important than for the general population of pregnant women. This is a concern for Nottingham: the numbers of women accessing late, beyond 12+6 and 20 weeks continued to be high during 2017-18, particularly in women where their English was limited or not their first language, women with mental health problems, recent migrants and women aged under 20 years (see Table 10).

Table 10: NUH banded gestation at time of booking for women with complex social factors (2017/18)

Complex social factor	Number of bookings by 10 weeks	Number of bookings 10+1 12+6 weeks	Number of bookings 13 to 20 weeks	Number of bookings over 20 weeks
Aged under 20 years	175	59	51	16
Recent migrants	57	53	62	73
Asylum seekers or refugees	6	3	8	3
Difficulty reading or speaking English	177	133	104	61
Experiencing domestic abuse	10	2	3	7
Substance misuse (drugs and alcohol)	81	34	4	7
Learning disability	11	9	4	0
Homeless	0	0	0	0
Mental health issues	708	353	125	38

Source: NUH Medway Maternity data 2017/18

The 10-week access target will be challenging to achieve in Nottingham City; however, a targeted campaign promoting direct and early access to midwives is being initiated as part of the Nottinghamshire Local Maternity System (LMS) Local Transformation Plan 2017/18 to 2020/21. Furthermore, NICE guidance identifies that pregnant women with complex social factors may have additional needs and outlines the following barriers to them accessing antenatal services:

- They are overwhelmed by the involvement of multiple agencies
- They are not familiar with antenatal care services nor how to navigate the NHS
- They have practical problems that make it difficult for them to attend antenatal appointments
- They find it hard to communicate with healthcare staff
- They are anxious about the attitudes of healthcare staff

NUH has identified midwives who have a specialist interest in and knowledge of providing care for vulnerable women. This includes substance misuse, young parents, those who are homeless and those experiencing domestic abuse. These midwives focus on engagement

and support with these vulnerable and high-risk groups of pregnant women. They provide antenatal and postnatal care for women who are the most at risk and provide support and training for the wider workforce. In addition, there are midwives with specialist interests in targeted areas that include a range of complex social factors; this activity is delivered in addition to midwives' clinical roles, supported by dedicated time; see below:

Pregnant women who misuse substances (alcohol and/or drugs)
At NUH, all women are asked about alcohol and substance use at maternity booking. A positive answer would lead to additional information gathering, support, advice or referral at every appointment. The national Audit C tool has recently started to be completed for every pregnant woman at booking and data will be reported in future updates of this chapter. All women receive a brief intervention and the client is given an alcohol in pregnancy leaflet.

At NUH, there is a specialist midwife for substance misuse. For all cases, an assessment is made as to whether the specialist team case-hold, share care with the community midwife, or act in an advisory capacity in a woman's maternity care. Women who are referred into the specialist substance misuse team are fast tracked into substance misuse services, recently renamed as Recovery in Nottingham, and care is delivered in line with NUH guidelines for drug misuse in pregnancy. Data on the number of women accessing recovery is not available.

Currently women are not routinely asked again about their alcohol and substance misuse at 28 weeks if they had offered a negative answer at booking, as recommended by NICE guidance.

Pregnant women who are recent migrants, asylum seekers or refugees or who have difficulty reading or speaking English
At NUH, language barriers are assessed at booking and interpretation initiated as appropriate via face-to-face or telephone interpreting services. NUH has developed guidance regarding which contacts with maternity services should be prioritised for face-to-face interpretation and includes the booking appointment and appointments at 16 weeks, 28 weeks and 36 weeks. A practice guidance template has been developed to reflect those whom women agree should help them with translation and support in an emergency situation (friend or family member).

NICE recommends that all women should be provided with an interpreter for all their maternity care and specifies that this should not be a family member, legal guardian or partner. These should not be used as an interpreter in the antenatal or postnatal period unless in an emergency. Assurance is required that the service encourages face-to-face interpretation and ensures telephone interpreting is used as a minimum at each appointment.

Young pregnant women aged under 20

Within NUH, midwives with a specialist interest in teenage pregnancies have traditionally accepted referrals for those under the age of 17 years or those under the age of 19 years where additional needs are identified. Additional needs constitute any young women under the age of 19 who have two high-risk factors (i.e. care leavers, learning disabilities) or anyone under the age of 19 with three moderate risk factors (i.e. homeless, substance misuse, youth offenders, mental health problems, social care/safeguarding issues). If a community midwife identifies that a young person would particularly benefit from additional support, the young woman is referred and accepted by the teenage pregnancy team. The teenage pregnancy midwives support young women throughout the antenatal and postnatal period, extending

support on the core midwifery offer to support women 6 weeks postnatally. Care is offered flexibly to support young women to continue to access education.

Pregnant women who experience domestic abuse and pregnant women who are homeless

At NUH, there is one WTE specialist midwife for homelessness and domestic abuse; around a quarter of the role is clinical, providing antenatal and postnatal care for a small, defined caseload of complex women. The specialist midwife also provides support to midwives to enable them to give additional care to women on their caseloads who are victims of domestic abuse or who are homeless or at risk of homelessness. The post supports staff regarding completion of risk assessments and disclosures of domestic violence, and supports the provision of information to the Domestic Abuse Referral Team (DART). The post holder also attends MARAC meetings for pregnant women considered the most high risk and helps to formulate a multiagency action plan to safeguard the family. Due to the intense intervention and care requirements of this group of women, it has been recommended that there is consideration to increasing the midwifery WTE to this specialist team.

Pregnant women who have undergone female genital mutilation (FGM)

In the UK, women who have undergone FGM are most likely to be identified through maternity services. At booking, maternity health professionals have an opportunity to sensitively enquire about FGM and, once identified, to respond to the woman's complex needs and refer appropriately to a FGM clinic. At NUH, there is a midwife with a specialist interest who holds clinics for women who have undergone FGM. In 2015 the DoH introduced mandatory reporting of all women who have undergone FGM.

