

Spotlight on sexually transmitted infections in the North East

2020 data

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1. Summary

Sexually transmitted infections (STIs) represent an important public health problem in the North East. Of all the UK Health Security Agency (UKHSA) regions, the North East had the second highest rate of new STIs in 2020 (470 new STI diagnoses per 100,000 population). New STI diagnosis rates by upper tier local authority ranged from 302 per 100,000 population in Northumberland to 667 per 100,000 population in Newcastle upon Tyne.

The number of new STIs diagnosed in North East residents fell by 26% between 2019 and 2020. Reductions were likely due to the challenges nationwide to the delivery of sexual health services as a result of measures implemented in March 2020 to limit the transmission of the coronavirus (COVID-19) virus.

Chlamydia and gonorrhoea were the most commonly diagnosed STIs (7,211 and 1,576 cases respectively). Syphilis diagnosis rates were higher than the England rate (12.2 per 100,000 population) in Stockton-on-Tees (40.5 per 100,000 population) and Middlesbrough (26.9 per 100,000 population), a trend that has persisted since 2018.

Rates of new STIs differ between men and women (419 and 478 per 100,000 residents respectively). Over half of all new STI diagnoses in 2020 (excluding chlamydia diagnoses reported via CTAD) were in women (52%), 25% were in heterosexual men and 8% from men who report sex with men. The remaining diagnoses were in individuals where gender and/or sexual orientation were unknown. The ratio of male-to-female diagnoses for all new STIs has changed slightly between 2016 to 2020 from 1.0 to 0.8 male cases for every female case. Notably, the ratio of male-to-female syphilis diagnoses has changed between 2016 and 2020 from 5.3 male cases for every female case to 2.3 male cases for every female case.

STIs disproportionately affect young people. North East residents aged between 15 and 24 years accounted for 58% of all new STI diagnoses in 2020. A steep decline (96% decrease) has been seen between 2016 and 2020 in genital warts diagnosis rates in females aged 15 to 19. This follows the introduction in 2008 of vaccination against Human papillomavirus (HPV), the virus which causes genital warts, for girls.

People who identify as white ethnicity have the highest number of new STI diagnoses in the North East: over 9,600 (94%). Although less than 1% of new STIs are among people who identify as black African or black Caribbean, these groups had the highest and second highest rate in the North East: 892.4 per 100,000 and 587 per 100,000, respectively. Where country of birth was known, 93% of North East residents diagnosed with a new STI in 2020 (excluding chlamydia diagnoses reported via CTAD) were UK-born.

Implications for prevention

During the COVID-19 pandemic in 2020, the UK government implemented national and regional lockdowns and social and physical distancing with a focus to stay at home. This led to a marked reduction across all regions in the capacity for sexual health services (SHS) to provide face-to-face consultations. With a reduction of face-to-face consultations, there was a rapid reconfiguration to increase access to STI testing online and via telephone consultations (<u>1</u>) leading to an increase of consultations of both types in 2020 (<u>2</u>). Likely due to the reduction in access to face-to-face services, sexual health screens and STI diagnoses decreased compared with 2019 (33% and 26% reduction, respectively).

The reduction in STI diagnoses between 2019 and 2020 is likely due to a combination of reduced testing due to SHS service disruption and changes in behaviour, but the continuing high number of STI diagnoses in 2020 is clear evidence of sustained STI transmission; this is supported by evidence from community surveys which suggest that, although fewer people reported meeting new sex partners during 2020 compared to previous years, a substantial proportion still had an ongoing risk for STIs (for example, condomless sex with new sex partners) during 2020 ($\underline{2}$, $\underline{3}$, $\underline{4}$, $\underline{5}$, $\underline{6}$).

The high rates of STIs among young people are likely to be due to greater rates of partner change ($\underline{7}$). Although the impact is still great in young people, the number of new STI diagnoses among them decreased in 2020 with considerable decreases seen in first episodes of genital warts or herpes. However, decreases in gonorrhoea and chlamydia were less pronounced. Chlamydia, gonorrhoea and infectious syphilis showed less of a fall, as they could be diagnosed using self-sampling kits via internet consultations. The larger fall in genital warts likely reflects the expected continuing decline in diagnoses since 2009 due to the National HPV Vaccination Programme that has achieved high coverage in girls and provided herd protection for heterosexual boys ($\underline{2}$).

