



Public Health
England

Protecting and improving the nation's health

State of the North East 2020:

Reproductive health

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Executive summary

Introduction

The purpose of this report is to provide a summary of reproductive health data in the North East that can be used by stakeholders to prioritise areas for action. The content of this work is grounded in the approach taken in the Public Health England (PHE) report 'A consensus statement: Reproductive health is a public health issue' [1]. It considers 3 aspects of women's reproductive health:

- fulfilling reproductive choices
- early identification and prevention of reproductive morbidity
- reproductive wellness

Fulfilling reproductive choices

Pregnancy planning is particularly important as a third of births, and 45% of pregnancies, are unplanned or ambivalent [2, 3]. On average, women in Britain spend about 30 years of their life needing to avoid unplanned pregnancies [4]. Unplanned pregnancies can have a significant impact on the life of the woman, her family, any resulting children, services and wider society [4]. If a pregnancy is unplanned, healthy preconception behaviours may not have been adopted or risk factors addressed in preparation.

Contraception

Effective contraception is key to preventing unplanned pregnancy and therefore a core part of a woman's reproductive health. There are a variety of contraception methods available. These are often referred to as user dependent (contraceptive pill, condoms, natural family planning) and non-user dependent (injections, implants and sterilisation).

Long Acting Reversible Contraception (LARC), such as contraceptive injection, implants and coils, are highly effective at preventing pregnancy. However, in 2018, prescription rates of LARC, excluding injections, from either GP practices or Sexual and Reproductive Health (SRH) Services varied by 8 to 10-fold across the region [5].

In 2018, women attending SRH services in the North East were more likely to have injectables recorded as their main method of contraception than in England (15% vs 9%) and less likely to choose user-dependent (for example contraceptive pills) methods (51% vs 56%). Nationally, choice of contraception method also varied by age [6].

Abortion

In 2018, the crude abortion rate among women aged 15 to 44 years old was lower in the North East compared to England (16.4 per 1000 vs 18.1). However, the percentage of under 25 abortions occurring after a birth is higher in the North East compared to England (34.2% compared to 26.4%) [5].

Teenage pregnancies

Teenage pregnancy and abortion are often used as proxy measures of unplanned pregnancy, planning and access to, or use of, effective contraception.

In 2017, there were more teenage conceptions, fewer abortions, and therefore more teenage deliveries in the North East compared to England [5]. However, the rate of under 18 conceptions in the North East has more than halved since 1998. This mirrors the national trend over the same period [7]. However, in 2017, the North East continued to have the highest regional rate, at 24.7 per 1,000 and Middlesbrough had the highest local authority (LA) rate in England, at 43.8 per 1,000.

Preconception care

Preconception care can reduce risks to mother and baby. However, key data is not available for some NHS Trusts in the North East. Where recorded, most women started taking folic acid only after pregnancy was confirmed rather than throughout the recommended preconception period. Data also shows that less than half of women were a healthy weight at booking appointment for each North East Clinical Commissioning Group (CCG).

Local data on reported current alcohol intake at midwife booking appointment is not robust. National analysis indicates 50% of women were recorded as drinking less than one unit but intake was categorised as unknown for 48% of women. In the North East, the proportion recorded as drinking less than one unit varied from 10% in Sunderland CCG to 97% in South Tees CCG. However, the intake categorised as unknown varied from 3% in South Tees CCG to 97% in Sunderland CCG.

All North East LAs have a smoking at time of delivery rate above the national ambition of 6% or less. However, all, except Stockton-on-Tees, have had a significant reduction since 2014/15. The North East rate overall has significantly reduced from 18.0% in 2014/15 to 15.7% in 2018/19.

Assisted fertility

All CCGs in the North East offer the recommended 3 cycles of In Vitro Fertilisation (IVF) if specific criteria are met [8]. In 2017, the North East had the lowest total number of IVF cycles for a region in England [9]. However, 59% of IVF treatment cycles were NHS funded in the North East in 2017, the highest proportion of all regions [9].

Early identification and prevention of reproductive morbidity

Cervical cancer is an important cause of reproductive morbidity and mortality. Human Papilloma Virus (HPV) is associated with the development of most cervical cancers and can be prevented by HPV vaccination. In 2017/18, HPV vaccine coverage in the North East was 85.5% for both first and second doses. However, coverage can vary year on year. The reasons provided for this include doses not being completed within the academic year, change in teams delivering the vaccinations part way through the year and reduction in school nursing service capacity [10].

In 2018, cervical screening coverage in the North East was significantly higher than the England average for women aged 25 to 49 years old (74.2% vs. 69.8%) though it was similar for those aged 50 to 64 years old (76.3% vs. 76.2%) [11]. However, one in 4 women have not been screened within the recommended interval.

Chlamydia infection is associated with tubal factor infertility, ectopic pregnancy and pelvic inflammatory disease. PHE recommends via the national chlamydia screening programme that areas should aim for a detection rate of at least 2,300 chlamydia cases per 100,000 population aged 15 to 24 years old to reduce prevalence of chlamydia [11]. In 2018, the rate of chlamydia detection in the North East (1,815 cases) was slightly lower than this figure and the England average (1,975 cases) [5].

Reproductive wellness

There is a lack of routinely collected data that gives a clear picture of reproductive wellness. Psychosexual, incontinence and menstrual problems or symptoms of the menopause cause a considerable morbidity burden and clinical management largely takes place in general practice, gynaecology and, to a lesser extent, sexual health services. These are largely CCG-commissioned services and data capture is inconsistent and relies heavily on prescribing data in general practice. Efforts to improve use of data about general practice activity in reproductive health are underway but still at an early stage and this limits what can be reported at this time, both nationally and locally.

Conclusions

Significant progress has been made across the North East in reducing teenage conceptions, reducing rates of smoking at time of delivery, access to NHS-funded IVF, access to abortion in the region (under 18 weeks) and cervical screening coverage. However, compared to the England average, the North East continues to have high rates of teenage conception, abortions amongst the under 25s who have previously given birth and smoking during pregnancy. The North East also has lower rates of chlamydia detection and under 18s abortions. However, significant variation exists in reproductive health outcomes across the region.

Robust data is important for making an accurate assessment of need and can initiate ways to improve reproductive health, particularly to address inequalities. Analysis of reproductive health across the North East has been limited by data issues. Demonstration of the usefulness of this data, as well as sharing good practice between areas, could be valuable for increasing completeness of the data. Improved data could lead to better clinical care and reproductive health outcomes.

Recommendations

Fulfilling reproductive choices

Contraception

1. Local authorities should work with providers to explore the data recording on the use of Long Acting Reversible Contraception (LARC) and explore the variation between areas to ensure their population has easy and timely access to LARC provision.
2. General practice and sexual health providers should ensure that women of all ages have access to the range of contraceptive methods, including emergency hormonal contraception.
3. Local authorities and CCGs should ensure contraception and long-term preconception care are considered together, opportunistically, at key contacts such as during pregnancy, at birth, contraception reviews and abortion.

Abortion

4. Clinical Commissioning Groups (CCGs) should investigate the reasons why there is a lower proportion of abortions under 10 weeks across the North East and why 4 in 10 women who are having late abortions receive these outside the North East region.
5. Due to the high rate of under 25s having an abortion who have previously given birth in the North East, maternity services, sexual health services and general practices should ensure contraception advice is provided pre, during and post pregnancy, with the full range of contraception made available.

Teenage pregnancy

6. Local authorities should work with local partners to use PHE's **Teenage Pregnancy Prevention Framework** to assess their local programme to see what's working well, identify any gaps, and maximise the assets of all services.

7. The rates of teenage conception mask significant variation within LAs and between individual young people. Particular attention should be focused on narrowing inequalities within LAs by assessing teenage conceptions utilising the ward estimate [maps](#)¹ as well as reducing inequalities between individual young people, for example looked after children and care leavers.
8. In 2017, a significantly smaller percentage of under 18 conceptions in the North East led to abortion than a birth compared to England (40.2% compared to 52.0%). CCGs should assess their abortion provision to ensure there is easy access for all young people, including under 16s and those relying on public transport.

Preconception care

9. Maternity staff should improve the quality of data on the Maternity Services Dataset for folic acid use, alcohol consumption and BMI.
10. Maternity staff should raise awareness of the benefits of folic acid use and maintaining a healthy, balanced diet, as well as the risks associated with drinking alcohol, and smoking pre, during and post pregnancy.

Early identification and prevention of reproductive morbidity

Cervical screening

11. Whilst the North East is doing well against the England average for coverage of cervical screening, 1 in 4 women are still not accessing screening within the recommended interval. NHS England (NHSE) and general practices should undertake further analysis using GP practice level data to target women in specific areas and engage in the Screening Saves Lives initiatives.

Chlamydia screening

12. Local authorities should continue to work towards the ambition of 2,300 diagnoses per 100,000 population, ensuring access to chlamydia screening for under 25-year olds through a range of settings.

¹ Teenage conception rates, ward estimate maps available via KHub (free registration required)
https://khub.net/group/phenortheast/group-library/-/document_library/Sz8Ah1O1ukgg/view/258286238

13. Effective management of those diagnosed with chlamydia is an essential part of reducing onward transmission and subsequent harm. This means rapid treatment, effective partner notification and retesting 3 months after treatment. Local authorities and sexual health providers should explore the variation in rates of detection as it may represent different prevalence's in different populations, but it could also be influenced by coverage and whether the most at risk populations are being reached.

Reproductive Wellness

14. PHE, NHS and LA colleagues should investigate how routine indicator sets can be developed to capture data on reproductive wellness, such as menopausal problems, and explore ways to reduce barriers and stigma for those seeking help.

Health Inequalities

15. Both commissioners and providers of local reproductive health services should ensure that inequalities data for example ethnicity, sexual orientation, is captured in order to understand the access and experience by different population groups.

Glossary and abbreviations

BMI	Body Mass Index (below 18.5 = underweight: 18.5 - 24.9 = healthy weight; 25 -29.9 = overweight and 30 - 39.9 = obese)
CCG	Clinical Commissioning Group
DHSC	Department of Health and Social Care
FSRH	Faculty of Sexual and Reproductive Healthcare
GP	General Practice
HFEA	Human Fertilisation and Embryology Authority
HPV	Human Papillomavirus
IUS	Intrauterine system
IVF	In vitro fertilisation
LA	Local Authorities
LARC	Long Acting Reversible Contraception
NICE	National Institute of Health and Care Excellence
PHE	Public Health England
SRH	Sexual and Reproductive Health
SRHAD	Sexual and Reproductive Health Activity Data

1. Introduction

1.1 Context

In 2018, Public Health England (PHE) published a suite of resources on reproductive health with information about the gaps in data and services in reproductive health and healthcare for women [12].

This national work set out to define the current state of play in reproductive health and included a national survey of over 7,000 “Women’s Voices”, focus groups across the country, collation of national routine and survey data on reproductive health as well as a Consensus Statement on reproductive health [2, 1, 3].

The Consensus Statement outlines 6 pillars required for good reproductive health [1]. These are:

- Proportionate universalism (good care for everyone, with additional support for those who need it)
- Knowledge and resilience for women to make informed decisions and exercise freedom of expression
- Enjoyable relationships, free from violence and coercion
- A positive approach to health (not just absence of disease), free from stigma and embarrassment
- User centred systems & services, involving women at all levels of decision making
- Systems & services addressing the wider determinants of reproductive health

1.2 Definition

As part of this work, PHE applied the World Health Organisation (WHO) definition of reproductive health as a starting point, which states that reproductive health is:

“A state of physical, mental, and social well-being in all matters relating to the reproductive system. It addresses the reproductive processes, functions and system at all stages of life and implies that people are able to have a satisfying and safe sex life, and that they have the capability to reproduce and the freedom to decide if, when, and how often to do so.” [3]

1.3 Data sources

This report draws on data from several different sources. Much of the data presented here has been taken from analysis that forms part of the PHE Sexual and Reproductive Health Profiles [5]. This online data visualisation tool includes interactive maps, charts and tables that look at the latest data and trends over time.

Conception data and population estimates come from the Office of National Statistics (ONS) [13]. Abortion data is drawn from ONS and the Department of Health and Social Care [14].

Data on the health of women before and during pregnancy comes from NHS Digital Maternity Services Dataset for women registered with CCGs in the North East, 2017 [15].

Analysis of national level data by PHE have reported a number of inequalities in relation to reproductive health [2, 16] however there are not enough robust data to investigate this at a local or regional level. As such, reference is made to national PHE reports where appropriate.

Unless specifically described, the charts are colour coded depending whether the 95% confidence intervals overlap with the England average. Amber dots and bars indicate a similar rate to England, red a worse rate and green a better rate. Dark blue is used for a lower rate and light blue for a higher rate where the direction of the result is ambiguous.

1.4 Scope of the report

The purpose of this report is to provide a summary of reproductive health data in the North East that can be used by stakeholders to prioritise areas for action. It focuses on the proportionate universalism pillar since this is the area where there is most routine data. This includes services relating to:

- Fulfilling reproductive choices (for example contraception and preconception care)
- Early identification and prevention of reproductive morbidity (for example chlamydia and cervical screening)
- Reproductive wellness (for example menstrual/menopausal issues, incontinence and psychosexual function).

2. Fulfilling reproductive choices

Pregnancy planning is particularly important as a third of births, and 45% of pregnancies, are unplanned or ambivalent [2, 3]. On average, women in Britain spend about 30 years of their life needing to avoid unplanned pregnancies [4]. Unplanned pregnancies can have a significant impact on the life of the woman, her family, any resulting children, services and wider society [4]. If a pregnancy is unplanned, healthy preconception behaviours may not have been adopted or risk factors addressed in preparation.

2.1 Contraception

Effective contraception is key to preventing unplanned pregnancy and therefore a core part of a woman's reproductive health. Effective contraception can also be cost saving for services as it is estimated that every £1 spent on publicly funded contraception results in savings of £9 shared between health and social care over 10 years [17].

There are a variety of contraception methods available. These are often referred to as user dependent (for example contraceptive pill, condoms, natural family planning) and non-user dependent (for example injections, implants, coils). Non-user dependent contraception, also known as Long Acting Reversible Contraception (LARC), are highly effective at preventing pregnancy as they do not rely on daily compliance compared to user dependent methods [18]. Whilst injectables do not rely on daily compliance, they do require attendances every 3 months for repeat provision and are therefore less effective than implants and intrauterine devices (IUDs) [19]. There are also 2 permanent types of contraception, sterilisation and vasectomies [20].

Contraception may be provided in a range of different settings including general practices (GPs), sexual health services, in abortion or maternity settings or through retail [21]. National data suggests that GPs are the most commonly used source to access contraception (around three-quarters of total provision) [21]. However, a survey conducted between 2010 and 2012 found that around a third of women are unable to access contraception from their preferred source and that this is associated with less effective contraception and abortion [21].

The provision of LARC is mainly commissioned by local authorities (LAs) who are responsible for the delivery of contraception in sexual health services (SRH). Local authorities may also hold contracts with GPs for the provision of LARC over and above the basic contract that GPs hold with NHS England, which includes the provision of user-dependent methods [22].

This section examines prescriptions for LARC² by GPs and SRH Services and choice of contraception at SRH services. Information about choice of contraception at GP practices is not publicly available.