Pregnant women who have a learning disability

At NUH, all midwifery teams have a resource box with information appropriate to use with pregnant women or families with a learning disability. This includes the 'My next patient has a learning disability' toolkit; the NHS Midlands and East 'Top tips for supporting and meeting the needs of people with profound and multiple learning disabilities' and 'The hospital communication book'. At NUH there is no identified midwife with a specialist interest in Learning Disability to provide support and raise awareness across the maternity pathway.

Gestational diabetes

Pregnant women are risk assessed for gestational diabetes at their first appointment with a midwife. Women identified at risk using the current NICE Guidelines are referred for an antenatal Glucose Tolerance Test (GTT) between 24-28 weeks or earlier if indicated. If women not referred for a GTT develop glycosuria in their pregnancy, they will be referred for screening. Doctors may refer during pregnancy if they pick up large-for-dates babies and/or polyhydramnios on scan.

4.4 Antenatal screening

The UK NSC Screening Programme is responsible for developing, implementing and maintaining high quality, uniform screening programmes for all pregnant women in

England. Screening is an integral part of maternity care and enables pregnant women to make decisions regarding their unborn baby's health, should they wish to accept the offer of antenatal and newborn screening. All women should be offered the 7 UK NSC programmes for themselves antenatally, and for their babies neonatally. These programmes are:

- **NHS Infectious Diseases in Pregnancy Screening (IDPS) Programme**
  Ensuring that all pregnant women are routinely offered screening for hepatitis B, HIV, syphilis and susceptibility to rubella infection.

- **NHS Foetal Anomaly Screening Programme (NHS FASP)**
  FASP offers screening for pregnant women to check the baby for foetal anomalies, Down's, Edwards' and Patau's syndromes. All pregnant women are offered a minimum of 2 ultrasound scans. The first is an early scan, (10+0 and 14+1 weeks of their pregnancy) and used mainly for dating the pregnancy and confirming viability. The second ultrasound scan is undertaken between 18 to 20 weeks 6 days of pregnancy and screens for major structural anomalies in order that women are able to exercise informed choice about their pregnancy.

- **NHS Sickle Cell and Thalassaemia Screening Programme**
  Offers antenatal sickle cell and thalassaemia screening to all women from certain ethnicities (and couples) to facilitate informed decision-making.

4.4.1 NUH foetal anomalies

NUH provides specialist tertiary antenatal services for foetal medicine in the foeto-maternal medicine unit at the Queens Medical Centre (QMC) and the foetal care unit at City Hospital. The foetal medicine unit offers a range of non-invasive ultrasound as well as invasive karyotyping. When an abnormality is suspected or detected, foetal Medicine arranges referral to neonatal services if appropriate, which supports pre-birth planning and optimises outcomes and decision-making. There was a CQUIN for foetal Medicine for 2013/14 which focused on the rapidity of obtaining a tertiary level foetal medicine opinion. The aim of this CQUIN was to achieve at least 90% of newly-suspected/diagnosed lethal or major foetal abnormalities or other life-threatening foetal disorders referred to the foetal medicine centre to be seen within three working days. This target was achieved and is now embedding into service delivery.

4.4.2 NUH Sickle cell and thalassemia service

The Sickle Cell and Thalassemia service is an integrated service that has an overview of antenatal, new-borns, children, young people, adults and families affected by sickle cell and thalassemia, as a carrier or diagnosed with the diseases. The overall aims of the service are to reduce sickle cell and thalassemia-related mortality and morbidity and to reduce hospital admissions through improving community management. Some of the service aims/outcomes are highlighted below:

- Newborn babies with a diagnosed haemoglobin disorder are reviewed within 12 weeks of birth and are seen a minimum of four times in the first year of life, then ongoing according to requirement/age

- Newborn babies who are healthy carriers of a haemoglobin disorder (identified from the newborn screening programme) are reviewed within 12 weeks of birth
- Personalised management plans in place, or underway, for 100% of clients
- Evidence of adults with a diagnosed haemoglobin disorder receive a review of their care management a minimum of twice annually
- An increase in access to the service and screening by raising awareness in the community
- An increase in access to the service and screening by raising awareness with healthcare professionals.

4.4.3 Flu and pertussis vaccination

Midwives give information about the importance of having the flu and pertussis vaccination during pregnancy at the maternity booking appointment and follow up with women at subsequent appointments. Women can access the vaccine free of charge from their GP at any time during their pregnancy. In 2017, NHS England North Midlands commissioned NUH to provide flu and pertussis vaccinations to pregnant women at their antenatal appointment. By the end of March 2018, Nottingham University Hospital NHS Trust maternity services had vaccinated 1,078 women. Of the eligible pregnant women seen, 4,205 had already had the flu vaccination and 1,096 women declined it. 1,257 pertussis vaccinations were given in the same time period. Of the eligible women seen, 2,175 had already had the vaccination and 918 declined the vaccination. The average monthly flu vaccine uptake by pregnant women in Nottingham for the period November 2017 to February 2018 was 40.6%

4.5 Service provision

4.5.1 Stub-It smoking cessation service

Nottingham City Council, in conjunction with the GP Alliance, has commissioned the Stub-It smoking cessation service. The service provides 12 weeks of support to smokers and entitles patients to a series of appointments (over the phone or face-to-face) with a specially-trained Stop Smoking clinician. The inclusion criteria includes:

- Pregnant and post-natal women (as well as their partners and others in the household) who smoke
- Adults with mental health problems
- Adults with substance misuse problems (including drugs and alcohol)
- Adults with long-term conditions, including those discharged from secondary care
- All adults for whom the clinician considers that a referral to the smoking cessation service is clinically indicated.

