Module 4 - Start Well: Healthy Birth

Content Overview

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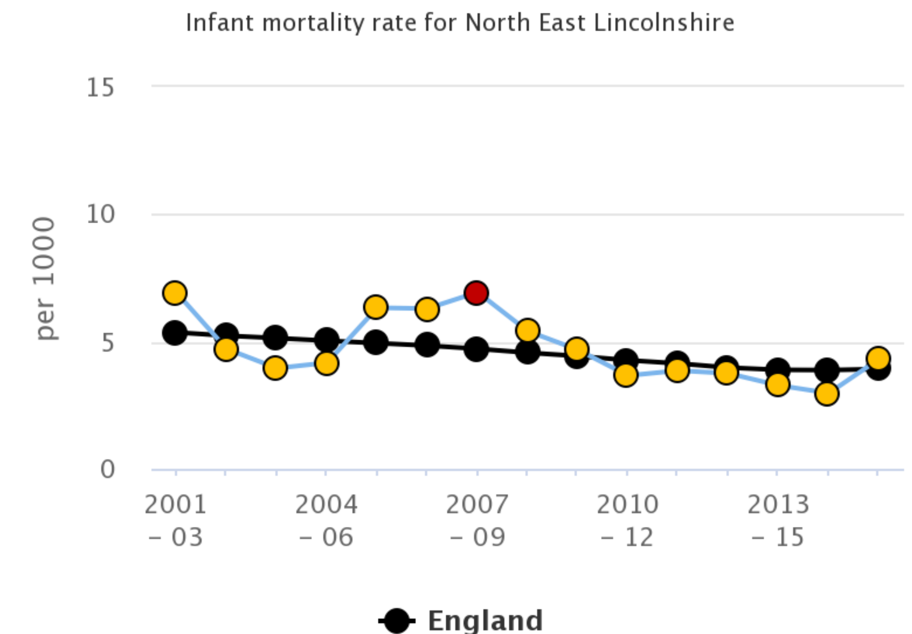
4.1 What did we discover about births and infant deaths?

- In 2018/19 there were 2,038 live births to mothers in NEL. Of these, 12% were born prematurely (before 37 weeks) higher than the UK rate of around 7%. 1% were extremely premature (less than 28 weeks) which is less than the UK rate.
- The age profile of NEL mothers tends to be younger in comparison to England. In 2018/19, 6.2% of live births were to mothers under 20 years of age, far higher than the England proportion of 3.0%.
- Local stillbirth and perinatal mortality rates for 2015-17 are lower than national and regional rates. However, neonatal deaths (<28 days) are higher than national and regional rates, and post neonatal deaths (28 days-1yr) are higher than the England rate.
- Infant Mortality (IM) rates (<1 yr/1000 live birth) are notably higher in NEL than national and regional rates. There had been a reducing trend in IM but the last data point showed an increase. It is too early to tell if this is a sustained trend.
- Data for the Child Death Overview Panel (CDOP) shows that most child deaths relate to infants in the early days of life and are due to genetic, congenital and chromosomal issues.
- 16% of child deaths in NEL reviewed over the last 7 years had modifiable risk factors identified, the majority of which related to unsafe sleeping.
- There are no major concerns with antenatal and neo-natal screening programmes, but we fall slightly below what we hope to achieve on some.
- Only 1/3 pregnant women in NEL received the flu vaccine in 2018/19, far lower than the England average of 45% and the target of 55%. NEL ranked 5th worst in the whole of England.

Infant mortality and stillbirths in NEL, compared to England and Yorkshire and the Humber, rate per 1,000 births, 2015-17*

2015-17	NEL	Y&H	England
Stillbirth	3.6	4.6	4.3
Perinatal (still births & deaths <7 days)*	6.2	7.0	6.6
Early neonatal (<7 days)*	0.9	2.1	2.1
Neonatal (<28 days)	2.9	2.7	2.8
Post neonatal (28 days - 1 year)	1.4	1.4	1.1
Infant Mortality (under 1 year)	4.3	4.1	3.9



So What?