2.1.1 LARC prescriptions at SRH Services

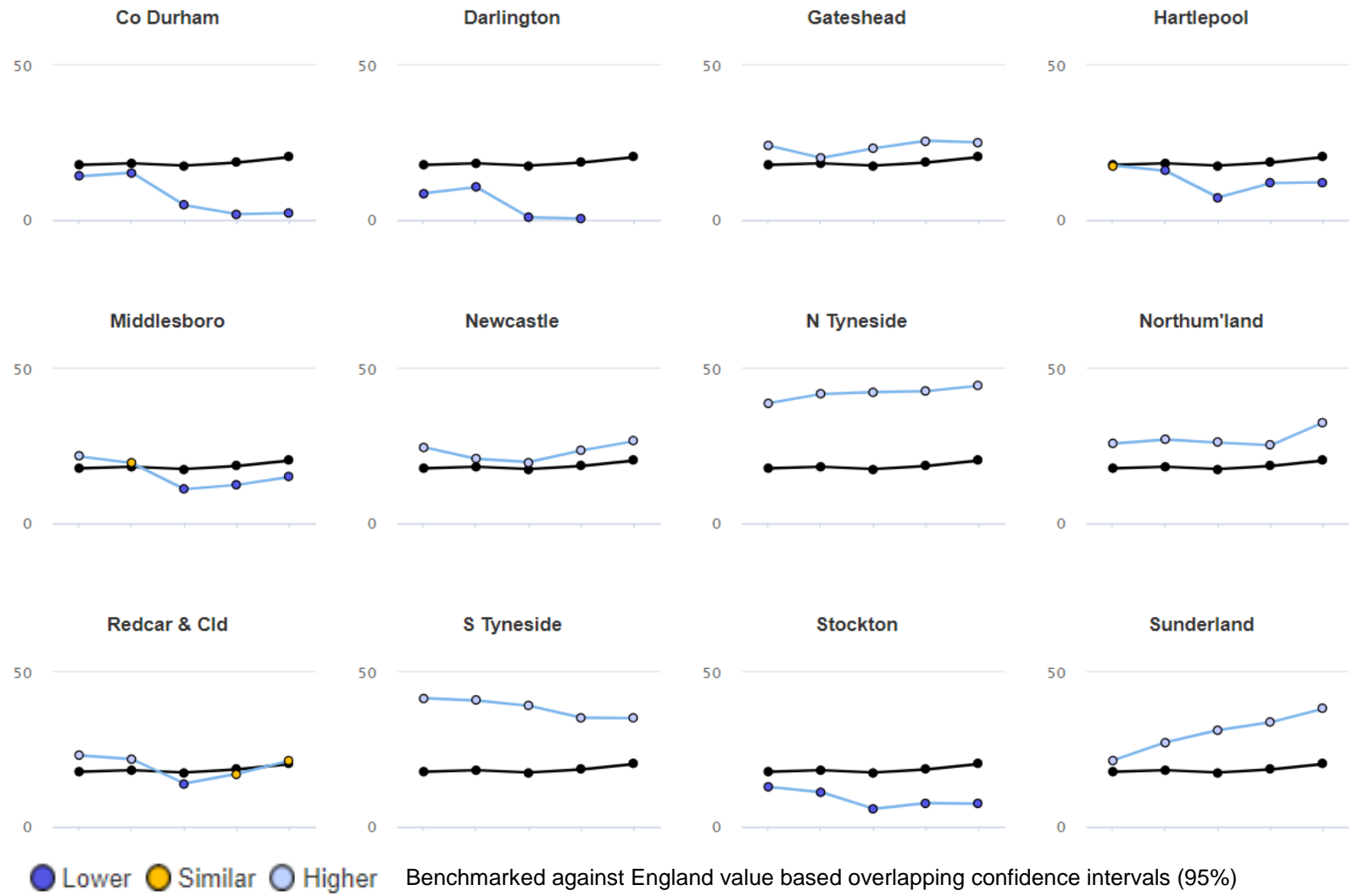
In 2018, the rate of LARC prescriptions from SRH services was significantly higher in the North East (21.6 prescriptions per 1,000 women aged 15 to 44 years old), compared to England (20.3 prescriptions per 1,000 women aged 15 to 44 years old).

However, there is wide variation between LAs. Some, such as Darlington and County Durham, seem to have relatively fewer LARC prescriptions provided through SRH services. Other LAs have more than double the England average rate of SRH LARC prescriptions, for example there were 44.6 prescriptions per 1,000 women 15 to 44 years old in North Tyneside in 2018.

Figure 1 shows the trends in LARC prescriptions provided by SRH services across the North East (1) between 2014 and 2018. Overall, there has been a significant change in trends in all LAs in the North East, except Redcar and Cleveland which has had a steady rate over this period. In South Tyneside, Middlesbrough, Hartlepool, Stockton, Darlington and County Durham the rates have significantly decreased over this period. Whereas North Tyneside, Sunderland, Northumberland, Newcastle and Gateshead have seen a significant increase. The reason for these trends will require local exploration

² It should be noted that LARC rates reflect women who receive a LARC method (either initiate this method or replace an existing device). It does not reflect total LARC use because many women who use this method are unlikely to attend during the lifetime of the device which may be between 3 and 10 years. A further challenge to interpretation of the data is that in GPs, IUS prescriptions may primarily be either for contraception or management of a gynaecological condition (i.e. non-contraception purposes) whilst in SRH services the methods are only available for contraceptive purposes. Additionally, there is no mechanism to collect data on LARCs inserted in abortion and maternity settings. When reporting LARC uptake, injections are largely excluded as a longer acting method because they rely on regular 3-monthly visits by the user and are, therefore, like other user dependant methods, less effective in practice due to inconsistent use. They are also outside of LA contracts (26).

Figure 1 SRH Services prescribed LARC (excluding injections) per 1,000 women aged 15 to 44 years old per local authority (blue lines) compared to England (black line), 2014 to 2018 (4)³



³ <https://fingertips.phe.org.uk/profile/sexualhealth/data#page/4/gid/8000059/pat/6/par/E1200001/ati/202/are/E08000023/iid/92255/age/1/sex/2>

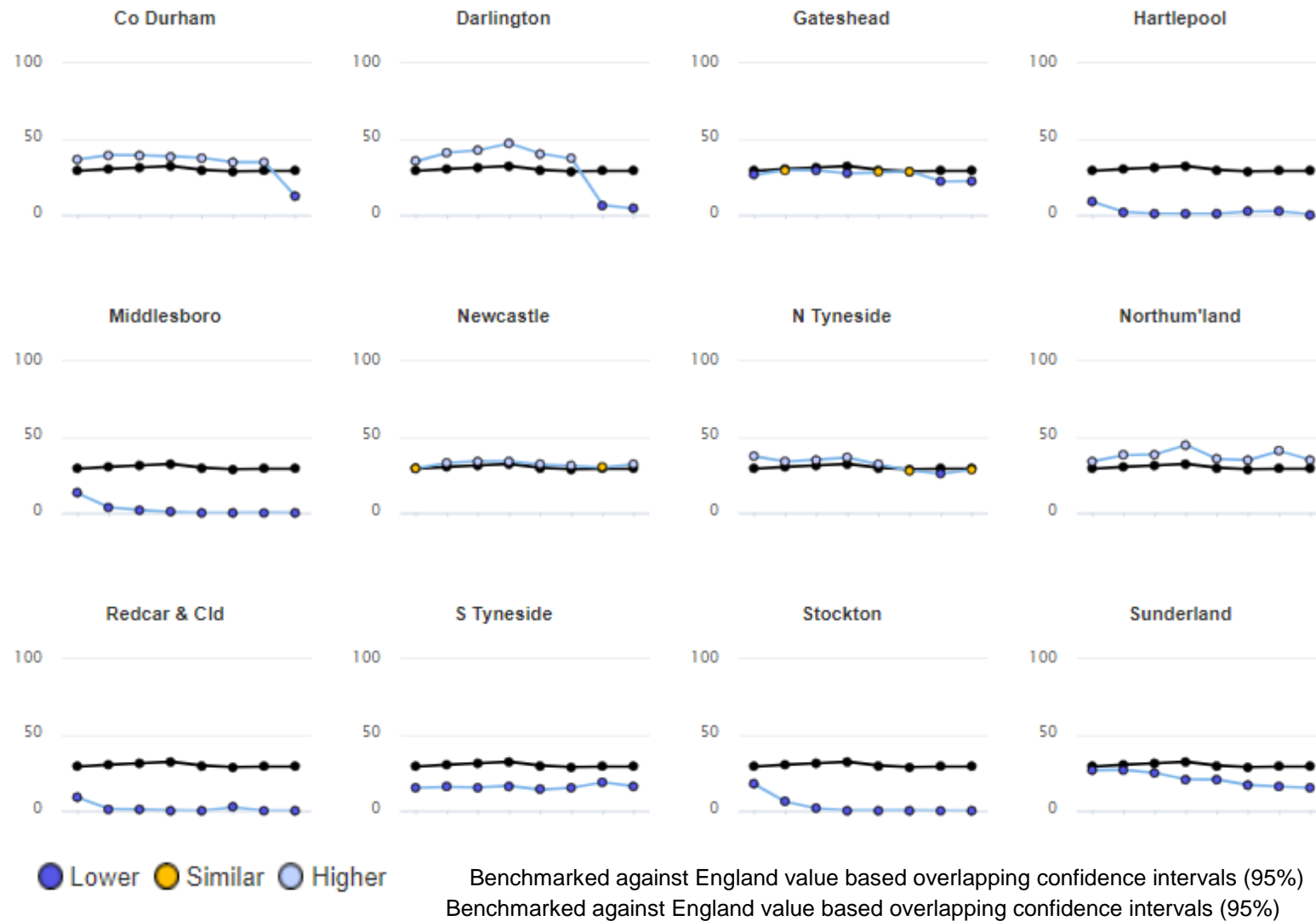
Overall in England, SRH use and LARC uptake varies by deprivation. In 2016, the most deprived decile was more likely to attend SRH settings and more likely to uptake LARC [2]. There are no routinely available local data to understand if there are inequalities by sub-groups in the North in terms of access to and uptake of LARC beyond LA level.

2.1.2 GP-prescribed LARC

In 2018, the rate of GP LARC prescriptions was significantly higher in the North East (17.1 prescriptions per 1000 women aged 15 to 44 years old), compared to England (29.2 prescriptions per 1000 women aged 15 to 44 years old). However, there is wide variation between LAs, from none in Redcar and Cleveland to 35.0 prescriptions per 1000 women aged 15 to 44 years old in Northumberland. There are known changes to contractual arrangements in some LAs which is reflected in the results displayed here. This may therefore represent under-reporting.

Figure 2 shows trends in GP-prescribed LARCs which have declined in the North East between 2011 and 2018 (from 27.3 in 2011 to 17.1 in 2018 prescriptions per 1000 women aged 15 to 44 years old).

Figure 2 GP prescribed LARC (excluding injections) per 1,000 women aged 15 to 44 years old per local authority (blue lines) compared to England (black line), 2011 to 2018 (4)⁴



⁴ <https://fingertips.phe.org.uk/profile/sexualhealth/data#page/4/gid/8000059/pat/6/par/E1200001/ati/202/are/E08000023/iid/91819/age/1/sex/2>

Overall the rate of GP provision of LARC in the North East is significantly lower than for England as a whole. Again, there is wide regional variation due to known data quality issues. However, areas which have seen decreases in SRH LARC prescriptions do not appear to have a corresponding increase in GP LARC prescriptions.

2.1.3 Total (GP and SRH) LARC prescriptions

Figure 3 shows all prescriptions for LARC, excluding injections, by both GPs and SRH services per 1000 women aged 15 to 44 years old in 2018 by LA [5].

There was an 8-10 times difference in the rate of LARC prescriptions between the lowest and highest LA rates. Whilst it is acknowledged that some of the variation is due to issues with data recording, local areas (particularly in the 5 LAs where the total provision is lowest) should investigate whether it is also due to variations in local provision or other barriers to access.

Figure 3 Total (GP and SRH) prescribed LARC (excluding injections) per 1000 women aged 15 to 44 years old in 2018 by local authority (4)

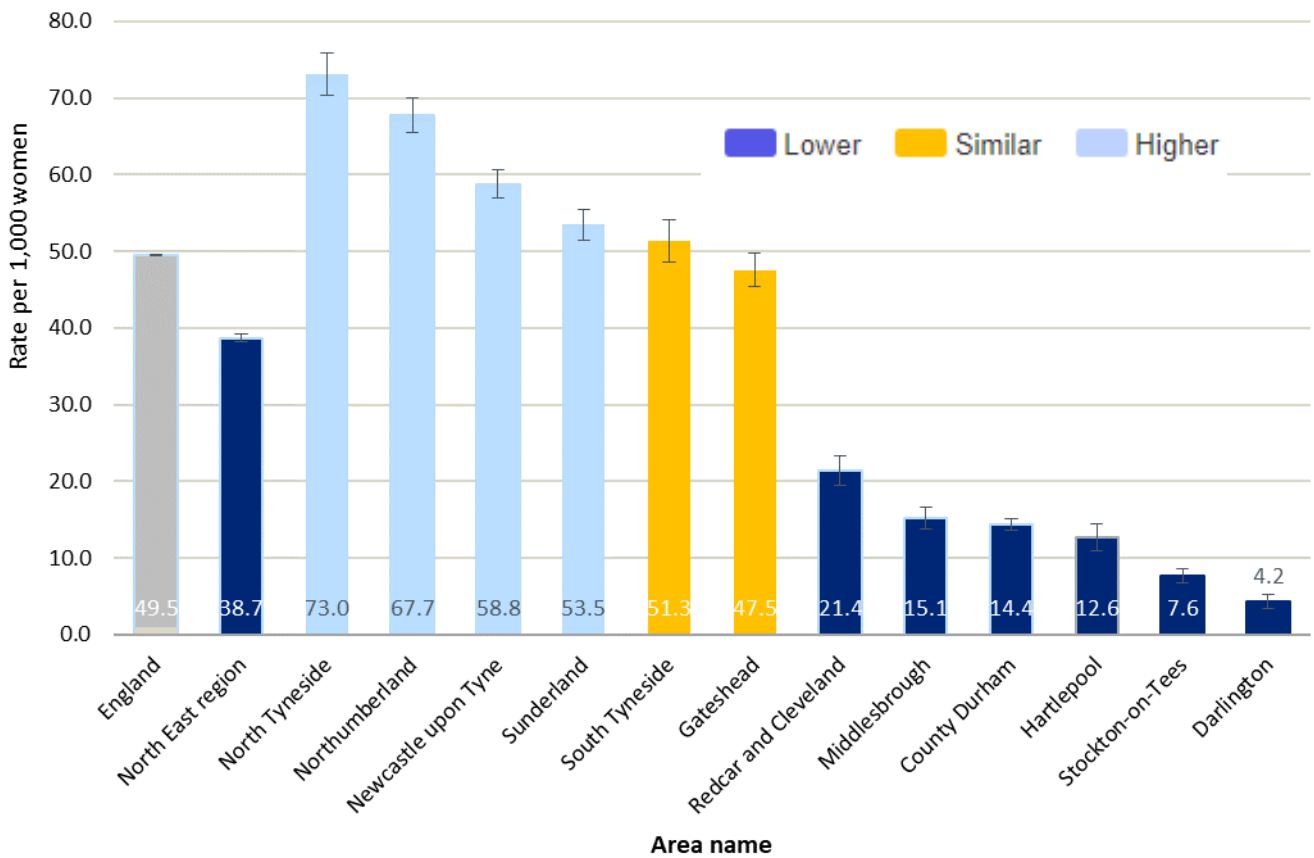
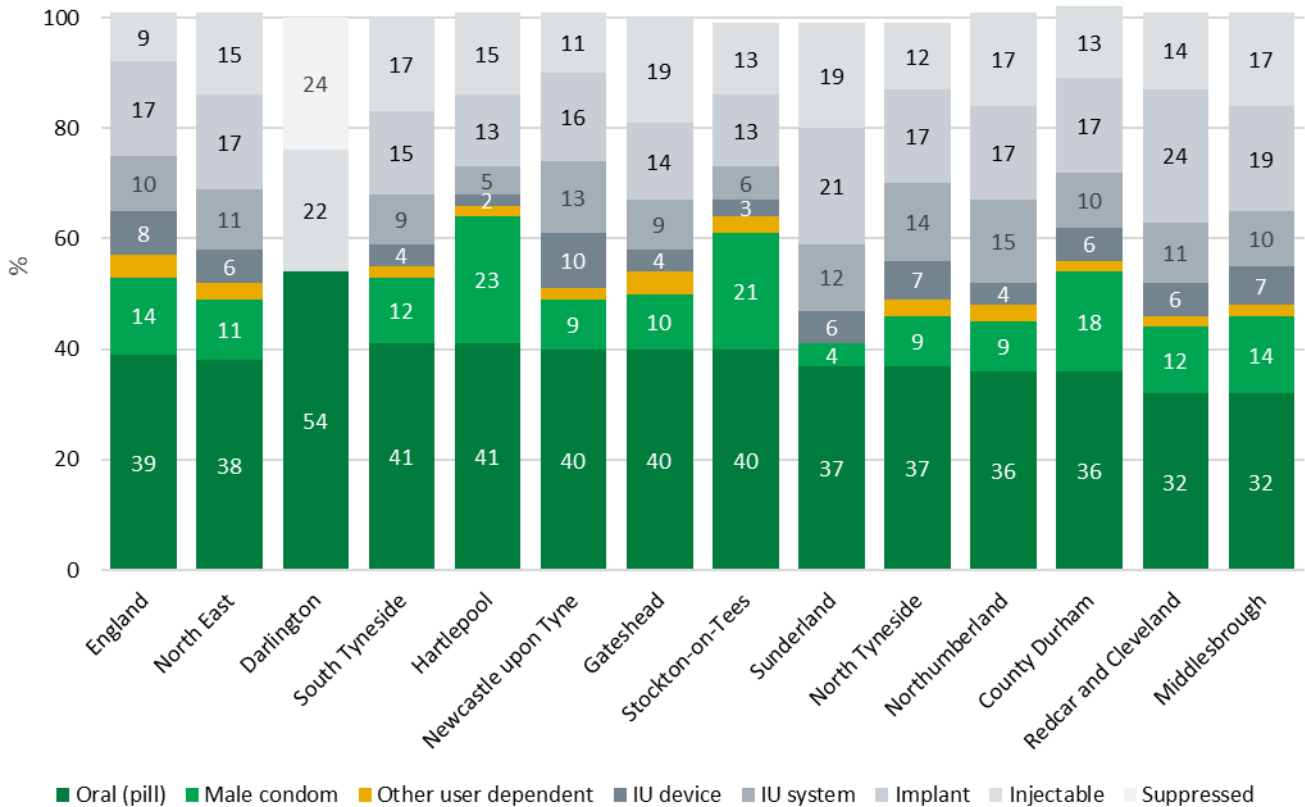