Pregnant women who want support to stop smoking are able to receive a referral from their GP, maternity teams, community mental health teams and NUH ward-based smoking cessation advisors.

4.5.2 NUH-smoking in pregnancy post

Nottingham City Council has worked with Nottingham City Care to create a new, fixed-term smoking in pregnancy post within the Nottingham University Hospital SmokeFree team. This post will: consider the training needs of staff within the midwifery division regarding smoking in pregnancy; explore the best way to work with the midwifery service to engage pregnant women about smoking throughout their pregnancy and provide advice to stop smoking; and will help establish referrals links between the new community stop smoking service and midwives.

4.5.3 Adult weight management - Slimming World on Referral

Nottingham City Council has commissioned Slimming World to offer a free 12-week weight management programme to help women to manage their weight during pregnancy and avoid excess weight gain, which could result in an increased chance of problems during pregnancy and birth. The programme includes personal support from a local Slimming World consultant and access to the Slimming World members' website and social media support. The inclusion criteria for pregnant women includes:

- Pregnant women: body mass index ≥ 30 kg/m2 at antenatal booking appointment
- Postnatal: after their 6-week postnatal check, women are treated as a new referral following pregnancy and are permitted to re-access the service immediately after their 6-week check.

Women can self-refer or receive a referral from their GP or practice nurse. Slimming World does not encourage weight loss, it supports women in eating a healthy diet and remaining physically active and preventing excess weight gain during pregnancy.

4.5.4 Development of the Gestational Diabetes (GDM) pathway

Nottingham City CCG has developed a new gestational diabetes pathway across Greater Nottingham, with a view to rolling it out in Mid-Notts early 2019. Women are monitored closely by both the GP and midwife at NUH at each stage of their pregnancy. Women are offered referral onto the diabetes prevention programme if they remain at risk.
The model of care encompasses the following:

- Clear patient pathway
- Prevention advice to include diet, exercise and prevention re risk of diabetes
- Support for women in making decisions about their health and care
- Clinical information systems
- Follow-up of annual screening and self-management advice.

4.5.5 Primary care service

A core offer to General Practitioners was developed in 2012 and part of this involved the implementation of named midwives and the development of bespoke communication routes for each practice. Where there are complications in pregnancy, vaccinations or medication required, this information is shared with the woman's general practice in the agreed way. It is recognised that these pathways require further improvement.

4.5.6 Giving Nottingham Children the Best Start in Life' service

Nottingham City Council (NCC) has commissioned a Children's Public Health service provider to work in partnership with NCC's Early Help Team 0-5 to deliver the new 'Giving Nottingham Children the Best Start in Life' service. The commissioned service will deliver and integrate a range of existing services, including:

- Health Visiting service
- Family Nurse Partnership (ADAPT) service
- Breastfeeding Support service
- Public Health Nursing (5-19) (formally known as School Nursing) service
- Children's Public Health service
- Children's Safeguarding service
- Early Help service

The integrated service model is based on a shared outcomes framework and underpinned by high quality evidence. The model reflects a life-course approach from pre-birth to age 5 and beyond.

4.5.7 Nottingham CityCare Partnership - Children's Public Health Service

The Children's Public Health Service leads the delivery of activities which supports the single, shared outcomes framework, including the Healthy Child Programme, in partnership with the Midwifery Service, Childcare Providers and NCC's Early Help Team 0-5. The service adopts a 'whole family' approach to assess the needs of the children, young person and their families; to support and improve health and wellbeing using strength-based, solution-focussed approaches. The commissioned Children's Public Health Service will work in partnership to support children and families with multiple, complex and/or safeguarding needs

4.5.8 Nottingham CityCare Partnership - Family Nurse Partnership

The Family Nurse Partnership (FNP) is an integral part of local services forming the targeted, prevention and early intervention pathway in pregnancy and up to the first 2 years of life. FNP has undergone service transformation and redesign to offer a more sustainable model of delivery - this is known as FNP ADAPT. The ADAPT model has been designed and developed following the national randomised control trail of FNP. ADAPT is in the second phase of testing, using a rapid cycle approach to personalise programme delivery to improve outcomes and cost-effectiveness. FNP is available to Nottingham residents who are under 19 years of age having their first baby or for mothers under 25 years who are care leavers. The programme provides one-to-one intensive home visiting by a family nurse. Its primary aims are to improve attachment, child health outcomes and clients' self-efficacy. This new service delivery offer has a greater emphasis on delivering public health outcomes using newly-developed resources. For example, Nottingham CityCare has been involved in the development of the Maternal Mental Health toolkit which has now been tested across other ADAPT sites.

4.5.9 Early help services

Initially, both the commissioned Children's Public Health Service and NCC's Early Help Team 0-5 will deliver defined activities within the integrated service model, all of which contribute to one shared outcomes framework. Over time, through a co-productive approach, the integrated service model will be refined to enable both workforces to be utilised more effectively,

commensurate with their level of skill and expertise and in order to reduce duplication and provide a more streamlined service to children and their families.

4.5.10 Antenatal and postnatal motivational interviewing

Health visitors across Nottingham City have been trained in antenatal and postnatal motivational interviewing. This is an evidence-based practice that supports health visitors to use a promotional guide to structure and facilitate personalised 'guided conversations' with parents. These conversations explore key topics and help parents to make accurate, well-informed decisions about their family's needs at a crucial time of life. Health visitors use this enhanced evidence-based skill to conduct an holistic assessment with all pregnant women at around 28 weeks and following the birth of their child. This non-stigmatising approach promotes the early psychosocial development of babies and young children through supporting parents' transition to parenthood. It seeks to create and foster an understanding relationship between parents and their health Visitor, which supports parents to consider and connect with their developing and newly born infant.