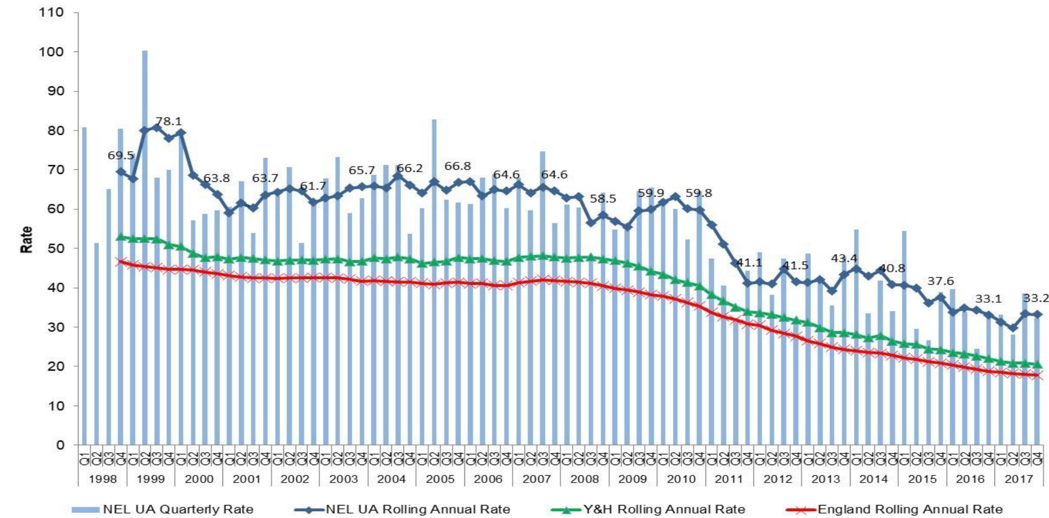
- Infant Mortality (IM) is a key indicator of the circumstances into which babies are born and of health inequalities, given higher risk of infant death in poorer communities. The latest figures shows IM worsening in NEL and surpassing the England rate for the first time since 2009-11. As this is just one data point it's too early to tell if this is an enduring trend, but it is certainly one to watch as it is also a proxy measure of the health of the population.
- Prematurity, major congenital abnormalities, birth-related complications and sudden infant deaths are direct causes of IM. Smoking, obesity, maternal age, ethnicity are individual and interacting risk factors. Smoking, obesity are of particular relevance in the NEL context and are modifiable.
- Neonatal death rates in NEL are only slightly above national and regional levels. However, this is useful indicator to monitor as it is considered to reflect the health and care of both mother and newborn.
- Babies living in more deprived areas have a higher rate of congenital abnormalities, including neonatal mortality associated with congenital abnormalities.
- In NEL, prematurity is a particular issue and is a risk factor for a range of developmental issues and delay, SEND (boys have a greater risk), and low educational attainment at EYFS and Key Stage 1 (see NICE NG72).
- Poor uptake of flu vaccination in pregnancy in NEL is of significant concern. Flu is a serious condition, particularly in pregnancy and it is highly contagious. Pregnant women are at increased risk of flu complications, mostly serious. Increased risks to baby include premature birth, low birth weight, still birth, or early death.

4.2 What did we discover about teenage pregnancy & terminations?

Teenage Pregnancy

- 85 conceptions in 2017, lowest since 1998 baseline but NEL joint 4th highest in England.
- NEL had a 52.4% reduction from 1998-2017, less than that achieved in Y&H (61.2%) and England (61.8%) but a sizeable gap remains.
- 36.5% termination rate, lower than England (52%).
- East and West Marsh have highest rates of TP.