The early diagnosis and treatment of STIs is a key intervention for their prevention and control, and to reduce the harms of untreated infection. The National Chlamydia Screening Programme (NCSP) promotes screening for chlamydia, the most commonly diagnosed bacterial STI, in sexually active young women on change of partner or annually; this reflects a change in focus in June 2021 to reducing the reproductive harm of untreated chlamydia infection. Chlamydia data within this report is up to December 2020 when the NCSP provided opportunistic screening to all young people aged 15 to 24 years (8). To help local areas improve their chlamydia detection rates in young people, facilitated chlamydia care pathway workshops continue to be delivered ($\underline{9}$). These workshops provide local commissioners and providers with a comprehensive case management pathway; from the offer of chlamydia testing, uptake, diagnosis, treatment, partner notification and retesting and planning how services might be improved or resources redistributed ($\underline{2}$).

Considering the persistently high rate of syphilis among heterosexual men and women in the North East, there is a need to strengthen public health measures to reduce syphilis transmission. The national Syphilis Action Plan ($\underline{10}$), published in June 2019, includes recommendations based upon action that optimises 4 prevention pillars:

- 1. Increasing testing frequency and re-testing cases after treatment
- 2. Deliver partner notification
- 3. Maintain high antenatal screening coverage and vigilance
- 4. Sustain targeted health promotion

A North East specific action plan to address these 4 objectives is in development.

In 2020, the population rates of STI diagnoses remained the highest among people of Black ethnicity, but this varied across Black ethnic groups. The high rate of STI diagnoses among Black ethnic communities is most likely the consequence of a complex interplay of cultural, economic and behavioural factors. Data from a national probability sample indicate that men of black Caribbean or any other Black backgrounds are most likely to report higher numbers of recent sexual partners and concurrent partnerships. This, coupled with assortative sexual mixing patterns, may be maintaining high levels of bacterial STIs in these communities (2, 11).

Several HIV prevention activities can also have an impact on STI control and promote safer sexual behaviours. The Office for Health Improvement and Disparities (OHID) within Department of Health and Social Care (DHSC) have commissioned Terrence Higgins Trust to deliver a new National HIV Prevention Programme from November 2021 to March 2024. The Programme aims to improve knowledge, understanding and uptake of combination HIV prevention interventions among populations most at-risk of HIV in England, particularly aimed at MSM and people of Black ethnicity and other groups in whom there is a higher or emerging burden of infection (<u>12</u>).

Access to high quality information is essential for good sexual health. A <u>national on-line</u> <u>resource and a telephone helpline</u> (<u>13</u>, <u>14</u>) to provide advice on contraception, pregnancy and STIs continues to be funded. Additional guidance has been provided about seeking sexual and reproductive health advice during the COVID-19 pandemic (<u>2</u>, <u>15</u>).

Implementation of Relationships Education in primary schools, as well as Relationships, Sex and Health Education (RSHE) in all secondary schools from September 2020 will provide young people with the information and skills to look after their sexual health (<u>16</u>, <u>17</u>, <u>18</u>). As an effective method to reduce the risk of acquiring STIs, condoms are distributed through a range of local services. Many areas in England continue to provide condom schemes which distribute condoms to young people (mostly under 20 years of age) through a variety of outlets (<u>2</u>, <u>19</u>). However, a recent survey in the North East found a reduction in use of these services by young people and that almost all schemes report the need to relaunch their condom distribution scheme for young people, as well as explore more innovative approaches such as digital distribution services.

Health promotion and education remain vital for STI prevention, through improving risk awareness and encouraging safer sexual behaviour. Consistent and correct condom use substantially reduces the risk of being infected with an STI. Prevention efforts should include condom provision, ensuring open access to SHS with STI screening and robust contact tracing, and should focus on groups at highest risk such as young people, Black ethnic minorities and MSM. The UKHSA is supporting the DHSC in the development of a new Sexual and Reproductive Health Strategy, which will include a focus on reducing STIs and addressing inequalities ($\underline{2}$).