4.5.11 Antenatal classes

The Parent Education Department at NUH provides antenatal classes and workshops for women and their birth partner. A course of three workshops, each two hours in length, are offered at various times throughout the day and during evenings and weekends. The sessions are open to all ages, for couples or women/men on their own if preferred. The content covers active birth; management of pain and alternative births; infant feeding and early parenting. There are specialist sessions for multiple births.

4.5.12 Small Steps Big Changes (SSBC)

Small Steps Big Changes (SSBC) is Nottingham's 10 year "A Better Start" Big Lottery-Funded Programme to improve the outcomes of 0-3 years olds through a universal enhanced offer of support within the four wards of Arboretum, Aspley, Bulwell and St Ann's. The programme is led by CityCare and is a new partnership between the City Council, health partners, voluntary sector representatives, parents, families and communities. The programme focuses on children, parents and communities in the four wards and has 4 specific outcomes:

1. To improve healthy and positive social and emotional development
2. To improve effective and age appropriate verbal and non-verbal communication skills
3. To improve nutrition through support to parents to make healthy feeding choices (for themselves and for their child) during pregnancy, early years and beyond.
4. To improve system transformation through a community connection model that brings all partners together, in particular parents and the community, and builds on their strengths.

Aspects of the programme that are relevant to pregnancy include:

Baby Buddy: Baby Buddy is a free mobile phone app for parents and parents-to-be which offers evidence-based guidance from conception to the first six months of a baby's life. Baby Buddy has been created by child health charity Best Beginnings and has been endorsed by the Department of Health and a number of Royal Colleges and professional organisations. A virtual friend can be created to offer support with the emotional, physical and social journey through pregnancy and becoming a new parent. The app provides daily personalised

information along with the ability to ask questions, set appointment reminders, find out about local services, set goals, create a record of pregnancy and baby's first months and to watch a growing range of film clips in the video library.

Bump, Birth and Baby: Nottingham CityCare Partnership Health Visiting Service has been providing Preparation for Birth and Beyond for several years. However, evidence identified that delivery was inconsistent across the City. SSBC has worked in partnership with the Children's Public Health Service to redesign the programme and renamed it Bump, Birth and Baby following consultation with service users. SSBC is currently supporting the Public Health Nursing Service in scientific evidence-based approaches that promote uptake of the programme offer.

Doula Project: Through the innovation ideas fund, SSBC has sponsored the training of three Doulas who, alongside the midwifery team, will support a targeted group of women.

Family Nurse Partnership: SSBC currently funds an additional two family nurses to offer an intensive home visiting service to 100% of eligible young people in the four SSBC wards, from pregnancy up to the first 2 years of life.

Family Mentors: This is a new and innovative 'peer workforce' offered to all expectant families and families with newborn babies in Arboretum, Aspley, St Ann's, and Bulwell. Mentors work alongside families and in partnership with existing health and early years' services to support new parents and their families to achieve improved outcomes in nutrition, social and emotional development, and in communication and language. The family mentors are supported and guided by the SSBC programme and specialist teams to take activities into family homes and to deliver group sessions in the communities outlined above.

SSBC has worked in partnership with the Public Health Nursing Service to redesign the maternal mental health offer and health visitors received additional training in the POstNatal Depression Economic evaluation Randomised (PoNDER) approach. This is a cognitive and person-centred approach to listening visits.

4.5.13 Perinatal mental health

The Healthy Child Programme recommends that all women's mental health needs are assessed during pregnancy and any identified emotional and psychological problems are addressed during the antenatal period. The Children's Public Health Service uses evidenced-based assessment tools such as Edinburgh Postnatal Depression Scale, Generalised Anxiety Disorder-7 (GAD) and the Whooley questions as a way of screening and identifying women at risk of experiencing issues in the perinatal period. A maternal mental health pathway has been developed to support practitioners to ensure the women access the right support at the right time. All health visitors and family nurses have received training in supporting women with mental health issues. The Children's Public Health Service has an enhanced service offer that supports women that have mild to moderate postnatal depression or anxiety through targeted 'listening visits'.

4.5.14 Healthy Start/vitamin D

The Children's Public Health Service and Midwifery Service continue to promote the *Healthy Start* Scheme. This scheme provides vouchers to pregnant women and eligible families. Pregnant women who are in receipt of certain benefits or tax credits are eligible to apply to

receive vouchers which can be used to buy milk and fresh and frozen fruit and vegetables in local shops. Pregnant women can also get coupons for free vitamin supplements through the scheme.

5) **Evidence of what works:**

Evidence and guidance on maternity care and provision is provided in a number of national documents.

Better Births: improving outcomes of maternity services in England. A five year forward view for maternity care. National Maternity Review, February 2016: This review, commissioned by NHS England, assesses current maternity care provision and considers how services should be developed to meet the changing needs of women and babies.
https://www.england.nhs.uk/wp-content/uploads/2016/02/national-maternity-review-report.pdf

Midwifery 2020: Sets out a vision for quality, cost-effective maternity services and highlights the importance of a midwife's public health role. *Midwifery 2020* makes a number of recommendations including, but not limited to, continuity of care, choice and personalisation and ensuring the views and experiences of women and their partners are an important part of measuring quality and effective care.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/216029/dh_119470.pdf

The Healthy Child Programme (HCP): This is aimed at commissioners in health and local authorities as well as providers of services. There is great emphasis on the development of integrated services led by health professionals.
https://www.gov.uk/government/publications/healthy-child-programme-pregnancy-and-the-first-5-years-of-life

Healthy Child Programme Rapid Review: The aim of this rapid review of the evidence was to synthesise relevant systematic review-level evidence about 'what works' in key areas of public health for 0-5s, including pregnancy.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/429740/150520RapidReviewHealthyChildProg_UPDATE_poisons_final.pdf