Figure 4 Women using SRH Services for contraception, by LA of patient residence and main method of contraception, 2018/19 [6]



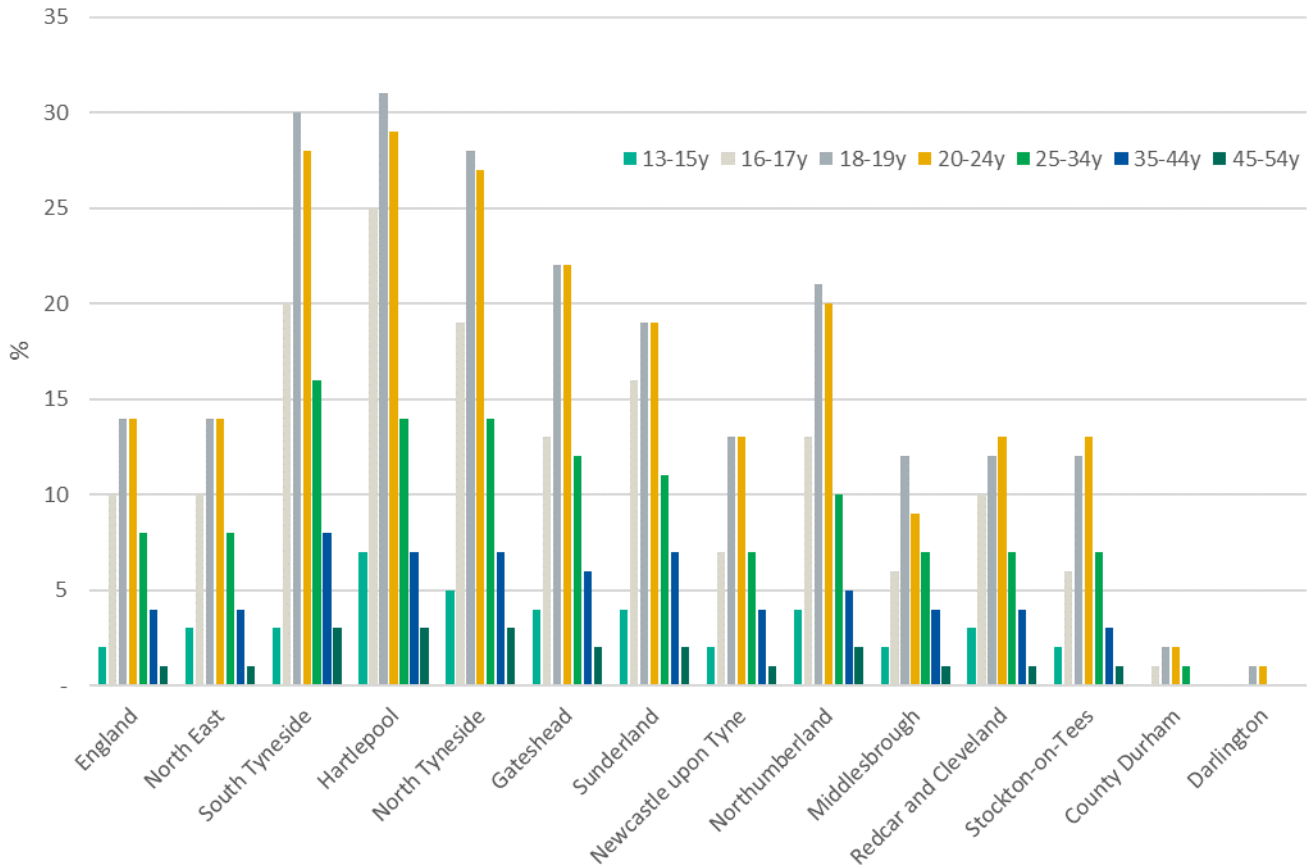
Variation in method of contraception across the region may be influenced by differences in preference, limited available choices or different relative proportions of women accessing contraception from GPs compared with SRH services. However, there may be data recording issues.

Each method has a variety of advantages and disadvantages that may appeal differently to different age groups. For example, Intrauterine system (IUS) can have the side-effect of reducing heavy menstrual bleeding [23]. Also, there are an increasing number of women for whom some specific contraceptive methods are contraindicated. For example, the combined oral contraceptive pill is not recommended in over 35-year-old smokers [24]. In contrast, LARC are associated with very few contraindications therefore are often a preferred choice [25].

In 2018/19, national data shows that whilst oral contraception was the main method for all age groups, except those aged 45 years old and over, the proportion using IU systems increased with age [6].

Figure 5 shows that the North East and England overall have similar proportions of women using services for reasons of contraception as a percentage of resident population for each age group. However, this masks considerable variation within the North East with some LAs having a more than double the proportion of women accessing SRH services for contraception reasons than the national figure.

Figure 5 Women using services for reasons of contraception as percentage of resident population by LA and age (years), 2018/19 [6]



Data are not routinely available to compare the use of SRH services by deprivation, ethnicity or sexual orientation at a local or regional level.

2.1.6 Emergency contraception

Emergency contraception can be effective in preventing unplanned pregnancy. Women in the North East seem to access less emergency contraception at SRH services compared to the England average.

Nationally, analysis shows that reported emergency contraception use decreases with age, from 7.1% of those aged 16 to 24 years old to 1.1% of those aged 40 to 44 years old. It also varies by ethnicity but not by deprivation [2].

In 2018/19, emergency contraception made up 1.76% of all activity at SRH services in the North East compared to 2.92% of all SRH activity in England [6]. The rate of emergency contraception provision is around 4 per 1000 women aged 15 to 44 years old in the North East and around 5 per 1000 women in England [6].

Emergency contraception can also be obtained from pharmacies and GP practices but data on provision from these sources is limited. Areas vary in whether LAs commission this service from pharmacies or not. Data from individual LAs should be interpreted with reference to sources of access alternative to SRH services. Emergency contraception can also be accessed through over the counter sales, but this data is not routinely available.

2.2 Abortion

Access to abortion care is an important part of comprehensive reproductive healthcare provision enabling women to make choices about a pregnancy. It is often assumed that rates of abortion equate with unplanned pregnancy. However, 4 in 10 pregnancies that were terminated were planned or ambivalent; this is therefore only part of a complex picture [4]. This section looks at some key abortion statistics for the North East.

In 2018, the crude total abortion rate was significantly lower in the North East (16.4 per 1000 women aged 15 to 44 years old) compared to England (18.1 per 1000 women aged 15 to 44 years old). Figure 6 shows how the abortion rate varies across the region. In 2018, the rate of abortions ranged from 13.6 in County Durham to 23.6 in Middlesbrough per 1000 women aged 15 to 44 years old [14].

Figure 6 Crude abortion rate per 1,000 women aged 15 to 44 years old by local authority in 2018 [14]

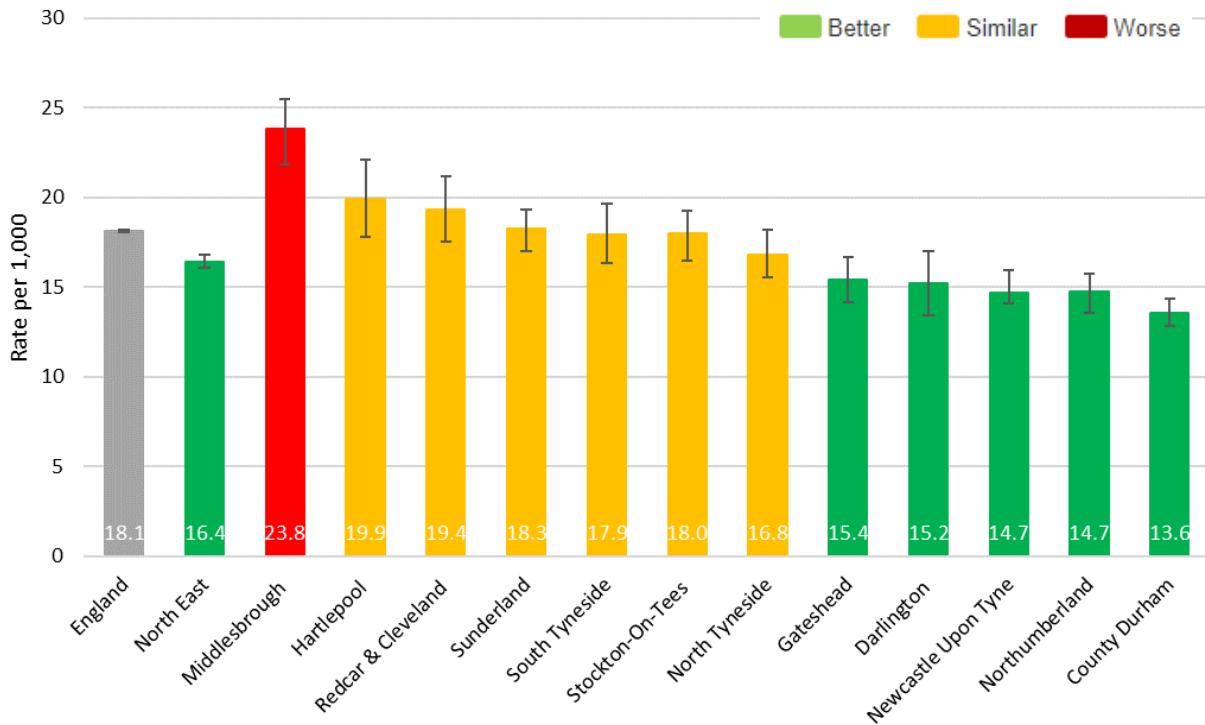
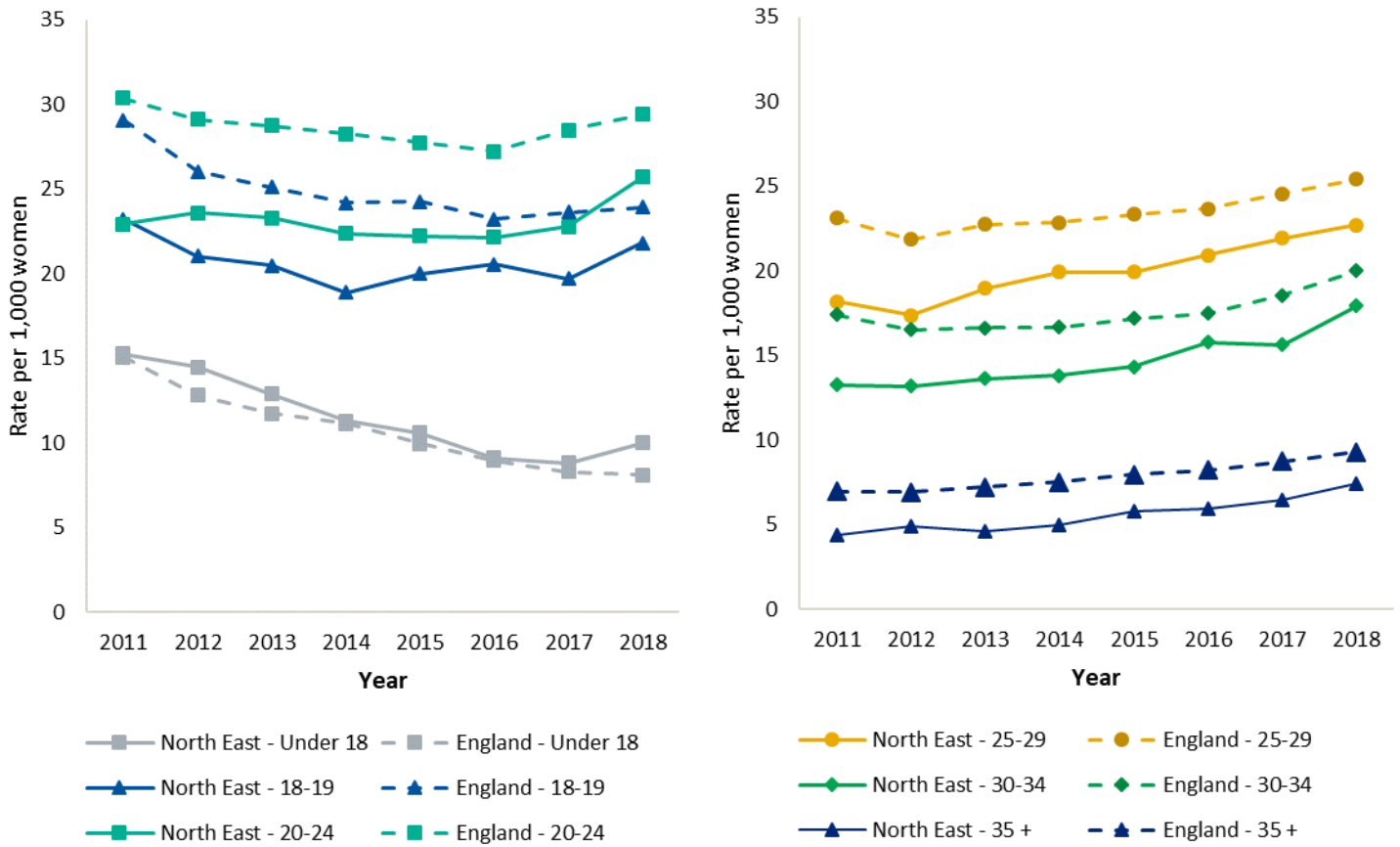


Figure 7 shows how abortion rates occur across a wide variety of ages for the North East and England. It is most common between the ages of 18 and 29, although has been increasing at a greater rate in women over 30 in recent years. The abortion rate in the North East and England appears to be increasing across all age groups although prior to 2018 there had been an overall trend downwards in those aged under 18 years old. However, in 2018, the abortion rate was lower in the North East compared to England for all age groups except for those aged under 18 years old [14].

Figure 7 Trends in abortion rate per 1000 women in the North East compared with England and by age group, 2011 to 2018 [14]



National analysis also shows that abortion rates also vary by ethnicity [2]. However, data are not routinely available to compare abortion rates by deprivation, ethnicity or sexual orientation at a local or regional level.