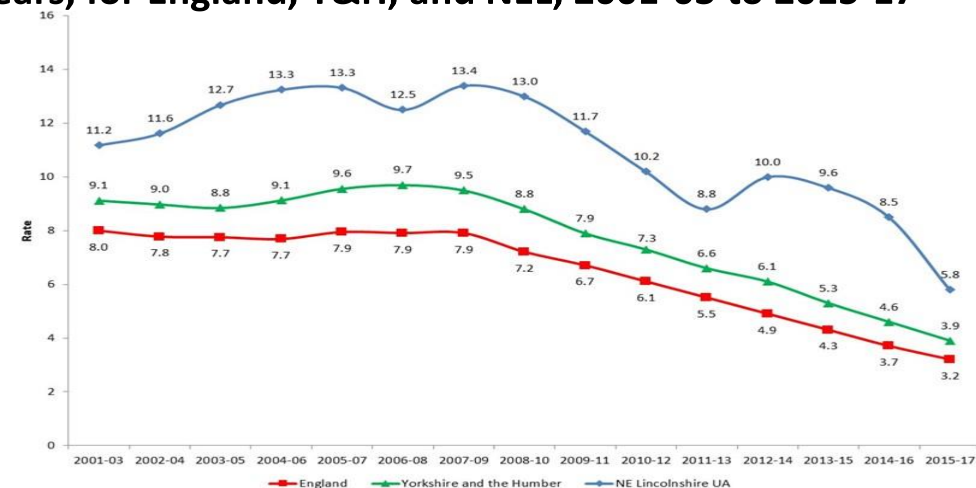
Under 18 conception rates for England, Y&H, and NEL, 1998 to 2017



Under 16s (figures pooled over 3 years due to small numbers)

- 45 conceptions during three year period 2015-17, 10 in 2017 = lowest ever.
- Under 16 conception rate of 5.8/1000 , significantly higher than Y&H (3.9) and England (3.2) rates.
- 55.6% are terminated, higher than Y&H (53.6%) but lower than England (60.6%).

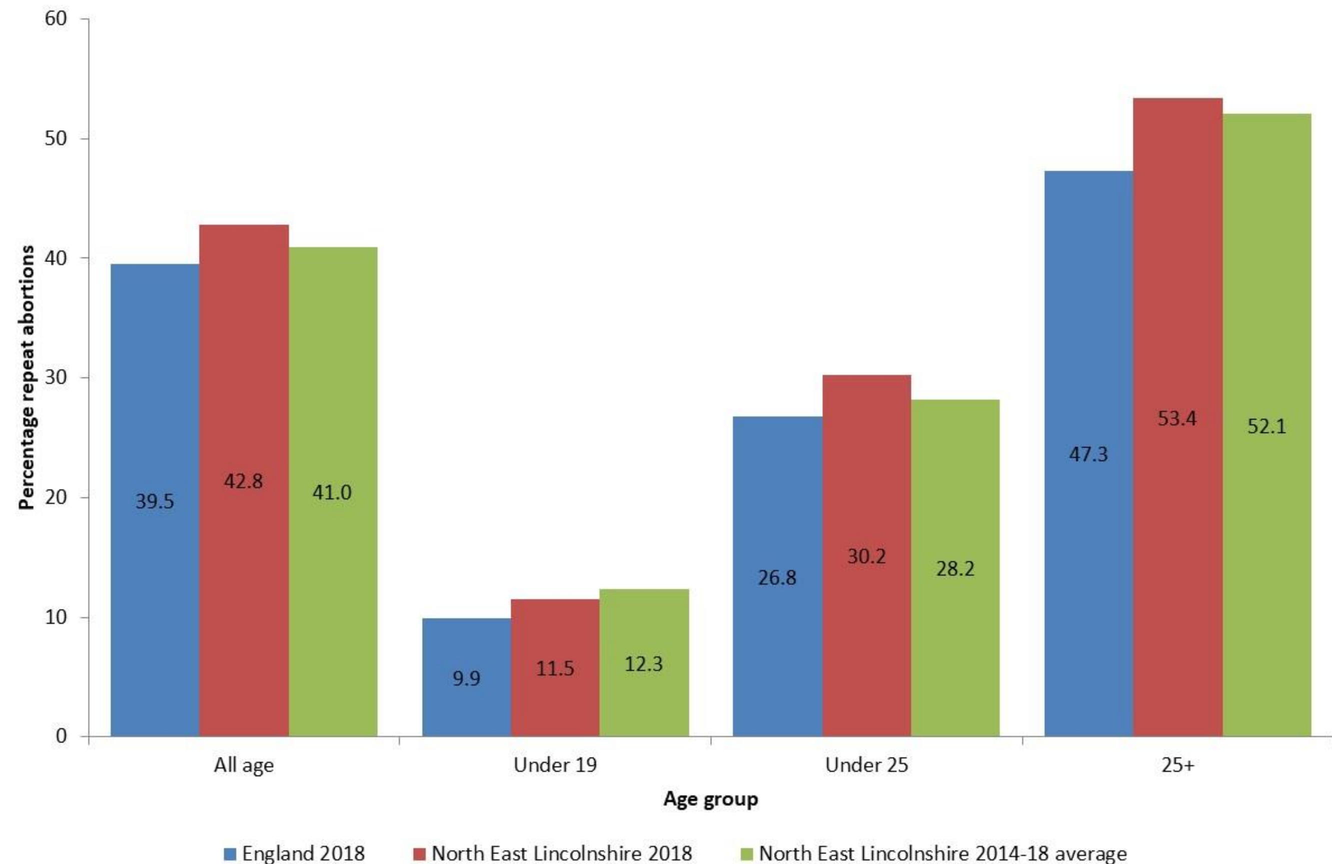
Under 16 conception rates per 1000 female population aged 13-15 years, for England, Y&H, and NEL, 2001-03 to 2015-17