Conception to Age 2 - The age of opportunity: This Wave Trust report contains recommendations to guide both national and local decision-makers and commissioners in reducing the causes of disadvantage at the earliest and most effective point of life. It includes a discussion on the emotional impact of parenthood.
http://www.wavetrust.org/sites/default/files/reports/conception-to-age-2-full-report_0.pdf

NICE Guidance and Quality Standards: The following link to NICE Guidance and Quality Standards provides recommendations to maternity and pregnancy services including, but not

limited to, maternal and child nutrition, postnatal care, antenatal care, prevention and specialist neonatal care.
https://www.nice.org.uk/standards-and-indicators

Safer Maternity Care: next steps towards the national maternity ambition. Department of Health, October 2016: This action plan is part of the national ambition to halve rates of stillbirths, neonatal deaths, maternal deaths and brain injuries that occur during or shortly after birth, by 2030.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/560491/Safer_Maternity_Care_action_plan.pdf

Safer Maternity Care: the national maternity safety strategy - progress and next steps Department of Health, November 2017: This document reports on progress and next steps with implementation of the safer maternity care action plan, and sets out additional measures for further and quicker improvement.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/560491/Safer_Maternity_Care_action_plan.pdf

Health Matters: giving every child the best start in life. Public Health England, May 2016: This resource for health professionals and local authorities focuses on investing in early years services from pregnancy through to 2 years old.
https://www.gov.uk/government/publications/health-matters-giving-every-child-the-best-start-in-life/health-matters-giving-every-child-the-best-start-in-life

Better Beginnings. Improving health for pregnancy National Institute for Health Research, February 2017: This themed review brings together NIHR research on different aspects of health before, during and after pregnancy. The research covers smoking, healthy diet and weight, alcohol and drugs, mental health, violence against women and supporting families using multifaceted approaches. The document features: 46 published studies; 28 ongoing studies or interim results; questions for clinicians, commissioners, public health professionals and others.http://allcatsrgrey.org.uk/wp/download/midwifery/Better-beginnings-web-interactive.pdf

The Fifteen Steps for Maternity: quality from the perspective of people who use maternity services. NHS England, May 2018: This document, focusing on maternity, is part of a suite of toolkits for *The Fifteen Steps Challenge*. This helps to explore the experience of people who use maternity services and is a way of involving them in quality assurance processes. https://www.england.nhs.uk/publication/the-fifteen-steps-for-maternity-quality-from-the-perspective-of-people-who-use-maternity-services/

6) What is on the horizon?

6.1 Perinatal Mental Health Pathway

Better Births identifies perinatal mental health as a strategic priority. As part of the Nottinghamshire LMS Transformation Plan, work is being undertaken to develop an integrated perinatal mental health pathway for all complexities, which is aligned across the LMS footprint. The pathway is scheduled to be implemented by March 2019, and includes the following key objectives:

- Ensure a smooth transition across the perinatal mental health pathway, with improved referral pathways
- Develop a clear escalation / de-escalation process across the pathway
- Significantly increase access to IAPT services by women in the perinatal period
- Information sharing: identify solutions to ensure information about women's care is collected, analysed and shared across the pathway in order that clinicians in all services have a better understanding of a patient's journey, including outcomes
- Meet the training needs at all stages of the pathway
- Ensure there is appropriate support for specific cohorts of women who do not essentially 'fit' into current commissioned perinatal mental health services
- Ensure appropriate medication is always prescribed to women of child-bearing age.

6.2 Community Hubs pilot

The Community Hubs initiative is part of NHS England's Maternity Transformation Programme, which aims to ensure women and their babies receive safe, more personalised care that suits the needs of the local community and supports the national maternity review, *Better Births*. Nottinghamshire LMS is in the process of developing a community hub pilot across 3 locations, including Nottingham City. *Better Births* recommends that the hubs provide access to antenatal, postnatal and general health and social services all under one roof. The aspiration is that the hub will act as a 'one-stop shop' with midwives, health visitors, children centre staff, mental health services and a variety of support groups all working in the same facility. Nottingham's community hubs pilots are being developed in partnership with local women and families to ensure the right services are provided.

6.3 Continuity of Carer pilot

Better Births set out a vision for maternity services in England which are safe and personalised. At the heart of this vision is the idea that women should have continuity of the person looking after them during their maternity journey: before, during and after the birth. There is an expectation that each LMS will establish a shared vision and show how most women will receive continuity of the person caring for them during pregnancy, birth and postnatally by 2020/21. Nottinghamshire LMS is currently putting plans in place to pilot a continuity of carer models across Nottingham and Nottinghamshire. The Nottinghamshire LMS set an ambition to provide continuity of care to 10% of women by March 2019, increasing to 15% by March 2020 and 20% by March 2021.

6.4 Workforce modelling

It is recognised that the roles and skills within the workforce will need to evolve to meet the breadth of ambition within the Nottinghamshire Better Births Transformation Plan. The LMS,

in collaboration with the Local Workforce Action Board, is working with Derbyshire STP to support the delivery of the workforce dimension of the Nottinghamshire Better Births plan. A strategic workforce planning framework is being used to develop workforce plans.

6.5 Personalised care plans

To deliver the *Better Births* aim of personalised care, every woman should develop a personalised care plan with her midwife and other health professional. This should set out her decisions about her care, be supported by evidence-based information about her choices, reflect her wider health needs and be kept up-to-date as her pregnancy progresses. The Nottinghamshire LMS set an ambition to provide personalised care plans to 15% of women by March 2019, increasing to 50% by March 2020 and 90% by March 2021. The LMS intends to pilot a personalised care plan during 2019/20 alongside the Continuity of Carer pilots and as part of the IT work exploring how the personalised care plans can become part of the inter-operable maternity digital record.