In 2018, the North East had a statistically significant lower proportion of total abortions occurring under 10 weeks when compared to the England average (78.1% vs 80.4%) [5]. Figure 8 shows how this varies across the region from 70% in County Durham (significantly lower than England for the last 7 years) to 83.2% in Middlesbrough. No North East LAs had a significantly greater proportion of under 10-week procedures than the England average.

Figure 8 Proportion of abortions which occur under 10 weeks per local authority, 2018 [14]

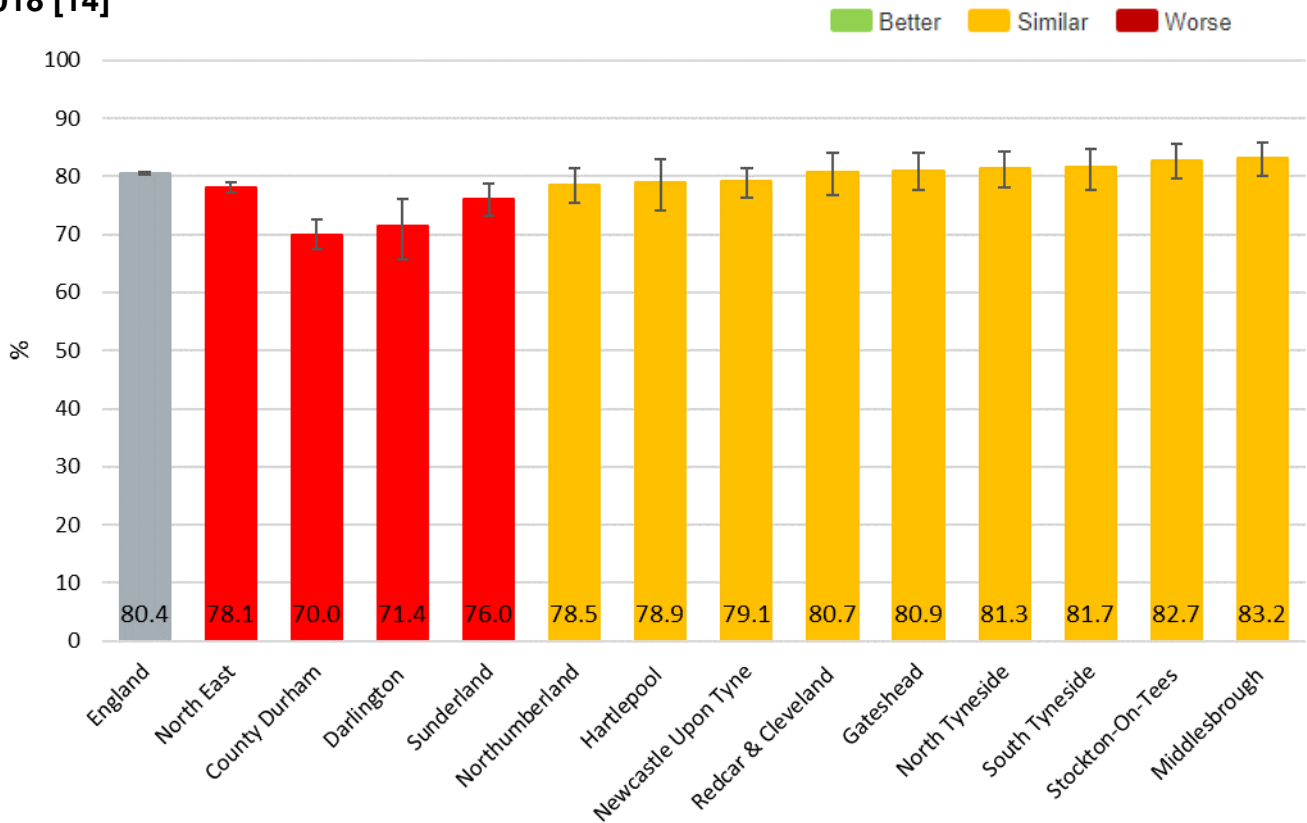


Figure 9 and Figure 10 shows the proportion of women who stayed in or travelled out of their region of residence respectively to access abortion [2] [26]. This indicates that 94% of North East women who have had an abortion under 18 weeks access abortion services within the region. This is the highest percentage for all regions. In contrast, only 59% of women in the North East access services within the region for abortions at 18 weeks or over.

2.2.1 Access to abortion service

Figure 9 Proportion of women accessing abortion services under 18 weeks within or outside their region in 2016 [2] [26]

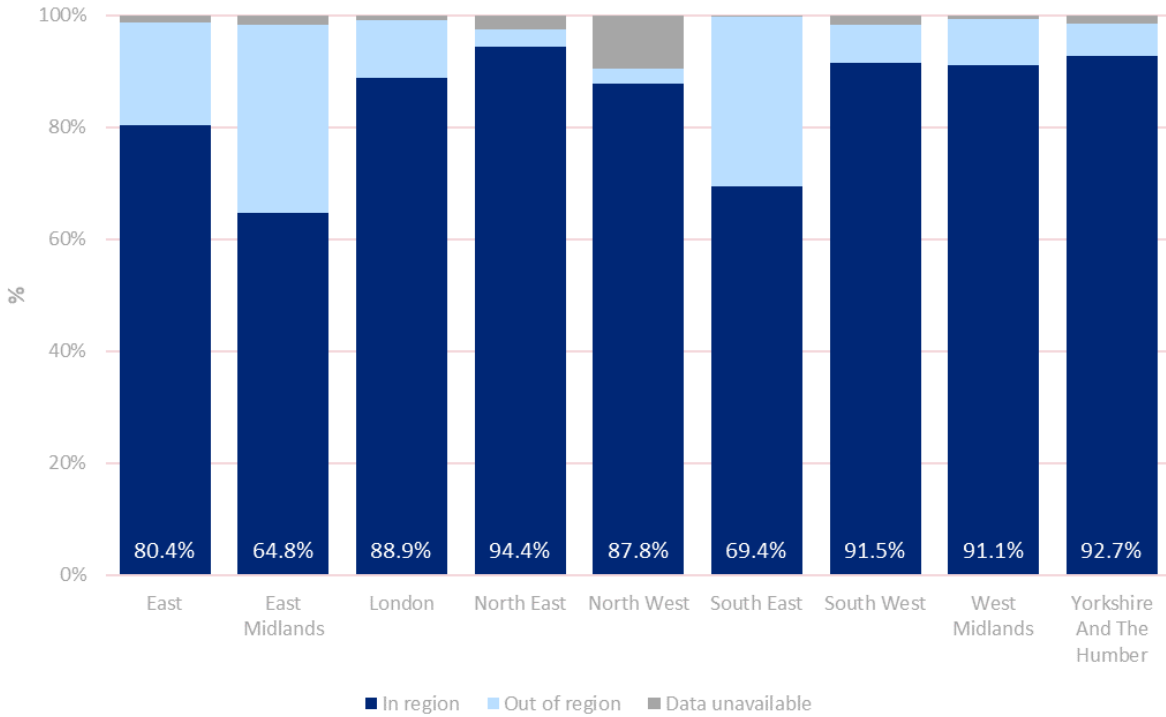
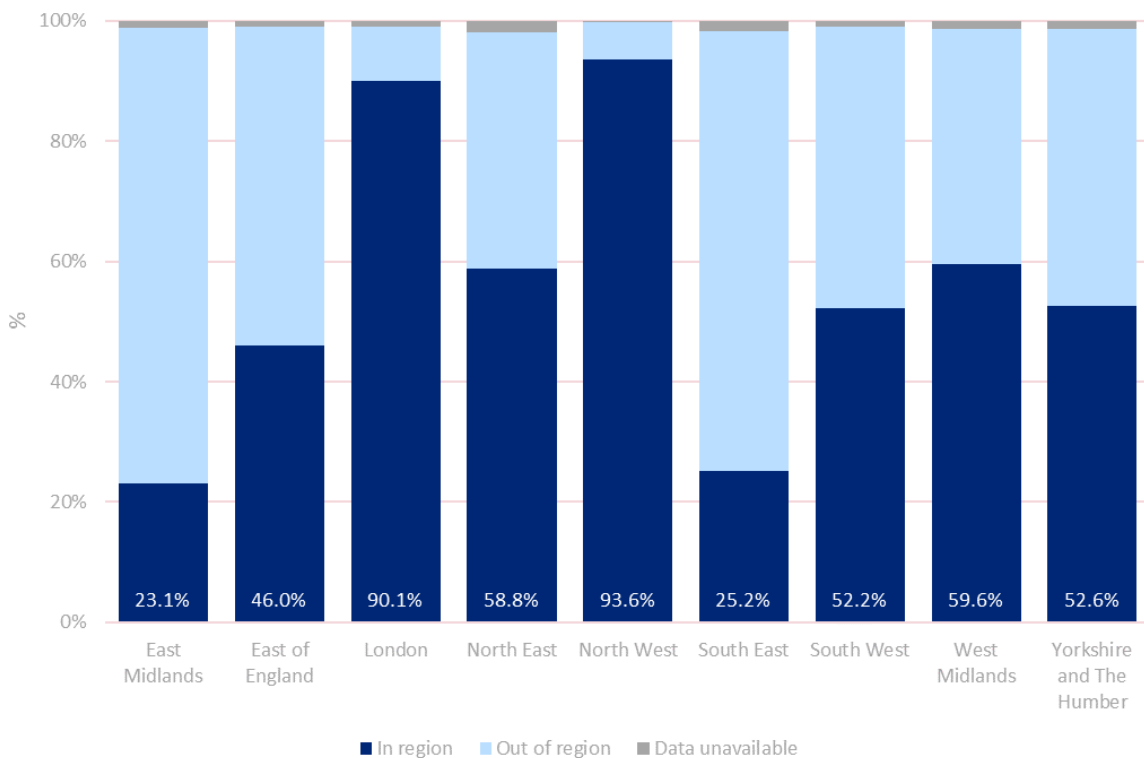


Figure 10 Proportion of women accessing abortion services 18 weeks or over within or outside their region in 2016 [2] [26]



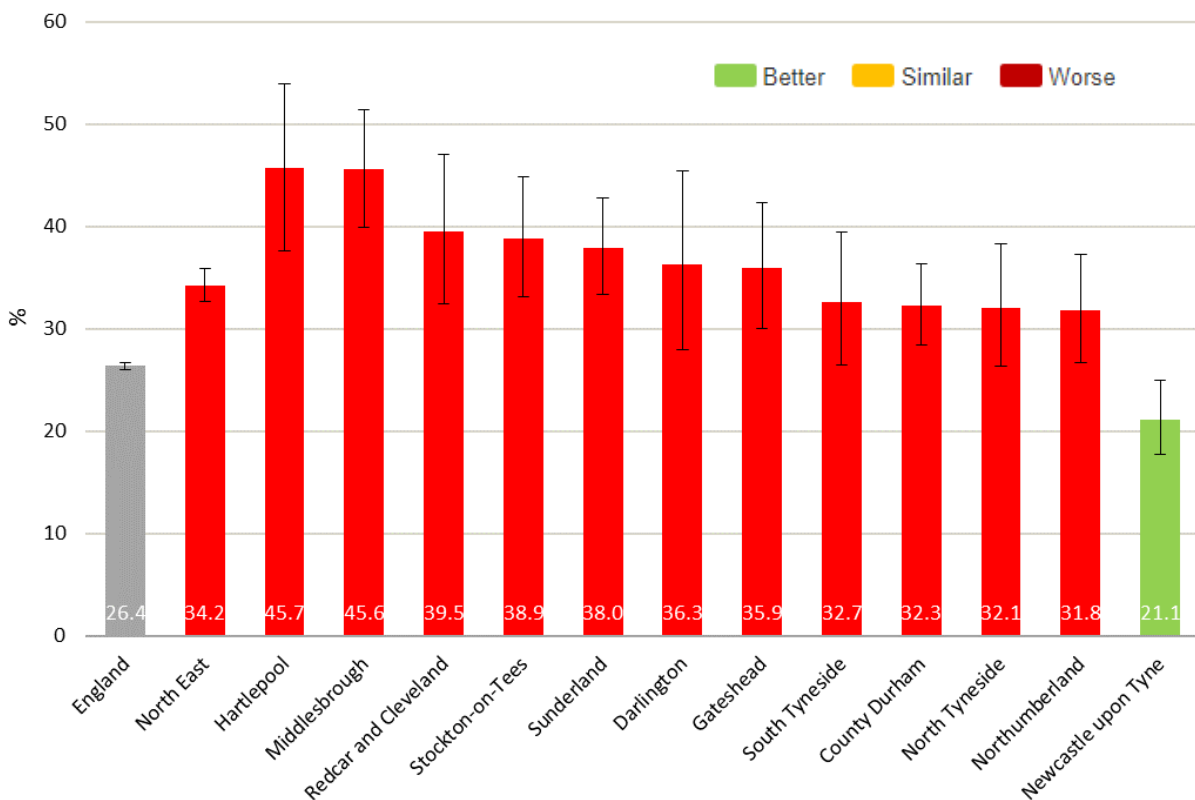
2.2.2 Previous abortions

The significance of more than one abortion is difficult to interpret since it is associated with increased age which allows longer for exposure to pregnancy [14]. However, the rate of more than one abortion in the under 25s is often used as a proxy indicator of access to effective contraception services and advice as well as problems with individual use of contraceptive methods [5].

In 2018, more than one third of women of all ages who presented for abortion in the North East had had a previous abortion (36.5% compared to England average 39.5%) [14]. The proportion of previous abortion in under 25-year olds was lower in the North East compared to England (24.2% vs 26.8%) [14].

However, in 2018, of under 25-year olds who have an abortion, a significantly larger percentage (34.2%) of women in the North East have previously given birth compared to England (26.4%). Figure 11 shows the percentages by LA. Nine out of 12 LAs are significantly higher than England, except for South Tyneside, North Tyneside and Newcastle. This may represent higher birth rates meaning that there is a greater probability of having had a previous birth. However, it could also indicate the opportunity, and potential missed opportunity, for contraception advice following childbirth.

Figure 11 Percentage of under 25-year olds having an abortion who have previously given birth by local authority (2018) [5]



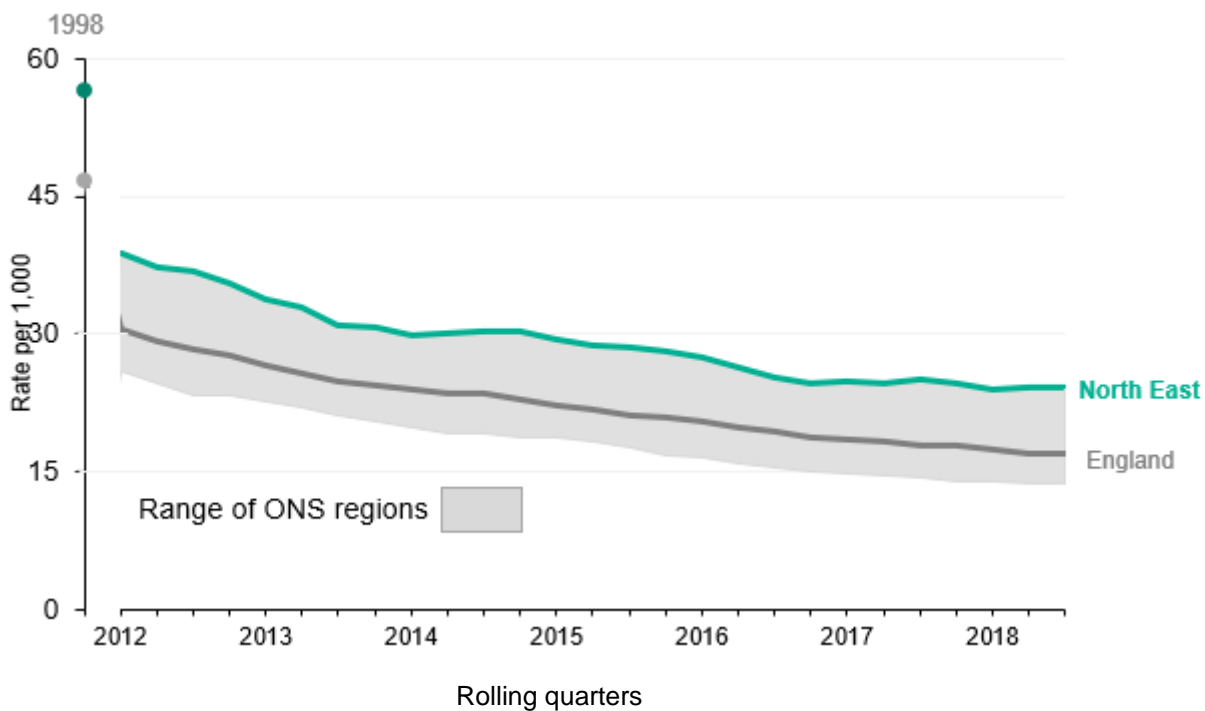
2.3 Teenage pregnancy

The majority of teenage pregnancies are unplanned, with those resulting in birth associated with worse outcomes for both mother and baby [2]. Since 1998, reducing the rate of under 18 conceptions has been identified as a national priority [11] and a key issue of inter-generational inequality [27].