Terminations & Repeat Terminations

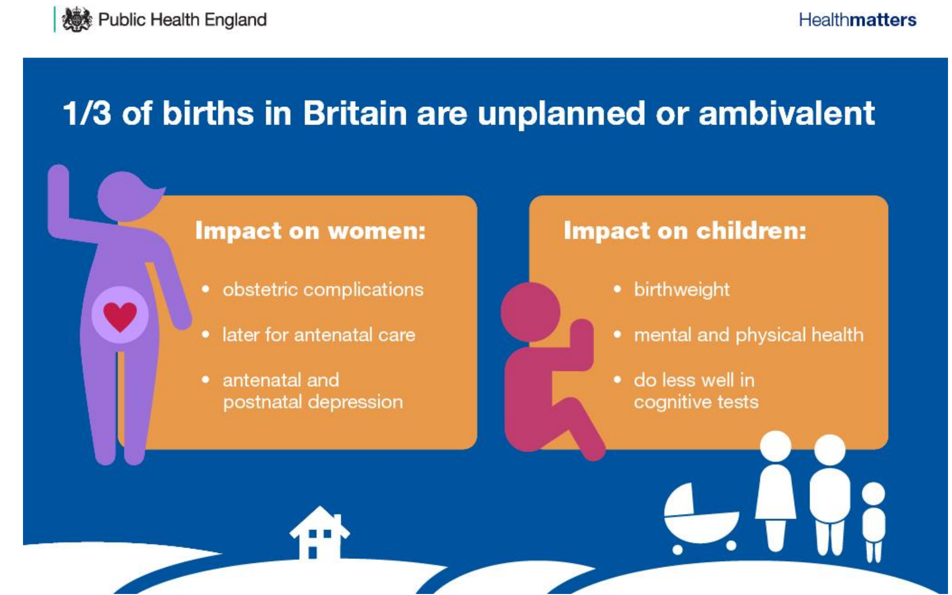
- In 2018 there were 509 abortions.
- Just under half are in the under 25s.
- Under 25s abortion rates are higher in NEL than England in 2018 and over a 5 year average.
- 42.8% of all abortions in 2018 were repeat abortions.
- Almost 1/3 of all repeat abortions are in the under 25s. This is a slight increasing trend.
- Repeat abortions are higher in NEL than England for all ages and each age group in 2018 and over a 5 year average.

Percentage of repeat abortions, England and North East Lincolnshire (2018), and North East Lincolnshire (2014-18)



So What?

- Teenage pregnancy, terminations and repeat terminations highlight the issue of unplanned pregnancies that are either unwanted or mistimed.
- Risk factors include lower educational attainment, younger age (for terminations), smoking and substance misuse. Unplanned pregnancies can be a source of maternal stress, adversely impacting on the foetus and its development. Once born, subsequent parental stress can adversely affect healthy child development, parental capacity and the infant-parent relationship.
- Although NEL teenage pregnancy rates have reduced, there is still a sizeable gap between NEL and England and the region. This suggests there's a need for continued focus on prevention.