6.6 Maternity Transformation Programme (MTP) "harnessing digital technology"

The Data and Information Sharing work stream of the Maternity Transformation Programme (MTP) is responsible for implementing the data and information-related recommendations of the National Maternity Review, *Better Births*. The aim of the work stream is to improve data collection, quality and sharing to drive maternity service improvement at local, regional and national levels. The Nottinghamshire LMS is exploring what improvements can be made to existing data collections as well as what new work can be done to get a better understanding of women's experiences of using maternity services and, in particular, how digital technology can be leveraged to capture this.

7) Local Views

7.1 The Nottinghamshire LMS transformation plan

This is the mechanism through which the Nottinghamshire STP will collaboratively transform maternity services. There has been substantial engagement with women and families, maternity staff and key stakeholders to enable the development of the plan. The information received from this engagement has been used to create key themes and recommendations, which have been used to inform the model of care maternity offer. There are mechanisms in place to ensure that further engagement with key stakeholders is undertaken throughout the development and implementation of the plan. Some of the engagement undertaken to date includes:

- **Women and families online survey**
  An online survey was co-created by Nottinghamshire Children's Integrated Commissioning Hub and Nottingham City CCG: 85 responses were received from women and families.
- **Face-to-face engagement in children's centres and community centres**
  We have engaged with over 11 baby groups in children's centres and community centres across Nottinghamshire and Nottingham City.
- **Other engagement activity with women and families**

The Partnership in Maternity (MSLC) group performed numerous surveys with women and their families between 2016/17: 619 responses were received.

- **Maternity staff events / drop-in sessions / team meetings**
  The Nottinghamshire LMS held two maternity staff half-day events on 28th and 30th June 2017. A total of 48 staff attended these two events.
- **Online engagement with maternity staff**
  An online survey was co-created by Nottinghamshire Children's Integrated Commissioning Hub and Nottingham City CCG: 11 responses were received
- **Engagement with other key stakeholders**
  An online survey for key stakeholders in relation to the multi-professional working outcome was co-created by Nottinghamshire Children's Integrated Commissioning Hub and Nottingham City CCG. Only 10 responses were received across Nottinghamshire and Nottingham City. This was a disappointing response and further work will be needed in the future.

7.2 LMS Maternity Voice Partnership

The *Better Births* report recommended that, in order to ensure effective service user co-production, independent formal multidisciplinary committees known as Maternity Voices Partnerships, or MVPs, should be established in order to influence and share in local decision-making. A Maternity Voices Partnership incorporates the principles and practice of participatory co-design and co-production through regular engagement work, in order to ensure that the views of women and their families are at the core of commissioning, monitoring and continuous improvement of maternity services. MVP is a team of women and their families and commissioners and providers (midwives and doctors) working together to review and contribute to the development of local maternity care. MVPs involve service-user representatives working in local areas collecting feedback from women using maternity services. An aim of this research was to better understand MVP involvement in the feedback collection process.

7.3 Healthwatch Nottingham and Nottinghamshire

Healthwatch Nottingham and Nottinghamshire is an independent organisation created to gather and represent the views of those who use health and social care services. They are currently working in partnership with the MVP to seek views from women who have or are using maternity services. Some of the work undertaken in 2018 includes:

- **The identification, recruitment, training and support of local volunteers**
  A key principle of the MVP is to ensure that local women and their families play an integral part in helping to shape and design local maternity services. During 2018, Healthwatch recruited nine volunteers to be part of the MVP. The key role of the volunteers is to help drive forward the work of the MVP and to ensure that effective engagement and consultation is embedded across the LMS Transformation Plan.
- **Meet the midwife coffee morning**
  In partnership with MVP, Healthwatch held a coffee morning at the St Ann's Valley Centre in June 2018. 28 women attended the event and gave their feedback on local maternity services. The feedback is being used to inform

and improve maternity services across Nottinghamshire. Further coffee mornings are being planned for 2019.

- **Walking the patch**

  Healthwatch is currently working with the Maternity Voices Partnership to seek views from women who have just given birth. Local volunteers undertake the surveys. during 2018, two Walking the Patch events were carried out at NTU where 22 surveys were completed. Further events are planned for 2019. The feedback gathered will inform the Maternity Voices Partnership's future work to improve maternity care.

7.4 NUH and SFHT continuity of carer staff engagement workshop 11th July (2018)

NUH and SFHT held a workshop with midwives and commissioners from across both trusts, to explore what a great continuity of carer model looks like and what facilities and resources are required to make it work. Thirty people attended the workshop to share ideas and examples of good practice. The feedback is being used to help inform the development of Nottingham and Nottinghamshire continuity of carer models. Further workshops are planned for 2018/19.

Photos from the NUH and SFHT Continuity of Carer Staff Engagement Workshop July (2018)





7.5 Small Steps Big Changes "Whose Shoes?" event" (October 2018)

Through collaboration with Small Steps Big Changes, the Nottinghamshire LMS delivered a "Whose Shoes?" event in October 2018. The event combined a thought-provoking board game with open and transparent discussion around maternity services in Nottingham City. Key stakeholders, including service users, commissioners, midwives, early years and obstetrics, attended the event. Partners came together to discuss and share their experiences of maternity services. The key aims of the event included:

- To increase the involvement of women and families and improve their maternity experience
- To support the implementation of *Better Births*, in particular, continuity of carer pilots
- To improve multi-professional working between different staff groups and to break down traditional hierarchies, thereby helping to build respect and develop relationships between people
- Feedback was captured in the form of an infographic and is being used to help shape maternity services and inform the development of the continuity of carer models across

Nottingham City. A video montage of the event can be viewed on Twitter: https://twitter.com/WhoseShoes/status/1053265466045685760

Infographic - Small Steps Big Changes "Whose Shoes?" event (October 2018)



7.6 NHS England Friends and Family Test

The Friends and Family Test (FFT) gives patients the opportunity to submit feedback to providers of NHS-funded care or treatment, using a simple question which asks how likely they are to recommend the service to their friends and family. The Maternity FFT dataset includes responses from NHS-funded maternity services. Responses to the maternity FFT are captured at 3 points:

1. Antenatal care: at the 36-week antenatal appointment.
2. Birth and care on the postnatal ward (two questions – one about the labour ward/birthing unit/homebirth service and one about the postnatal ward): at discharge from the ward/birth unit/following a home birth.
3. Postnatal community care: at discharge from the care of the community midwifery team to the care of the health visitor/GP (usually at 10 days postnatal).