2.3.1 Under 18 conceptions

Figure 12 shows that in September 2018 the rate of under 18 conceptions in the North East had more than halved (57%) since 1998. The national trend has reduced by 63.7%. However, the North East continues to have the highest rate in England [7].

Figure 12 Conceptions per 1,000 women aged 15 to 17 years old by ONS region. Annual 1998 figure and annual rolling quarterly figures March 2012 to September 2018 [7]⁵⁶



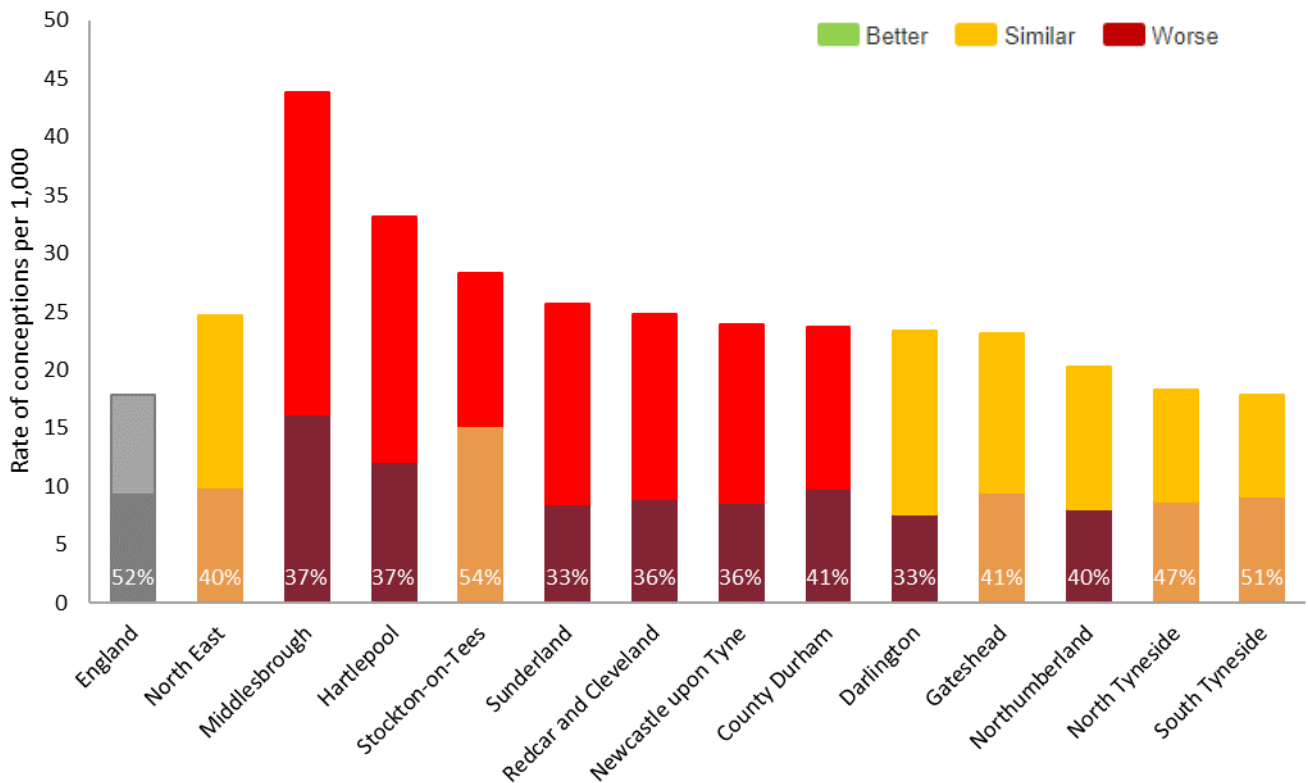
⁵ Produced by PHE LKIS Yorkshire and the Humber

⁶ The chart uses the annual rolling quarterly figures. This produces a smoother line than using quarterly figures but still allows the use of more timely data than the annual releases. The rolling annual rates are calculated using the last 4 quarters' conception numbers and the populations used are mid-year population estimates and projections from the corresponding years weighted accordingly.

Figure 13 below shows the rate of under 18 conceptions per 1,000 women aged 15 to 17 years old and the percentage of those which led to an abortion in 2017 across the North East by LA. The North East has a statistically significant higher rate of under 18 conceptions compared to England (24.7 compared to 17.8 per 1,000). This ranged from 17.8 per 1000 in South Tyneside to 43.8 per 1,000 in Middlesbrough. Middlesbrough had the highest LA rate nationally in 2016 and 2017 [5].

In 2017, under 18s conceptions made up a significantly greater proportion of total conceptions in the North East compared to England (2.9% vs 2.0%) [13].

Figure 13 Under 18s conceptions per 1,000 women aged 15 to 17 years old, with percentage of conceptions leading to abortions (darker colours) by local authority, 2017 [5]



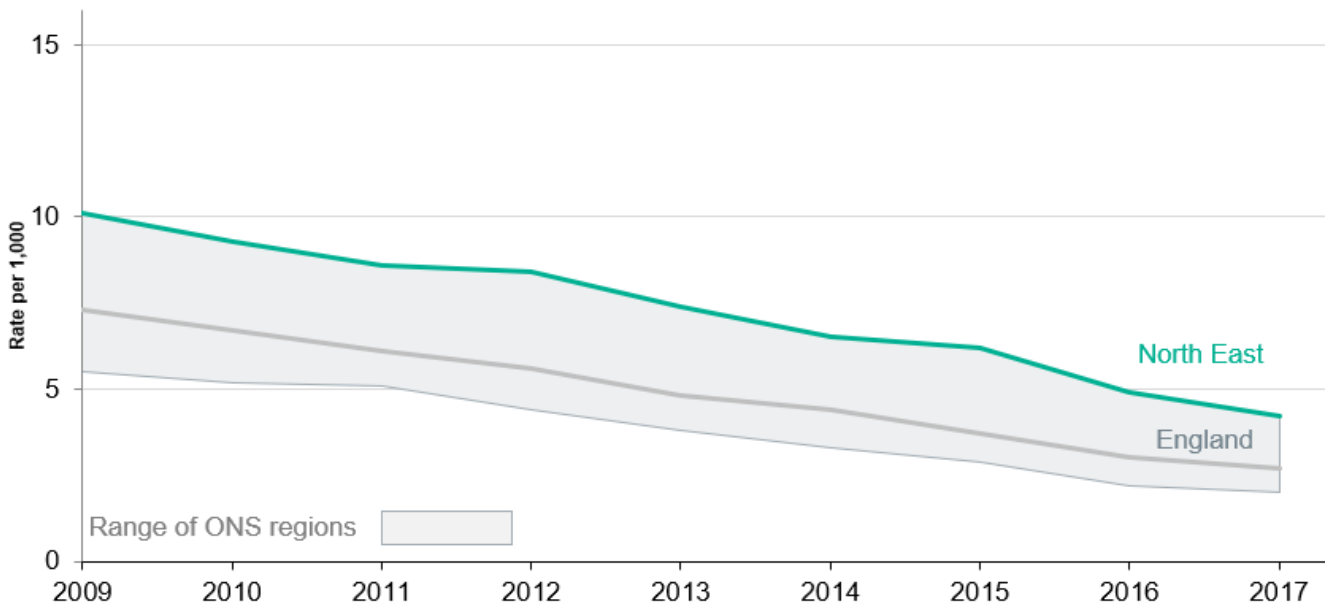
In 2017, a significantly smaller percentage of under 18 conceptions in the North East led to abortion than a birth when compared to England (40.2% compared to 52.0%). This is reflected in the higher under 18s birth rate in the North East which is 14.7 per 1,000, compared to 8.5 for England in 2017 [28]. Across the region, the percentage of under 18 conceptions which led to abortion varied from 32.5% in Darlington to 53.9% in Stockton-on-Tees. It should be noted that the absolute numbers were relatively small with 405 abortions in women aged 15 to 17 years old across the region [5].

Public Health England has produced ward estimate [maps](#)⁷ which highlights variation in teenage conception rates within local authorities. However, there are no routinely available data to understand variation by ethnicity or sexual orientation.

2.3.2 Under 16 conceptions

Figure 14 shows that rates of under 16-year-old conceptions per 1000 women aged 13 to 15 years old have been consistently falling over time. Between 2009 and 2017, the rate decreased by 58.4% in the North East, compared to 63% nationally. In 2017, the North East had a significantly higher rate compared to England (4.2 compared to 2.7 conceptions per 1000 women aged 13 to 15 years old) [13].

Figure 14 Under 16 conceptions per 1,000 aged 13 to 15 years old women by ONS region, 2009 to 2017 [13]



In 2017, most North East LAs had similar rates of under 16s conceptions compared to England, except for Middlesbrough, Gateshead, Sunderland and County Durham which were significantly higher. Middlesbrough was the only LA which was significantly higher compared to the North East overall. However, the small number of conceptions within the under 16 female population means the rates have low precision and therefore limits the possibility of significant statistical differences between areas.

In 2017, 53.9% of under 16 conceptions in the North East led to an abortion rather than a birth which was similar to England rate of 60.5% [13].

⁷ Teenage conception rates, ward estimate maps available via KHub (free registration required) https://khub.net/group/phenortheast/group-library/-/document_library/Sz8Ah1O1ukgg/view/258286238

2.4 Preconception care

The ability to have a healthy baby when desired is an important aspect of reproductive health and may be affected by preconception health and care.

The quality of recorded data in NHS Digital's Maternity Services Dataset (MSDS) on women's folic acid consumption, body mass index (BMI), substance misuse and smoking status was highly variable across the region, with some NHS Trusts reporting 100% of women as "unknown" or "not stated" for one or more of these categories. As such, the results reported in this section must be interpreted with caution.

Where appropriate, this section refers to known inequalities from national PHE reports, however the data from MSDS was not robust enough to examine by sub-group, such as ethnicity, age, deprivation or sexuality, at a local level.

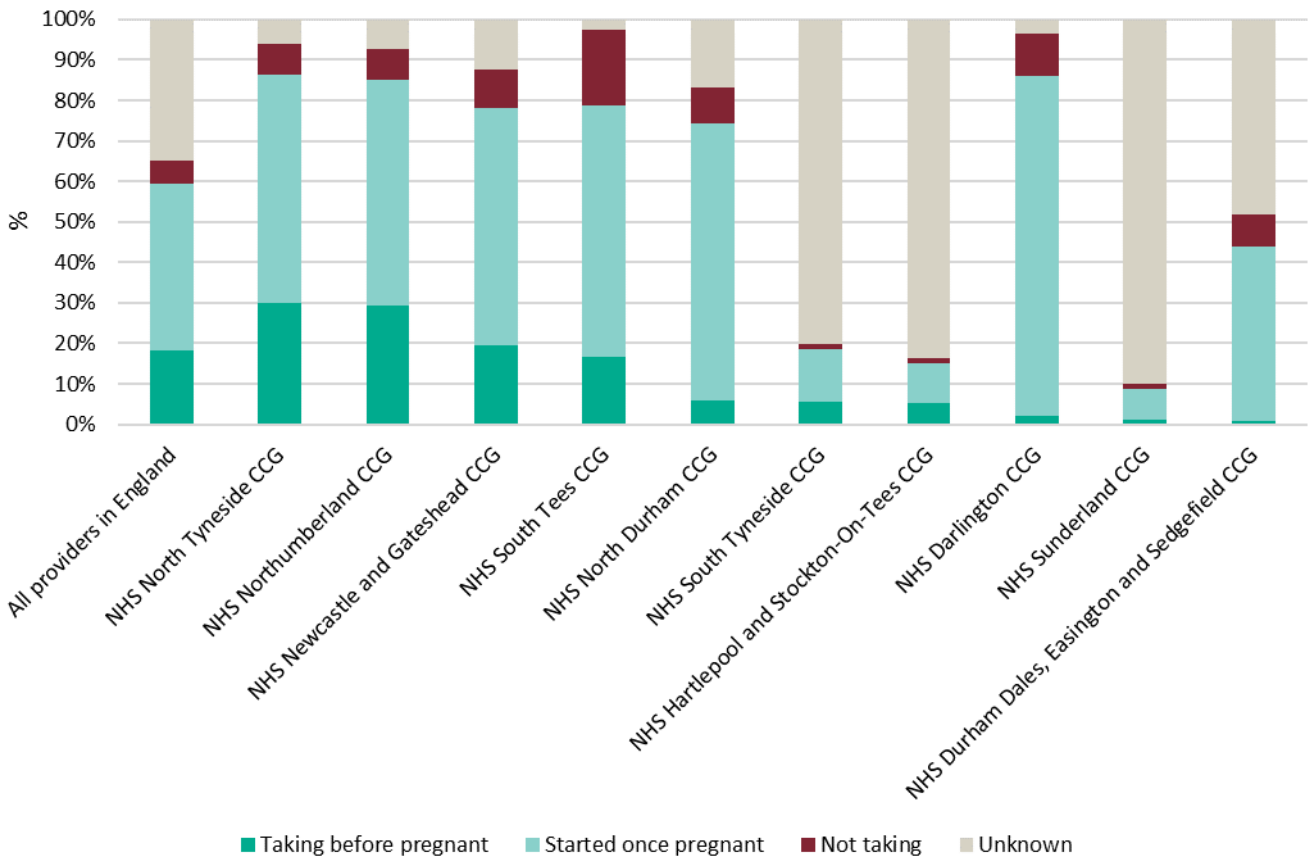
2.4.1 Folic acid consumption

Taking folic acid can reduce the risk of neural tube defects such as spina bifida and anencephaly (a failure of brain development) and is recommended to be taken during the period of trying to conceive up until 12 weeks gestation [29].

The reported folic acid-taking in the preconception period may reflect differing awareness of the benefits of preconception folic acid or whether a pregnancy was planned [30]. National reports also note that taking folic acid is less common in young women, some ethnic minorities and those from deprived areas [16, 2].

However, in some cases it could also reflect the question asked or recorded (for example, if women are simply asked if they are taking folic acid rather than when they started taking it, they may be more likely to be recorded as "started taking once pregnancy confirmed"). Figure 15 shows the proportion of all women at booking self-reporting when they started taking folic acid by North East CCG in 2017. The proportion reporting taking it before pregnancy varied from 1% in NHS Durham Dales, Easington and Sedgefield CCG and NHS Sunderland CCG to 30% in NHS North Tyneside CCG. For all providers in England this was 18% [15].