- Children of teenage parents are more likely to become teenage parents themselves. Experiencing 4 or more ACEs is associated with a 16 x risk of teenage pregnancy (or getting someone accidently pregnant). And in the absence of some protective factors, some are starting parenthood with existing vulnerabilities and the odds are already stacked against babies even in the womb. This suggests an intergenerational effect of Teenage Pregnancy and ACEs, independently and relatedly, and preventing teenage pregnancy can impact on ACEs and vice versa.

So What?

- Teenage pregnancy is associated with an increased risk of various poor outcomes for the child including infant mortality (56%), low birth weight (21%), and Sudden Unexplained Death in Infancy (X3) and sub-optimal development. Mums under 20 are more likely to suffer from perinatal depression and poor mental health for up to 3 years post birth (x 3) and are 50% less likely to breastfeed as other mums. This can negatively impact on parenting capacity and development of a responsive and attuned mother-infant relationship.
- Young mums are less likely to complete their education, pursue further education or employment or have qualifications in adulthood and can be amongst the furthest away from benefitting from inclusive economic growth. Even if in work, they have a high likelihood of being on a low wage (and in low quality work) later on, which can see them trapped in poor housing and poverty. Babies of teenage parents have a 63% higher risk of poverty compared to babies to mums in their twenties. Children of teenage parents also have greater risks of lower academic achievement later on.
- Teenage pregnancy, terminations and repeat terminations, in particular, are indicative of unmet need for effective contraception. Nearly half of all terminations in NEL are repeats, mainly in the under 25s. This suggests there may be a lack of access to high quality education around contraception, reliable information and advice, and issues with the use of contraceptive methods for this cohort. This is likely to be the case for those with more complex issues.
- It is unclear what is behind the comparatively lower termination rates for teenage conceptions in NEL. It could variously relate to normalisation of teenage pregnancy, the extent to which teenage mums feel supported by the father and/or family, ambivalence to the pregnancy, and a lack of credible Information Advice and Guidance (IAG) around pregnancy options or counselling from a health professional.
- Repeat terminations can be an indicator of unstable or even abusive relationships. There may also be safeguarding concerns in some under 16 conceptions, around sexual assault or rape, abuse and/or child sexual exploitation.
- Repeat terminations are associated with a slightly increased risk of giving birth prematurely in future pregnancies. NEL has relatively high prematurity rates.

Developing solutions - what works?

Teenage Pregnancy

- Access to and improved use of effective contraception - this has the biggest impact on reducing teenage pregnancy.
- Provide universal statutory, comprehensive, evidence-based relationships and sex education (RSE) as part of a wider health education curriculum, embedded within a whole school approach and linked appropriately with local sexual health service provision.
- Easy access to the full range of contraceptive methods, with LARC as the most effective, through free, confidential, youth-friendly services.
- Strengthen targeted measures for young people at increased risk of poor sexual and reproductive health, including implementation and continued evaluation of condom distribution schemes in response to local need.
- Proportionate universalism – in addition to universal provision, more intensive support for young people at risk including programmes to build resilience and aspiration and combining means and motivation to prevent early pregnancy, with young people seeing a stake in education, employment and economic opportunities. Ward level data should be used as the basis for targeting.
- Support for parents to discuss relationships and sexual health.
- Family Nurse Partnership (FNP) - a home visiting programme for first-time young mums and families had some impact on relevant secondary outcomes and family nurses were able to develop respectful and trusting relationships with mums/families which were key.
- Sure Start – providing crisis support for pregnant young women. The personal advisor role was seen as the essential ingredient, including by young parents.
- Reintegration Officers – positive impact on school-age mothers continuing education; especially those who had been missing school.
- Care to Learn had a positive impact in reducing young parents who were Not in Education Employment or Training (NEET) - 2 in 3 before course to 1 in 4 afterwards, sustained at 40 months after initiation.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/836597/Teenage_Pregnancy_Prevention_Framework.pdf

Developing solutions - what works?