In summary, between July 2017 and July 2018, Nottingham University Hospital Trust scored highly on all responses, with 98% of responses stating that they were very likely or likely to recommend maternity services to their friends and family. This figure is similar to 2016/17 whereby 97% of responses stated that they were very likely or likely to recommend maternity services. More details can be found here: https://www.england.nhs.uk/publication/friends-and-family-test-data-july-2018/

7.7 Care Quality Commission (CQC) (2017)

The CQC runs the NHS Patient Survey Programme that includes a National Maternity Survey aimed at women who have given birth within a given time period. The most recently-published survey (2017) received responses from 18,426 women who gave birth during February 2017. Overall, women reported positive experiences of maternity care in 2017. Compared with previous maternity surveys, small incremental improvements in results were seen across almost every question that women were asked. The most striking improvements in results were within the area of postnatal care, where results have historically been the most negative. However, results for questions on postnatal care, either in the hospital or once they returned

home, continue to remain less positive than other aspects of the maternity pathway. More details can be found here: https://www.cqc.org.uk/publications/surveys/maternity-services-survey-2017

7.8 Ipsos MORI feedback in Maternity Services National Report (2018)

Ipsos MORI was commissioned to explore the feasibility of a data collection that provides local maternity services with rapid quantitative 'real time' feedback from women and their families on how they are performing to drive continuous improvement in maternity services and care. The report outlines some overall conclusions and recommendations emerging from the findings, along with their implications for collecting digital feedback from women in the future. More information can be found here: https://www.ipsos.com/sites/default/files/ct/publication/documents/2018-09/maternity_feedback_national_report_0.pdf

7.9 Fifteen Steps to Maternity toolkit (2018)

The Fifteen Steps to Maternity toolkit explores care through a patient or carer's eyes, and examines their first impressions. Nottingham University Hospital Trust arise exploring opportunities to take part in toolkit. This work will be undertaken with the support of volunteers from the MVP. Feedback from the engagement will be used to help improve women's experiences of maternity services. More information can found here: https://www.england.nhs.uk/publication/the-fifteen-steps-for-maternity-quality-from-the-perspective-of-people-who-use-maternity-services/

What does this tell us?

8) Unmet needs and service gaps

Although Nottingham City has a universal physical activity offer available through leisure centres across the city, there are no physical activities specifically designed and targeted at pregnant women.

9) Knowledge gaps

1. Diabetes: limited data available at a local level.
2. Comprehensive local data on alcohol consumption in pregnant women is not available.
3. Nottingham has a high level of SATOD – we are not entirely sure why this is. Further works needs to be undertaken to explore this in more detail.

What should we do next?

Recommendations for consideration by commissioners

Unmet need and gaps

Antenatal care

1. The uptake of flu vaccinations by pregnant women in Nottingham during 2017/18 was (40.6%); this is significantly lower than the England average (45.7%)

2. Bump, Birth and Baby is a universal antenatal programme for expectant families currently delivered by the Children's Public Health service (previously known as the Health Visiting Service). The reach of this offer is not consistent across all areas in Nottingham city. There is an opportunity to work in partnership with the Midwifery Service to deliver this programme and to expand the reach to clients/service-users living within Nottingham City.

3. Nottingham CityCare's Children's Public Health and Nottingham City Council Early Help services are currently in the process of aligning their services. This gives the opportunity to review and develop a consistent offer that supports pregnant women, especially those with complex social factors.

Smoking

1. In Nottingham in 2017/18, 17.2% of women were identified as smoking at time of delivery (SATOD), which is significantly higher than the England average (10.8%) and the fifth highest rate of our statistical neighbours.

2. White British women aged 21-25 living in areas of high deprivation, are least likely to access smoking cessation services and/or successfully quit. This is consistent with the trend of greater smoking prevalence in areas of greater deprivation.

3. There has been no statistically significant reduction in the proportion of women smoking at time of delivery since 2010/11. A new approach is needed that involves all partners across the local maternity system to support women to stop smoking during pregnancy and prevent high levels of postnatal relapse

Complex social factors

1. There has been no reduction in indirect causes of maternal mortality for 10 years. Nationally, recent evidence shows that suicide is the leading cause of maternal death. Further risk factors include the rise in maternal obesity, the high smoking prevalence

and the rise in the proportion of women with medically complex pregnancies, all of which are key concerns for Nottingham.

2. Women with complex social factors (substance misuse, domestic abuse, recent migrants, asylum seekers and refugees and young women under 20 years) are far less likely to seek antenatal care early in pregnancy or to stay in contact with maternity services. Delays in accessing maternity care often results in worse outcomes for both mother and baby; this is a key concern given Nottingham's diverse population.

3. Nationally, pregnant women with complex social factors are much less likely to access maternity services early in pregnancy and local data suggests this is mirrored in Nottingham. Early access amongst these groups during 2017 ranged from 42.6% to 82.6% (all below the 90% target). Delayed access prevents women receiving the care they need.

4. Pregnant women who are recent migrants, asylum seekers or refugees, or those who have difficulty reading or speaking English are the least likely to access maternity services within recommended timescales. Challenges in gaining timely access to translation services is a key barrier to accessing maternity services. This can sometimes result in the use of an inadequately trained (or no) interpreter (family member or friends) which poses risks for both the mother and healthcare provider. When this occurs, neither the healthcare provider nor patient can be assured that accurate and effective communication is taking place. Challenges around language barriers are a particular issue in Nottingham as over one-third of births (37%) are to mothers born outside the UK.