Figure 15 When pregnant women started taking folic acid (where known) by CCG, 2017 [15]



2.4.2 Healthy weight

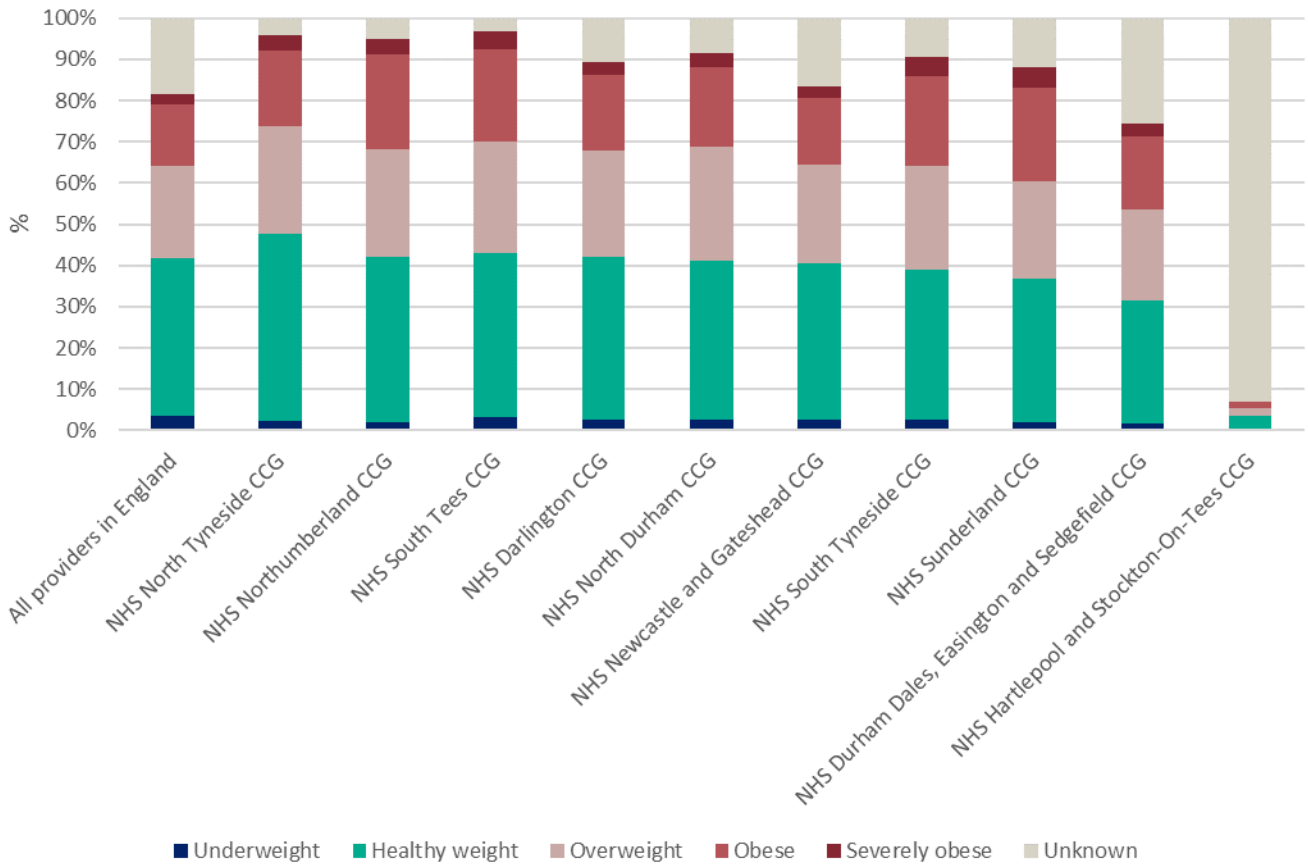
Being a healthy weight is important for optimum reproductive health, particularly if a woman wants to have a child. Being underweight, overweight or obese can affect fertility and can increase risks to mother or baby during pregnancy [31] [32] [33].

The National Institute for Health and Care Excellence (NICE) quality standard for antenatal care states that pregnant women should have their body mass index calculated and recorded at the maternity booking appointment [34].

Nationally, women are more likely to be overweight or obese in early pregnancy if they are living in areas of high deprivation, black ethnicity or aged 40 years old or over. Body mass index also increases with subsequent pregnancies [16, 2].

Figure 16 shows the proportion of all women at booking BMI status by North East CCG in 2017. The proportion recorded with a healthy weight varied from 3% in Hartlepool and Stockton-on-Tees CCG to 45% in North Tyneside CCG. For all providers in England this was 38% [15].

Figure 16 Body Mass Index (BMI) status of women at booking appointment by North East CCG, 2017 [15]



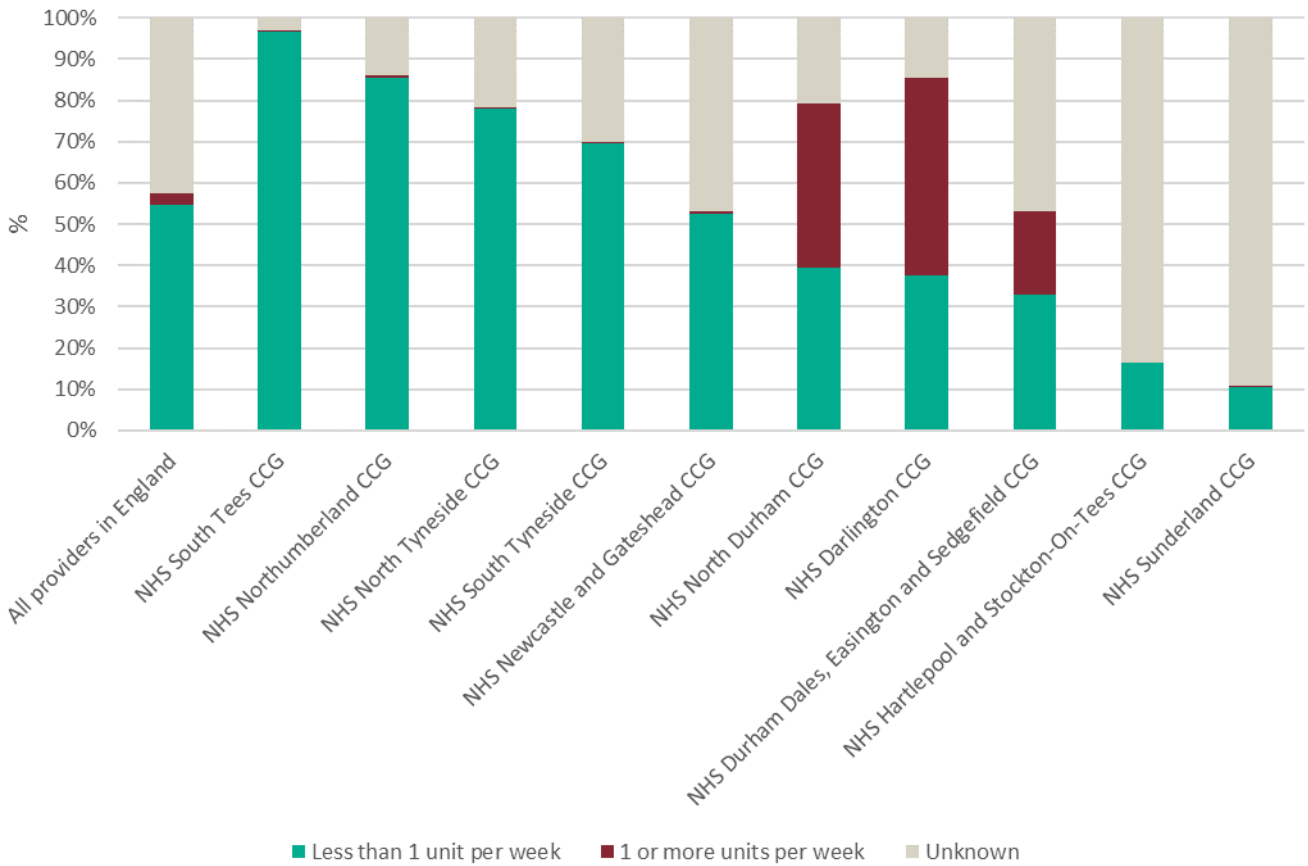
Less than half of women attending maternity booking appointments in the North East (43.6%) appear to have a normal BMI. 53.5% of women are overweight, obese or morbidly obese and 2.9% are underweight at booking.

2.4.3 Substance misuse

Drinking alcohol can increase the risk of miscarriage, poor foetal growth, premature labour, stillbirth and foetal alcohol syndrome [35]. Even at consumption levels of 1-2 units/day, there are increased risks of poor pregnancy outcomes, which rise with greater consumption [31].

Data on reported current alcohol intake at midwife booking appointment is available, however this may not reflect women’s drinking before they were aware that they were pregnant. There are also issues with data quality, with alcohol intake recorded as “unknown” for around 48% of women nationally. Figure 17 shows that this varied from 3% for South Tees CCG and 89% Sunderland CCG-registered patients.

Figure 17 Alcohol intake of women at booking appointment by North East CCG, 2017 [15]

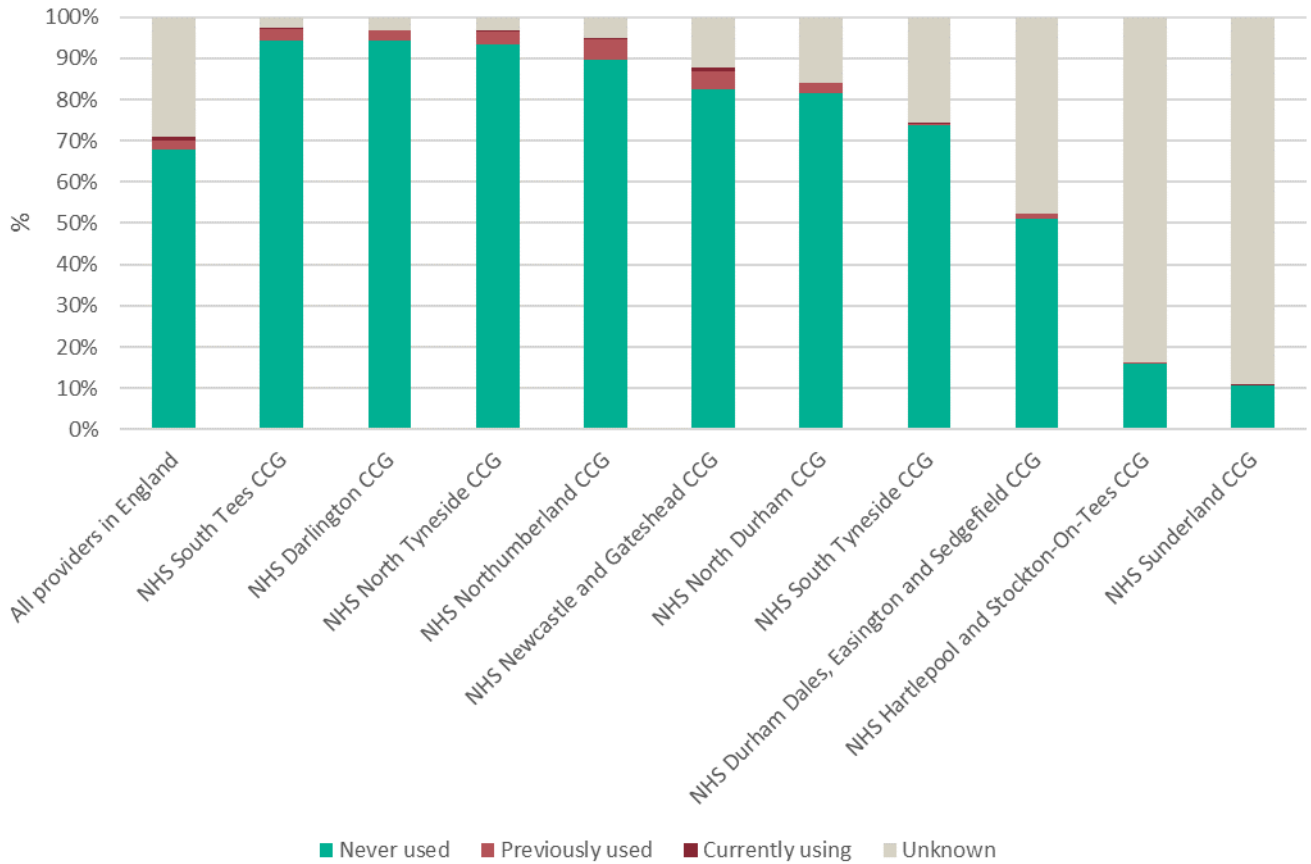


It is suggested that the figure of only 1-2% of women drinking one or more units of alcohol is likely to be an underestimate. Women may under-report alcohol intake, but such low figures could also suggest that alcohol intake is not being asked or recorded and therefore further conclusions could not be drawn from the data [31].

Illicit drugs, solvents or medicines should not be misused during pregnancy due to the risk of clinical and neonatal complications. This includes increased risk of mortality, and the risk of poor behavioural and developmental outcomes in drug-exposed children (depending on the drug(s) misused) [16].

Data on reported substance misuse at midwife booking appointment is available. However, as with alcohol intake, this may not reflect women’s behaviour before they were aware that they were pregnant. There are also issues with data quality with alcohol intake recorded as “unknown” for around 30% of women nationally. Figure 18 shows that this varied from 3% for South Tees CCG, Darlington CCG and North Tyneside CCG and 89% Sunderland CCG-registered patients.

Figure 18 Substance misuse of women at booking appointment by North East CCG, 2017 [15]



From national analysis, substance misuse was most common in women aged under 25 years old. Women with mixed ethnicity reported the highest usage when compared to other ethnic groups [16].

2.4.4 Smoking

Smoking in pregnancy has well known detrimental effects for the growth and development of the baby and health of the mother. These include complications during labour and an increased risk of miscarriage, premature birth, stillbirth, low birth-weight and sudden unexpected death in infancy [11].

The Tobacco Control Plan Delivery Plan 2017- 2022 contains a national ambition to reduce the rate of smoking throughout pregnancy to 6% or less by the end of 2022 (measured at time of giving birth) [36].

All North East LAs have a smoking at time of delivery rate above this national ambition. In 2018/19, the North East rate was significantly higher than England (15.7% compared to 10.6%).

However, all, except Stockton-on-Tees, have had a statistically significant reduction since 2014/15. Overall, the North East rate has significantly reduced from 18.0% in 2014/15 to 15.7% in 2018/19 [11].