Terminations and Repeat Terminations

- Access to and effective use of contraception, including targeting <25s, in line with NICE Guidance.
- Contraceptive services offering women IAG and a choice of all methods including LARC.
- Advice on contraception should be part of abortion and antenatal care (by midwife), during assessment and discharge, offering a choice of all methods and access to the chosen method (<7 days antenatal care).
- Long Acting Reversible Contraception (LARC) should be targeted at those having repeat abortions, with follow up to ensure compliance. Involvement of partners in decision- making could help to reduce incidence of repeat terminations.
- Women asking for emergency contraception should be told that an intrauterine device is more effective than an oral method.

Public Health England

Addressing teenage pregnancy saves money: £1 spent saves £4 (Lancet 2016)

Safeguarding

For every child prevented from going into care, social services would save on average £65k per year
Every domestic violence incident prevented saves police, local authorities, the Criminal Justice System and the NHS £2,700

School readiness

Every child who is ‘school ready’ who would not otherwise be - saves schools £1,000 per year

EET

Every teen mum who gets back in to Education, Employment and Training (EET) saves agencies £4,500 per year

Mental health

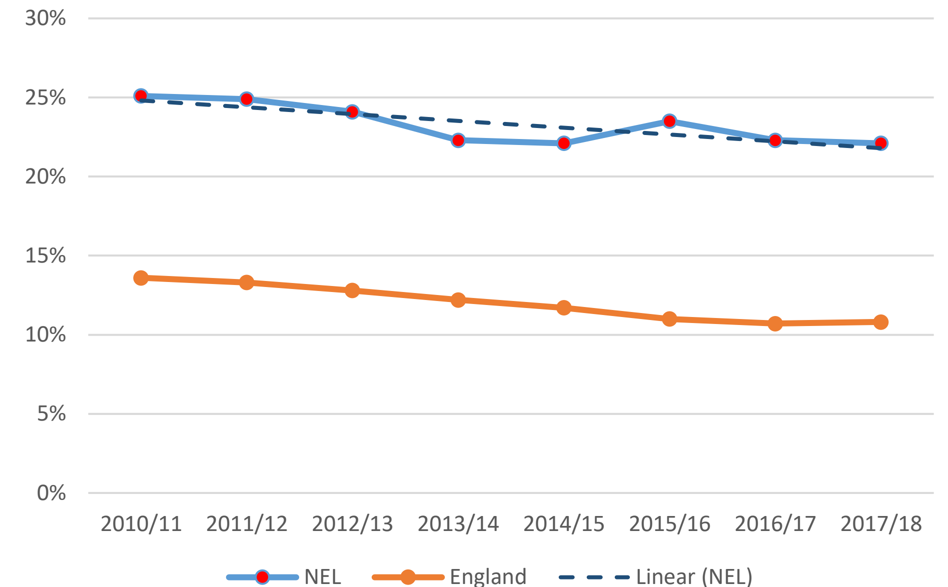
For every individual who does not develop a mental health issue saves a local authority £2,000 per year

Acknowledgement: Family Nurse Partnership National Unit

4.3 What did we discover about health behaviours?

- NEL's smoking at time of delivery rate Smoking status at time of delivery (SATOD) in 17/18 was 22.1%, 2nd highest rate in England and in the region.
- Although there has been a small decreasing trend over time, the smoking in pregnancy (SIP) gap between NEL and England has not notably changed. In the last year all statistical neighbours had a decreasing trend but in NEL there was no change.
- Local data (unvalidated) from NLaG Maternity Services for 18/19 shows an increased SATOD rate of 23%. Smoking at time of booking with Maternity Service (SATOB) was also 23%.
- The scale of SIP in NEL partly reflects higher smoking rates in <25s (1 in 5 <25s SIP nationally) and the majority of births are in this younger age group.
- In 18/19, just over 1/3 of pregnant women were classed as obese at booking with Maternity Services.
- 120 (6%) mothers were obese and smoking at the time of booking. These women were more likely to book late with Maternity Services, to have a premature birth and less likely to initiate breastfeeding. Late booking on its own is associated with poor outcomes. 59% of these mums lived in the most deprived quintile of NEL.
- Healthy Start supports maternal nutrition in pregnancy and enables universal supply of a 56 day course of multi vitamins including folic acid at booking with maternity services. However, due to recording issues in maternity services, uptake or compliance cannot be determined.
- Alcohol use data in pregnancy is of poor quality and likely to be under-reported. It is estimated that around 79% of babies are exposed to alcohol in pregnancy (33% at binge levels) equating to around 1,580 babies per year.
- Of those in drug and alcohol treatment services in 2018/19, 4 women were pregnant.