UKHSA's main messages

It is important that health promotion and service access messages are sustained and reinforced. Key STI prevention messages are summarised below:

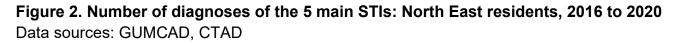
- using condoms consistently and correctly protects against HIV, other STIs such as chlamydia, gonorrhoea and syphilis, and unplanned pregnancy
- people at risk of HIV can also protect themselves by using HIV pre-exposure prophylaxis (PrEP), which is available from sexual health services
- people with HIV are unable to pass on the infection sexually if they are on treatment and have undetectable levels of the virus – this is known as 'Undetectable = Untransmittable' or 'U = U'
- vaccination against human papillomavirus (HPV) (for eligible MSM and those eligible as school-aged adolescents), hepatitis A and hepatitis B (for MSM and others with greater sexual health needs) will protect against disease caused by these viruses and prevent spread of these infections
- sexual health services offer free and confidential HIV and STI testing, condoms, PrEP, vaccination, and contraception advice:
 - most services and local areas also provide the option of internet access to HIV and STI testing
 - further advice on HIV and STIs, including how to access sexual and reproductive health services, is available through Sexwise and the national sexual health helpline on 0300 123 7123 (9am to 8pm Monday to Friday, 11am to 4pm Saturday to Sunday)
- regular testing for HIV and STIs is essential for good sexual health and everyone should have an STI screen, including an HIV test, annually if having condomless sex with new or casual partners in addition:
 - women aged under 25 years who are sexually active should be screened for chlamydia on change of sexual partner or annually
 - gay, bisexual and other men who have sex with men should test for HIV and STIs annually or every 3 months if having condomless sex with new or casual partners

2. Charts, tables and maps

Figure 1. New STI diagnoses by UKHSA region of residence: England 2020 Data sources: GUMCAD, CTAD



Figure 1 is a bar graph shows the rate of new STI diagnoses per 100,000 population by UKHSA region. The North East had the second highest rate in 2020 with 470.0 per 100,000 and London had the highest rate with 1,166.9 per 100,000.



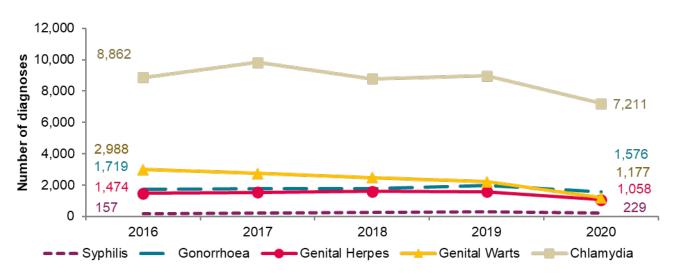


Figure 2 shows a line trend of the number of STI diagnoses in North East residents. It shows Chlamydia as the highest number of STI diagnoses across 2016 to 2020, with a declining trend. Genital warts, gonorrhoea and genital herpes are showing decreased numbers from 2019 to 2020. Syphilis is the only STI showing increased numbers from 2016 to 2020.

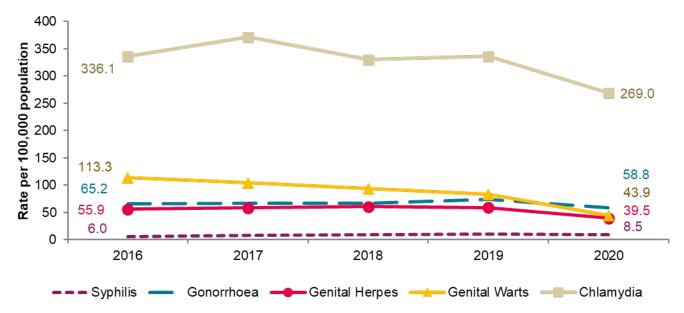


Figure 3. Diagnosis rates of the 5 main STIs: North East residents, 2016 to 2020 Data sources: GUMCAD, CTAD

Figure 3 shows the trend of STI diagnosis rates in North East residents. Chlamydia has the highest diagnosis rate but decreased between 2019 and 2020. Genital warts, gonorrhoea and genital herpes decreased between 2019 and 2020. Syphilis showed a increase since 2016.