5. In Britain, FGM among pregnant women is mostly seen in women who are recent migrants, asylum seekers or refugees and has usually taken place before they arrive in the UK. Nottingham currently has an FGM clinic and an FGM specialist midwife; however, it is unclear as to the long-term succession arrangements for the continuity of the service, which may result in a service gap for survivors of FGM.

6. It is not recommended guidance for midwifery to have a dedicated appointment alone with pregnant women to ensure that opportunities for disclosure of domestic abuse are optimised.

7. There is no safe level of alcohol consumption in pregnancy. It is estimated that more than a quarter of Nottingham women of childbearing age are binge drinkers. Given that half of pregnancies in the UK are unplanned, this potentially poses significant risks to infant outcomes including foetal alcohol spectrum disorders if women continue to drink alcohol during pregnancy.

Perinatal mental health

1. Maternal mental health is a significant issue in Nottingham with 1,885 (44%) of pregnant women estimated to have mental health issues during 2017. The current perinatal mental health pathway may not be meeting the needs of pregnant women with low-level mental health needs.

System change

1. Information technology systems require improvement across the maternity pathway. Currently the maternity systems used in hospitals and in the community are different, which prevents maternity records being accessed and updated by midwives based in the community whilst ensuring safe and effective data-sharing with other services including GPs, health visiting and IAPT services.

Recommendations for consideration by commissioners

Antenatal care

1. Explore the barriers to flu vaccination uptake in pregnant women and continue to promote widely through midwifery, health visiting and other early help and early years providers.

2. The reach of Bump, Birth and Baby is not consistent across all areas in Nottingham City. CityCare could scope opportunities to work in partnership with the Midwifery service and Small Steps Big Changes (SSBC) to deliver this programme and to expand the reach to Nottingham City residents.

Smoking

1. Continue to implement routine Carbon Monoxide (CO) testing in pregnancy at booking, 32 weeks and at delivery clinics to identify women who smoke and who can be offered support to quit.

2. The public health subgroup of the Local Maternity System should lead work with partners to develop specific interventions to reduce smoking in pregnancy and support women who want to quit smoking, including the utilisation of the NHSE grant.

3. Explore the potential for nominated midwives, maternity support workers and sonographers to be trained to the same level as specialist NHS Stop Smoking advisers to enable them to offer more intensive support.

Complex social factors

1. Conduct a Health Equity Audit of timely access to maternity services and develop strategies for increasing early access among groups of women identified as least likely to access early, specifically recent migrants, refugees, asylum seekers and those who have difficulty speaking or reading English.

2. Further develop specialist midwifery support for women with complex social needs and ensure a more equitable service is provided, as detailed in the LMS Transformation Plan 2017/18 to 2020/21.

3. Pregnant women who experience domestic abuse and pregnant women who are homeless require additional specialist care and support. It is recommended that

consideration be given to increasing capacity across the Specialist Midwife for Homelessness and Domestic Abuse team.

4. Maternity services to consider seeking an opportunity for pregnant women to be seen alone during pregnancy in order to provide an opportunity for disclosure of domestic violence and abuse.

5. Explore opportunities for all maternity staff to be trained in how to respond to domestic abuse in a way that makes it easier for pregnant women and new mothers to disclose abuse.

6. Ensure adequate provision of interpreting and translation services during pregnancy and birth. Face-to-face interpreting services should be encouraged and telephone interpreting used as a minimum at each appointment when required. Family members, legal guardians or partners should not be used as an interpreter in the antenatal or postnatal period unless in an emergency.

7. Given Nottingham's diverse population, multilingual leaflets and materials should be available as standard practice and developed or sourced by midwifery services.

8. Prioritisation should be given to finding a solution for effective longer-term succession of the Nottingham FGM clinic and specialist midwives to ensure continuity of services for FGM survivors.

9. Public Health England to support work in Nottingham to develop clear consistent messages to pregnant women on alcohol usage in pregnancy based on the Chief Medical Officer Guidance and local consultation.

10. NUH to continue to ascertain alcohol usage in pregnancy through the Audit C tool and support women to stop drinking, where appropriate, with support from alcohol services.

Perinatal mental health

1. As detailed in the LMS Transformation Plan 2017/18 to 2020/21, implement an overarching perinatal mental health pathway that reflects NICE guidance and sets out a plan for the perinatal mental health pathway, to include the identification of and support for women with mental health needs and access to psychological therapy (IAPT) services via direct referral from universal services.

2. At the first contact with primary care or at the pregnancy booking visit, and at all contacts thereafter, the HV and other health care providers who have regular contact with a woman in pregnancy and during the postnatal period (one year after) should consider asking the two Whooley depression identification questions and the GAD- 2 as part of a general discussion about her mental health using the EPDS or the PHQ-9 as part of monitoring.

System change

1. Improve information technology to ensure electronic records are accessible across the maternity pathway, as detailed in the LMS Transformation Plan 2017/18 to 2020/21.
2. Support the development and implementation of the Nottinghamshire Local Maternity System (LMS) Local Transformation Plan 2017/18 to 2020/21.

3. Feedback from extensive consultation with women, both nationally (*Better Births*) and locally, found continuity of carer to be an integral part of maternity services. Nottinghamshire LMS to consider implementing continuity of carer as detailed in the LMS Transformation Plan 2017/18 to 2020/21.

4. A healthy lifestyle during pregnancy can help to keep mother and baby healthy, including not smoking or drinking alcohol and maintaining a healthy weight. Multi-agency colleagues, including midwifery, health visiting and early years, should continue to provide support through information and brief advice and referral into more specialist services where appropriate.

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