Trends in smoking at time of delivery rates for NEL and England, 2010/11-2017/18



Smoking and obesity at booking, 2018/19, NEL

	Obese and Smoker at booking	NEL average
Late Booker	17.5%	9.9%
Premature Birth	17.0%	12.1%
Initiated Breastfeeding	38.0%	55.0%

So What?

- A large proportion of women and girls are not ‘birth ready’ in terms of planning for pregnancy and/or being fit for pregnancy.
- The largest behavioural risk factors affecting a healthy birth in NEL are smoking and obesity, both of which are individually associated with an increased risk of miscarriage and stillbirth, low birth weight, prematurity and childhood illness as well as pregnancy complications. Presence of both risk factors increases the chances of these poor outcomes. Both are modifiable risk factors.
- Exposure to these risks is not restricted to pregnancy, but will continue in early childhood with consequences for child health. Maternal smoking after birth increases risk of respiratory disease, attention and hyperactivity difficulties, learning difficulties, ear nose and throat problems; obesity and diabetes, as well as sudden infant death.
- There is also a generational impact from these health behaviours. A mother’s lifestyle, nutrition, and weight-gain during pregnancy has an impact on foetal gene expression in utero and creates a ‘health blue-print’ that determines a child’s predisposition to chronic disease later in life. Children are more likely to be obese if their mother was obese in early pregnancy. (Mothers are also more likely to retain obesity levels post-delivery and enter subsequent pregnancies in a higher weight category too). Children growing up in a household where mum smokes are twice as likely to smoke later on than those where mum doesn’t smoke.
- These health behaviours are unequally distributed across the population. SIP is highest in under 35s, those most deprived (40% in 2 most deprived deciles) and routine and manual workers. Obesity is linked with deprivation. Younger mothers are least likely to take folic acid. These issues are therefore both causes and consequences of inequalities.
- Alcohol misuse is relatively high in our general adult population. It is rarely screened for antenatally and screening questionnaires are self-reported and open to bias. A recent study suggested that as many as 17% of children could be living with symptoms of prenatal alcohol exposure. This would equate to around 6,163 children in NEL. Drinking alcohol in pregnancy affects the brain and development of the foetus and is associated with Foetal alcohol spectrum disorders (FASDs). FASDs are the most common, non-genetic cause of learning disability in the UK. FASD is an umbrella term for a number of specific disorders that variously impact on all areas of child development, and can lead to poor mental health, difficulties at school and limited employment chances later on.
- The number of pregnant women seen in drug and alcohol treatment services, and recorded in the maternity data system, is very small. This could variously be due to a lack of self-reporting, identification and referral, and/or recording issues in both services.
- Optimal nutrition is key for the development of a healthy foetus, maintaining mother’s health during pregnancy, and supports breastfeeding. Folic acid offers protection against birth defects in baby’s brain and spinal cord and reduces the risk of neural tube defects (NTDs) such as spina bifida. Vitamins C and D are also important. The Healthy Start Scheme offers access to supplements of all 3 of these but we are unable to assess uptake or compliance in terms of poor health outcomes at present.

Developing solutions - what works?

- The BabyClear Programme has been shown to nearly double Smoking In Pregnancy (SIP) quit rates. It involves screening all pregnant women for carbon monoxide (CO) at all antenatal appointments, feedback on foetal health status via scans, and opt-out referral to trained pregnancy stop smoking advisors. Risk Perception is an additional intensive element targeted at mums still smoking at the 12 week scan stage. Midwives use a coaching approach to highlight risks to the foetus and how they happen.
- SIP addressed by all healthcare professionals working with pregnant women (and beyond) and partners and family members who smoke also being offered Information, Advice and Guidance (IAG) and support to quit.
- Counselling services including Cognitive behavioural therapy (CBT) and motivational interviewing can help women quit smoking. Feedback, and incentives can also have an impact. There is no robust evidence for education and peer support alone at present.
- Dietary and physical activity interventions in pregnancy can reduce maternal weight gain and improve outcomes for both mother and baby. Those based on diet are more effective than physical activity and a combined approach. Those that deliver individual and group-based interventions have the greatest effect.
- Referral to specialist treatment services for alcohol and illicit drug use. There is limited evidence about what interventions work. Brief advice and motivational-based techniques show most promise for alcohol during pregnancy and brief interventions to reduce illicit drug use among postpartum women. There is consensus that to address drug misuse during pregnancy a holistic approach should be taken to take account of other complex factors and social circumstances.
- Whilst supplementation is indicated for optimising nutrition, there is limited evidence around the uptake of healthy start or ongoing compliance.