Figure 19 Percentage of women smoking at time of delivery by local authority, 2018/19 [11]

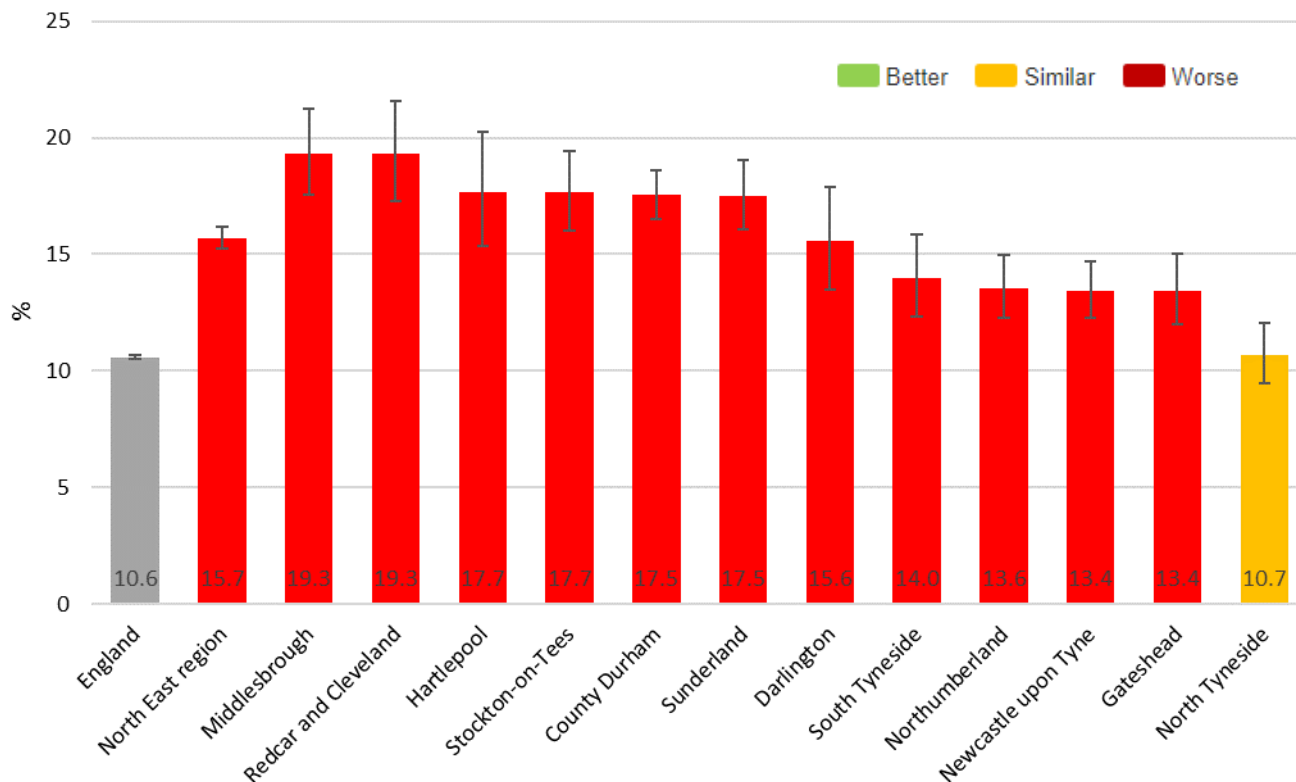
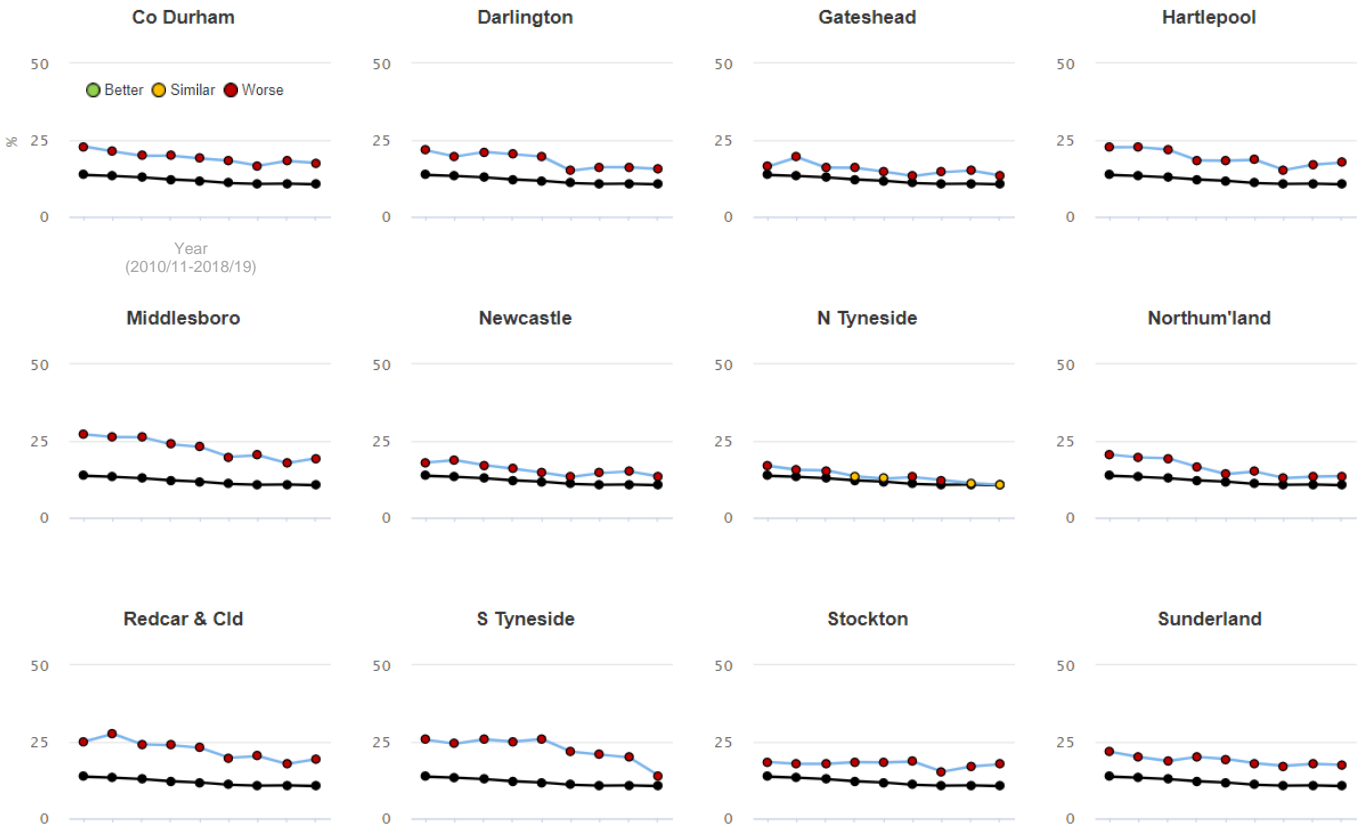


Figure 20 Percentage of women smoking at time of delivery by local authority (blue lines) compared to England (black line), 2010/11 to 2018/19 [11]



National analysis shows that younger women, those living in more deprived areas, those with white ethnicity and those whose ethnicity was not recorded were more likely to smoke during pregnancy [16].

2.5 Assisted fertility

Infertility can affect the ability of prospective parents to have a child when desired. In Vitro Fertilisation (IVF) is one common treatment for infertility which is recommended by NICE (41) and where data is available.

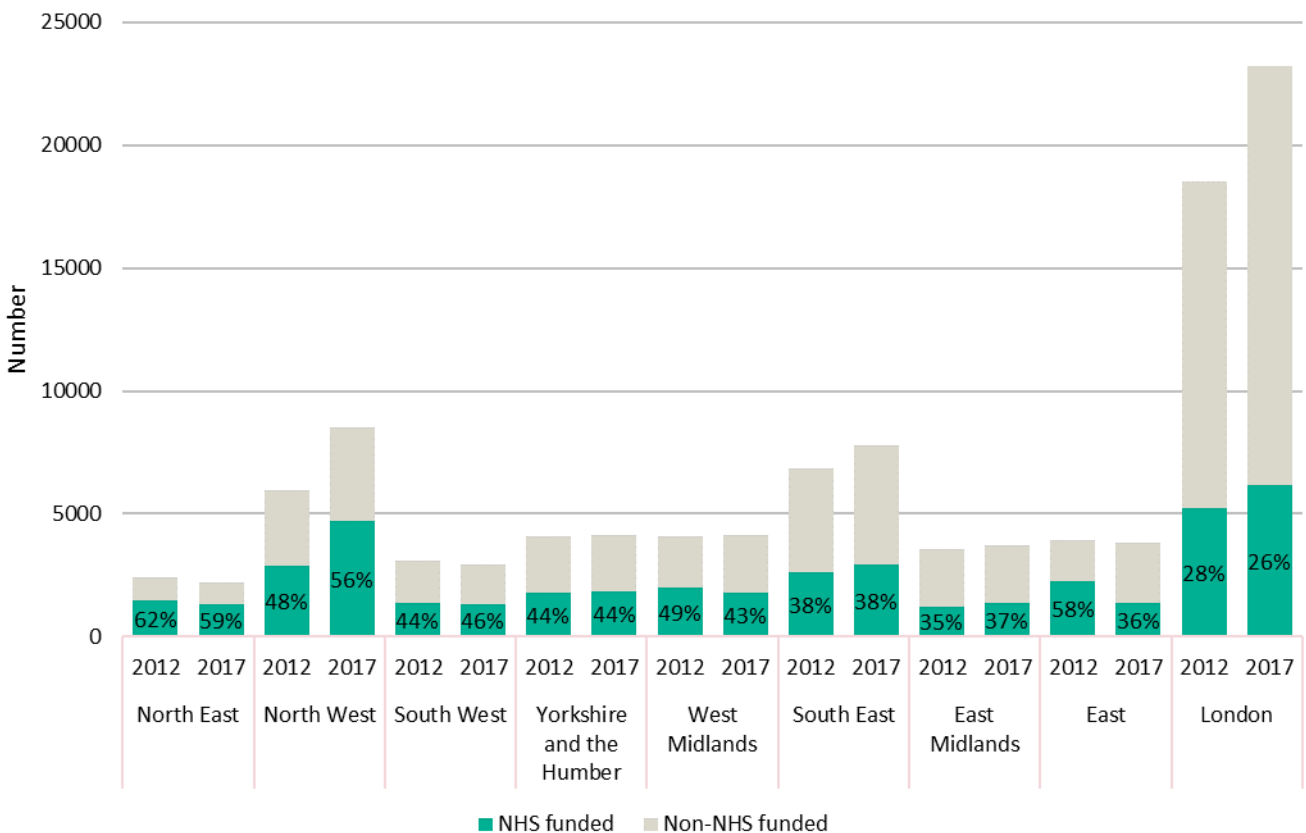
Nationally, the average patient age has increased for both IVF and Donor insemination (DI) treatments from 33.5 and 32 in 1991 to 35.5 and 34.5 in 2017, respectively. Most treatment cycles were undertaken by patients with male partners (68,380; 90.7%), with the remaining listed with a female partner (4,463; 5.9%), no partner (2,279; 3%) or as a surrogate (302; 0.4%). Treatment cycles for patients in same-sex partnerships have increased by 12% from 2016 to 2017 and 4% and 22% for patients with no partner or surrogates, respectively [9]. These data are not available at a regional or local level.

All CCGs in the North East have a collective policy of offering 3 cycles of IVF if specific criteria are met [8]. Data from the Human Fertilisation and Embryology Authority (HFEA) shows that in 2014, 2015 and 2016, 5 centres in the North East offered IVF (as well as Donor Insemination of sperm into the uterus). This reduced to 4 centres in 2017. The largest number of IVF treatments (NHS or privately funded) was carried out at the Newcastle Fertility Centre with 773 and the lowest was James Cook University Hospital with 381. The data represents where treatment has taken place and not where the patients are resident [9].

In England, from 2012 to 2017 there was an increase in the total number of IVF cycles from 52,485 to 60,463. In the North East, the total number of IVF treatments was higher in 2012 with 2,431. In 2017 it was 2,208, the lowest regional total [9].

Figure 21 shows the total number of IVF cycles per region and the proportion of those which were NHS-funded. In both 2012 and 2017, the North East had the highest regional proportion of NHS-funded IVF cycles (62% and 59% respectively) [9]. Rates are not provided as it is unclear what the denominator population should be.

Figure 21 Total number of IVF cycles (NHS or privately funded) and proportion NHS-funded by region, 2012 and 2017 [9]



3. Early identification and prevention of reproductive morbidity

Prevention and early identification of reproductive health issues can reduce morbidity and mortality and increase a woman's reproductive choices.

Cervical cancer is an important cause of morbidity and mortality and some treatments can affect a woman's ability to achieve or maintain a pregnancy [37]. HPV vaccination can prevent development of HPV-related cervical cancer and cervical screening can identify treatable, early cervical changes that could lead to cervical cancer [37].

Early identification of chlamydia is considered a key sexual health issue as it is one of the most prevalent sexually transmitted infections (STIs) and largely asymptomatic [38]. However, it is also considered here as a reproductive health issue because it is associated with pelvic inflammatory disease, infertility and ectopic pregnancy which can limit reproductive choice [5].

This section looks at North East data on HPV vaccine coverage, cervical screening and chlamydia testing.

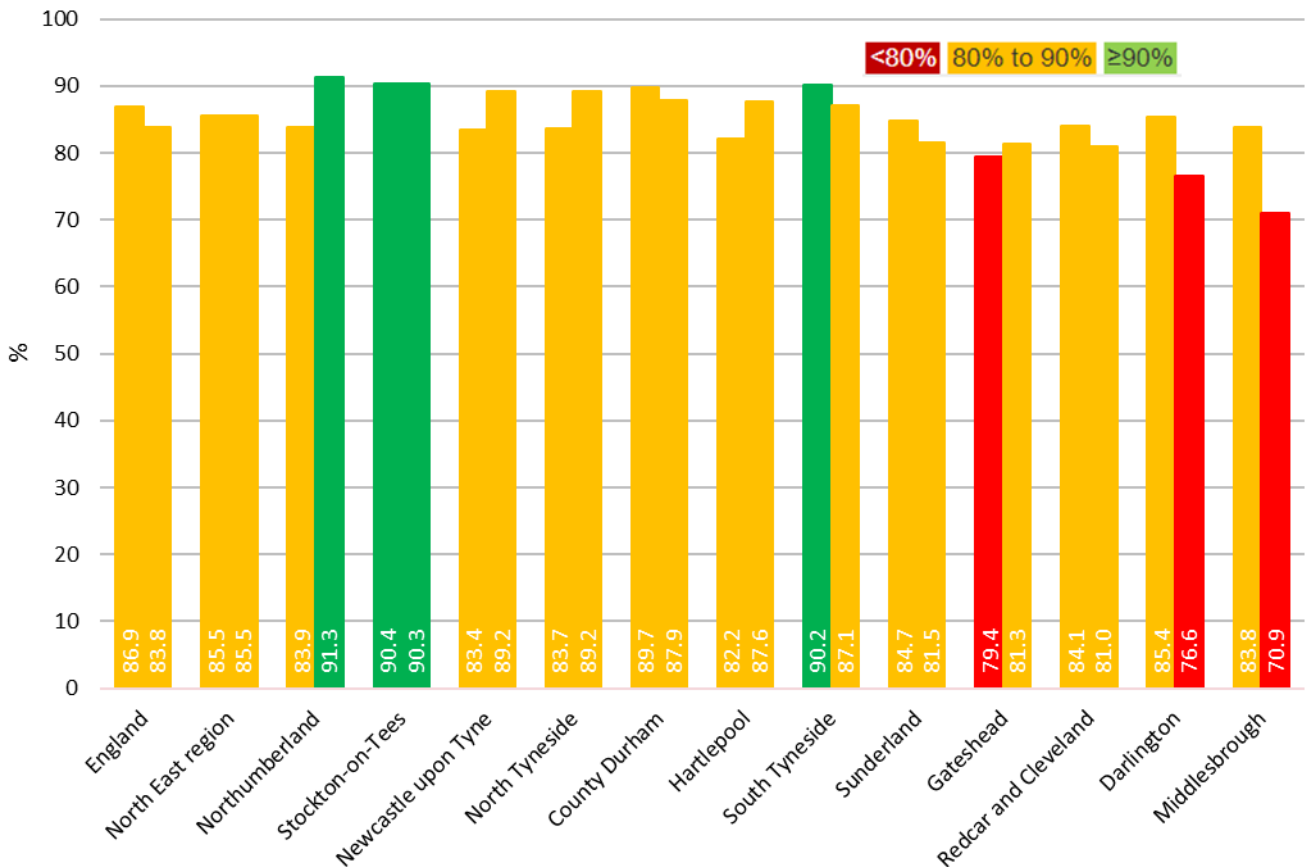
3.1 HPV vaccine coverage

The national human papillomavirus (HPV) immunisation programme was introduced in 2008 [39]. While it was initially a 3-dose vaccination programme, it was run as a 2-dose schedule from September 2014 [39]. From September 2014 it was recommended that the first dose of HPV vaccine be offered in School Year 8 and the second in Year 9 (therefore the data collected reflect this) [10]. However, all LAs in the North East currently offer both doses in Year 8. Overall, about half of LAs in England offer both doses in the same year (with a 6-month gap between) [10].

In the North East in 2017-18, 85.5% of girls in Year 8 received at least one dose of HPV vaccine and 85.5% of girls in Year 9 received both doses of HPV vaccine [10] [11]. The North East figures for first dose HPV vaccine coverage were lower than the England average (86.9%) but 2 dose coverage was higher than the England average (83.8%) [10] [11]. This could reflect the choice to offer both doses in Year 8 (which could require more immunisation sessions but would give more time to catch-up any girls who missed the initial second dose offer) or another factor.

Figure 22 shows the percentage of girls who have received one dose and 2 doses of HPV vaccine by the end of school Year 8 (aged 12 to 13 years old) in 2017-18. Red bars denote <80%, amber bars denote 80 to 90% and green bars denote ≥90% population vaccination coverage.