4.4 Suggestions for future focus

- NLaG and the commissioner-led Women and Children's Board should utilise the findings within localised reports from the national Perinatal Mortality Surveillance Programme MBRRACE-UK to identify and drive improvements in the health and care of mothers and babies and identify areas for prevention.
- All pregnant women should be encouraged to have the flu vaccination by maternity services, GPs and other health care practitioners. In order to meet the needs of vulnerable people the vaccination should be widely available, including in maternity services as evidence suggests uptake is highest when available there.
- Easy access to the full range of contraceptive methods, with LARC as the most effective, through free, confidential, youth-friendly services and at key touchpoints across the system (e.g. abortion care). This will require wider system investment into provision of LARC but will avert costs associated with unplanned and teenage pregnancies and their longitudinal adverse impacts.
- Strengthen targeted measures for young people at increased risk of poor sexual and reproductive health. This should include implementation and evaluation of condom distribution schemes in response to local need and upskilling relevant workforces, who are in touch with those most at risk, around contraception and sexual health so they can offer credible IAG and support.
- Delivery of effective evidence-based Relationship and Sex Education (RSE) by schools in line with national guidance, with effective signposting to local contraceptive, sexual health, school nursing services and other provision.
- Ensure IAG on options during pregnancy, including termination, is available digitally and at relevant touchpoints across the system, including at pregnancy testing facilities.
- Revisit the case for continuing to fund and deliver the Risk Perception element of BabyClear.

Suggestions for future focus

- Maternity Services are a universal service and undertake comprehensive clinical enquiry as part of routine care. This offers the opportunity for local surveillance and early identification of vulnerability. We found that there is considerable use of free text rather than extractable specific fields and an absence of 'flags' for issues, such as, maternal alcohol and drug use, healthy start uptake, maternal mental health, domestic violence, and if the baby would be taken into care or has a child protection plan. It is therefore suggested that work is done to:
    - ensure effective recording and coding mechanisms and/or flags for relevant vulnerability factors within maternity services so that they are readily identifiable and extractable.
    - ensure recording of provision of Healthy Start vitamins and ongoing compliance.
    - improve data quality through the removal of 'not known' as an option for relevant fields.
    - review, agree and share maternity services data sets with a) commissioners for contract monitoring, b) public health for health surveillance.
    - development of a risk stratification approach based on vulnerability factors to facilitate access to the right level of support for pregnant mothers, proactively and antenatally, including from the VCSE sector.
- Prematurity is a significant issue in NEL and poses risks for a range of developmental problems. NICE Guideline 72 covers enhanced surveillance and support for those born prematurely. Evidence of compliance with that guideline should be sought or otherwise pursued through audit, along with timely and effective handover procedures to Health Visiting. This will enable early identification of, and support for, any developmental issues and SEND which emerge in the early years.
- Ensure there are effective and up-to-date, robust pathways and information-sharing protocols in relation to key vulnerability factors between Maternity and relevant services e.g. drug and alcohol treatment services, safeguarding services and the Health Visiting Service, including effective feedback mechanisms to Maternity Services.
- Provision of a holistic offer of IAG and support around wellbeing, in preconception and in pregnancy, including via technological means such as via Baby Buddy. The potential to address this could be explored at an LMS level, given that these issues will be common across its footprint, as well as at place level.
- Promotion of the Healthy Start Scheme in existing services supporting those in poverty or on low incomes, such as, Food Banks, CAB etc.