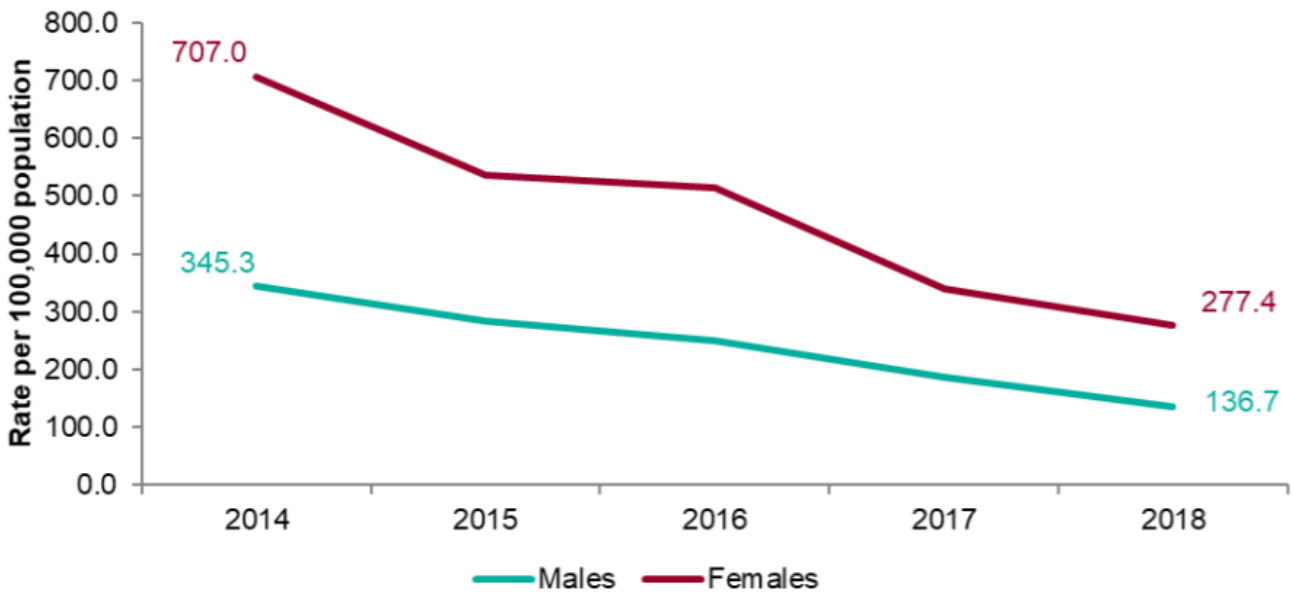
Figure 22 Percentage of girls aged 12 to 13 years old who have received one dose (first bar per area) and 2 doses of the HPV vaccine by Local Authority in 2017 to 18 [11]



The vaccination coverage in the North East can vary year to year. This may be due to completion of doses within the time period, changes to and reduction of staff within the delivering teams, student absences and changes in priorities moving into the flu season [10]. There are no routinely available data to examine the uptake of the immunisation programme by ethnicity and deprivation.

There was an additional positive impact of the introduction of the HPV vaccination programme (which was promoted as a cervical cancer prevention initiative), the marked fall in genital warts in women (and associated, but smaller, fall in men). **Figure 23** shows that between 2014 and 2018, the North East rates reduced from 707.0 to 277.4 per 100,000 females (60.8%) and from 345.3 to 136.7 males (60.4%) aged 15 to 19 years old [40]. In contrast, the rates for England reduced from 505.0 to 191.5 for females (62%) and 218.6 to 103.5 for males (52.7%) over the same period [41].

Figure 23 Rates of genital warts per 100,000 residents aged 15 to 19 years old by gender in the North East, 2018 [40]



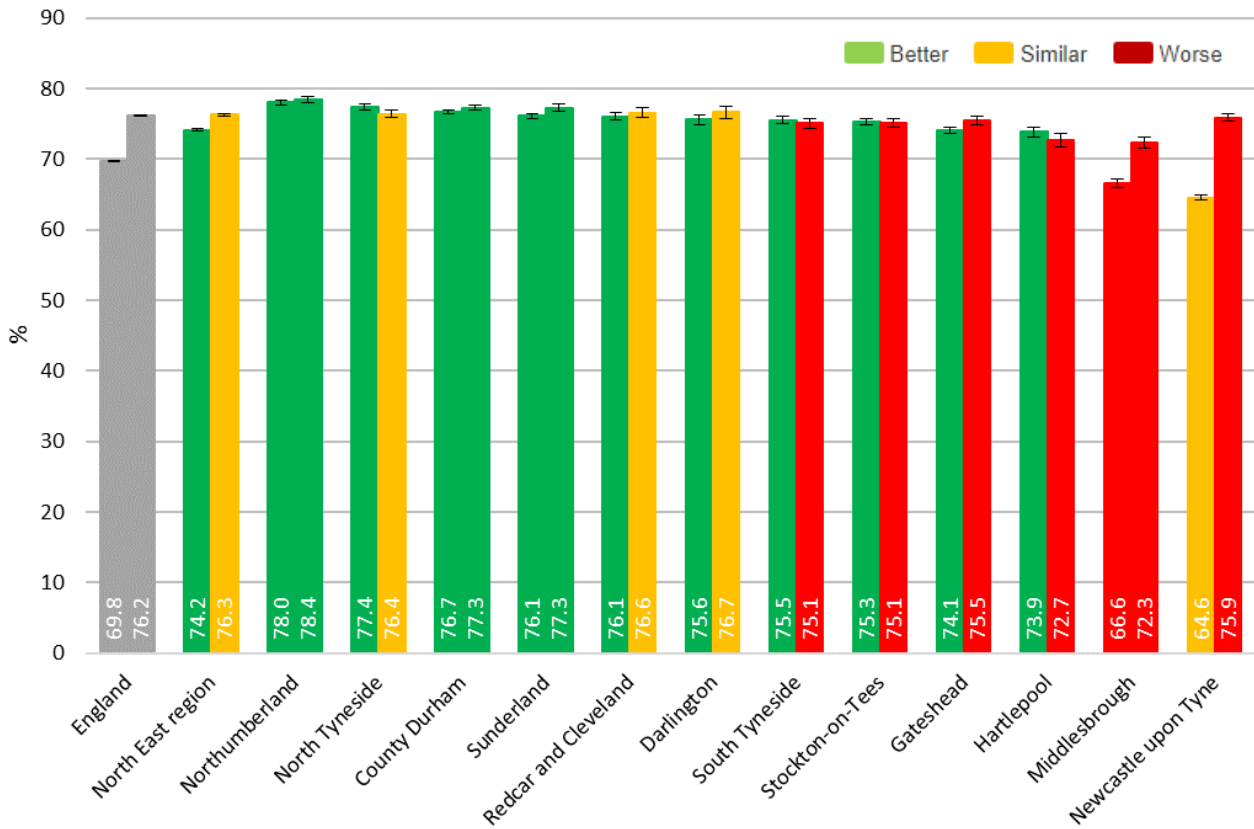
3.2 Cervical Screening

In 2018, cervical screening coverage in the North East (74.2%) was significantly higher than the England average (71.4%) [11]. However, this still means one in 4 women had not been screened within the recommended interval.

Nationally, young women aged 25 to 29 years old have a disproportionate risk of high grade cervical abnormalities. A third more Black, Asian and Minority Ethnic women of screening age reported that they have never attended a cervical screening appointment compared to white women. Lesbian and bisexual women aged over 25 years old were twice as likely to have never had a cervical smear test, compared to all women of the same age [2].

Figure 24 shows cervical screening coverage by LA with the England and North East average provided for comparison. Ten of the 12 North East LAs are above the England average and 2 below. Coverage across the region ranges from 67.6% to 77.6% [11]. This could reflect women’s preferences regarding screening, differences in best practice or something else. However, there are no routinely available data to examine inequalities in screening by deprivation, ethnicity and sexuality at a regional or local level.

Figure 24 Cervical cancer screening coverage (%) for women aged 25 to 49 years old (first bar per area) and 50 to 64 years old by local authority in 2019 [11]



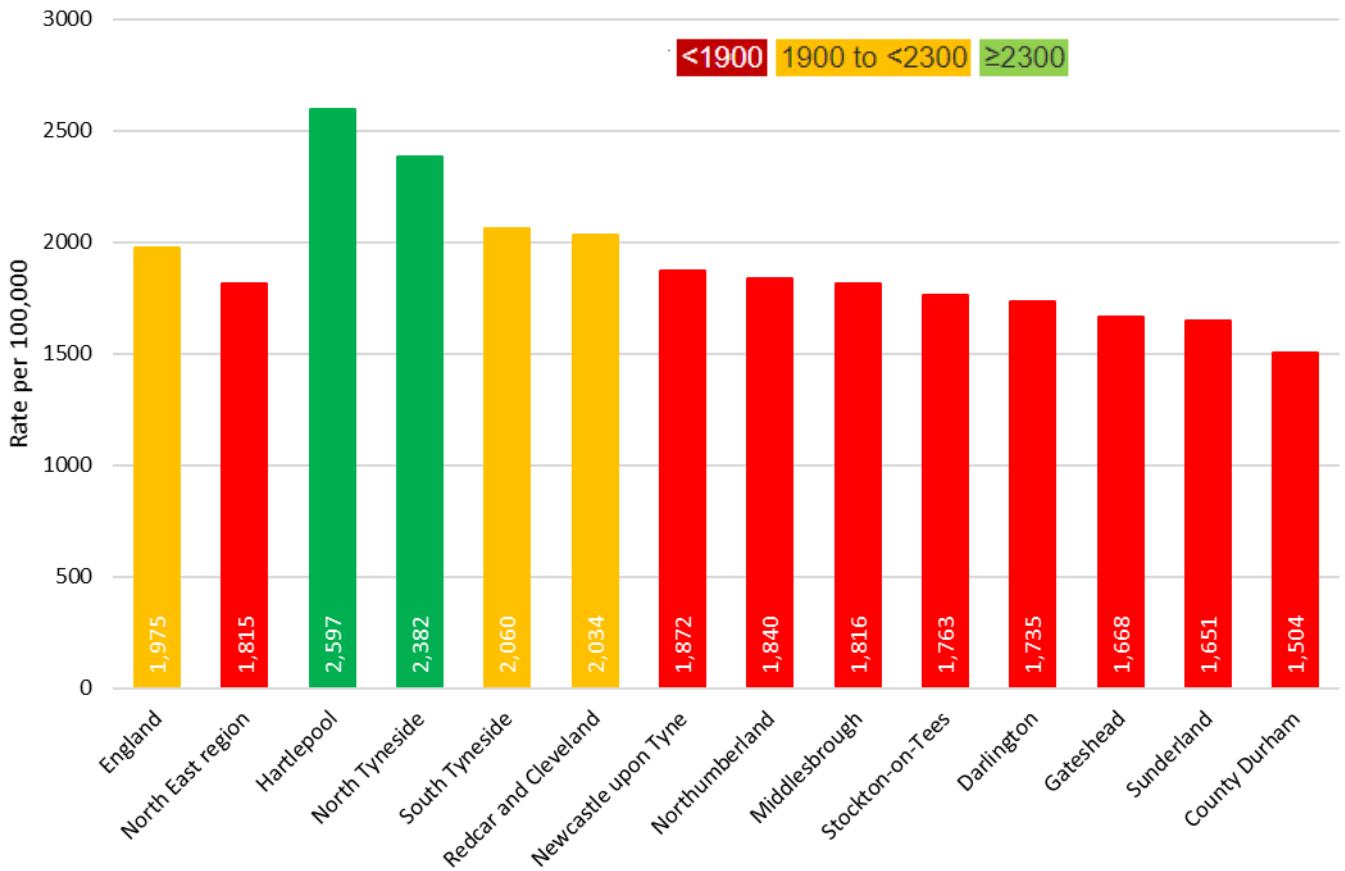
3.3 Chlamydia testing

Public Health England recommends that areas should aim for a detection rate of at least 2,300 chlamydia cases per 100,000 population aged 15 to 24 years old to reduce prevalence of chlamydia [11].

The rate of chlamydia detection in the North East in 2018 was 1,815 cases per 100,000 young people aged 15 to 24 years old. England had a higher detection rate of 1,975 cases per 100,000 young people aged 15 to 24 years old [5].

Figure 25 shows variation in chlamydia detection rate across the region. Red bars denote <1900 cases, amber bars denote 1900 to 2300 cases and green bars denote >=2300 cases per 100,000 people aged 15 to 24 years old.

Figure 25 Chlamydia detection rate per 100,000 people aged 15-24 years old by local authority in 2018 [5]



Across the region, the chlamydia detection rate varied notably from 1,504 in County Durham to 2,597 in Hartlepool per 100,000 people aged 15 to 24 years old.

Nationally, it is reported that women from the most deprived deciles were 4 times as likely to be at risk of being diagnosed with chlamydia. Young women are also known to be at high risk, with the prevalence of chlamydia in sexually experienced women aged 16 to 44 years old being 1.5% compared to those aged 16 to 24 years old at 3.1% [2]. However, there are no routinely available data to examine inequalities in detection rates by deprivation, ethnicity and sexuality at a regional or local level. Restricted data are available via [HIV and STI web portal](#) [40].

Variation in rates of detection may represent differences in prevalence but are influenced by screening coverage and whether the most at risk populations are being reached (i.e. proportion testing positive). For example, in 2018, 23.1% of women aged 15 to 24 years old were screened in North Tyneside compared to 16.8% in Durham.

4. Reproductive wellness

Reproductive health symptoms, including heavy menstrual bleeding, menopausal symptoms, psychosexual problems and incontinence, are common and often problematic without being associated with ill health. Eighty percent of women in the national “What do women say?” survey described experiencing unwanted reproductive health symptoms. However, only half of these women had sought help. Not seeking help can be related to a range of barriers including difficulty judging what is normal or not, embarrassment, fear of being judged or stigma. These perceptions were often reported as having been reinforced by experiences at work, at school and within healthcare settings [26].

Local data on these hidden issues and other important reproductive health issues is absent or limited so has not been covered in this report. There is an absence of self-reported data which limits how women’s experiences can be documented. General practice activity data may capture more detail about the rate at which women consult their GP if they have reproductive health concerns. Additionally, prescribing data in primary care could be another indicator, although prescribing practice is very limited. Hospital Episode Statistics data are largely not useful as most treatments are performed in an outpatient setting, which is not covered.

Data at a national level suggests that access to psychosexual services is variable across the country [2] although recording of this information is not always consistent. Sexual and Reproductive Health Activity Data set (SRHAD) data shows that psychosexual therapy or referral accounts for 0.88% of activity at SRH services in the North East and 0.77% of activity at SRH services in England [6]. However, reporting and provision in SRHAD is variable and many people may access psychosexual therapy by other routes.

Modelled estimates of the numbers of women with a perinatal mental health condition are available on PHE Fingertips [42]. However, there are noted concerns about the quality of these data and no benchmarking comparisons have been made. Other issues such as miscarriage and healthy relationships are currently not recorded. Current work underway will investigate further how routine indicator sets can be developed to capture some of these issues.

5. Conclusions

Significant progress has been made across the North East in reducing teenage conceptions, reducing rates of smoking at time of delivery, access to NHS-funded IVF, access to abortion in the region (under 18 weeks) and cervical screening coverage. However, compared to the England average, the North East continues to have high rates of teenage conception, abortions amongst the under 25s who have previously given birth and smoking during pregnancy. The North East also has lower rates of chlamydia detection and under 18s abortions. However, significant variation exists in reproductive health outcomes across the region.

Robust data is important for making an accurate assessment of need and can initiate ways to improve reproductive health. Analysis of reproductive health across the North East has been limited by data issues. For example, the quality of LARC data in some LAs will require further investigation, as will several NHS Trusts/CCGs who have key missing data for elements of preconception care such as use of folic acid, healthy weight and alcohol consumption. Sadly, there was an absence of any systematic data at a regional level on reproductive wellness.

It is acknowledged that single data sources are not necessarily useful for interpretation but developing a local picture through combined data sources (quantitative and qualitative) can help determine the reasons for any variation. Demonstration of the usefulness of this data, as well as sharing good practice between areas, could be valuable for increasing completeness of the data. Improved data could lead to better clinical care and reproductive health outcomes.

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