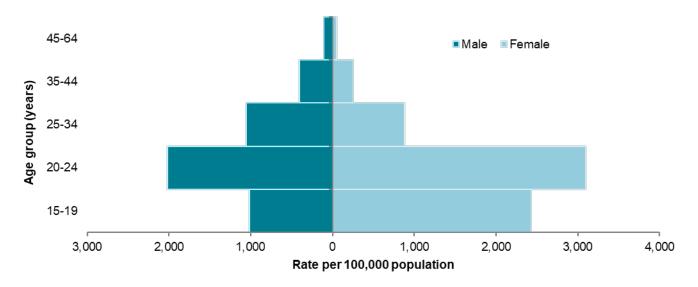
Table 1. Percentage change in new STI diagnoses: North East residentsData sources: GUMCAD, CTAD

Diagnoses	2020	% change 2016 to 2020	% change 2019 to 2020
New STIs	12,600	-28%	-26%
Syphilis	229	46%	-17%
Gonorrhoea	1,576	-8%	-20%
Chlamydia	7,211	-19%	-20%
Genital herpes	1,058	-28%	-33%
Genital warts	1,177	-61%	-47%

Table 1 shows that chlamydia was the most common newly diagnosed STI in 2020 (7,211 cases) and syphilis the least (229 cases). The percentage decrease in new genital warts diagnoses was the biggest between 2019 and 2020 (-47%) and syphilis showed the smallest decrease (-17%). From 2016 to 2020, new syphilis diagnoses increased by 46%. Reductions in STI diagnoses were likely due to the challenges nationwide to the delivery of sexual health services as a result of measures implemented in March 2020 to limit the transmission of the COVID-19 virus.

Figure 4. Rates of new STIs per 100,000 residents by age group* and gender in the North East, 2020

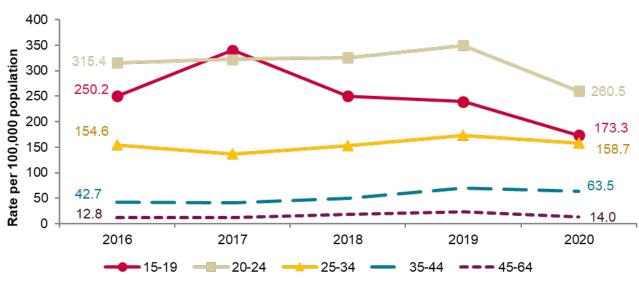
Data sources: GUMCAD, CTAD



* Age-specific rates are shown for those aged 15 to 64 years only.

Figure 4 is a bar graph shows age groups 20 to 24 as the highest rates of new STIs per 100,000 residents in the North East, with females showing higher rates than males. Age group 45 to 64 have the lowest rate of new STIs.

Figure 5. Rates of gonorrhoea per 100,000 residents by age group* in the North East, 2016 to 2020

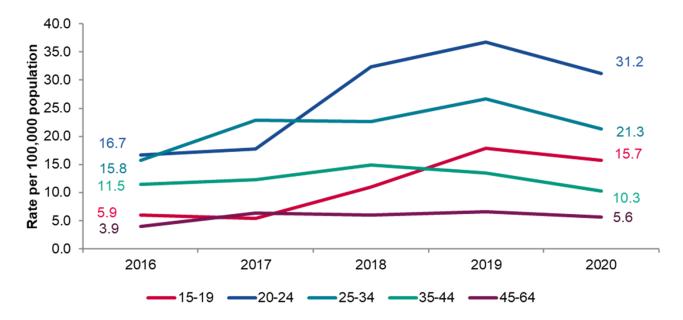


Data source: GUMCAD

* Age-specific rates are shown for those aged 15 to 64 years only.

Figure 5 shows age group 20 to 24 with the highest rates of gonorrhoea per 100,000 residents in the North East. Rates have decreased in 20 to 24, 15 to 19 age groups from 2019 to 2020. Rates have increased in 35 to 44 age group from 2019 to 2020.

Figure 6 Syphilis diagnosis rates per 100,000 residents by age group: the North East, 2016 to 2020



Data source: GUMCAD

Figure 6 shows an increasing trend of syphilis diagnosis rates per 100,000 residents in 15 to 19, 20 to 24 and 25 to 34, 45 to 64 year age groups from 2016 to 2020. All age groups showed a declining trend of syphilis diagnosis rates from 2019 to 2020.

Figure 7. Rates of genital warts per 100,000 residents aged 15 to 19 years by gender in the North East, 2020

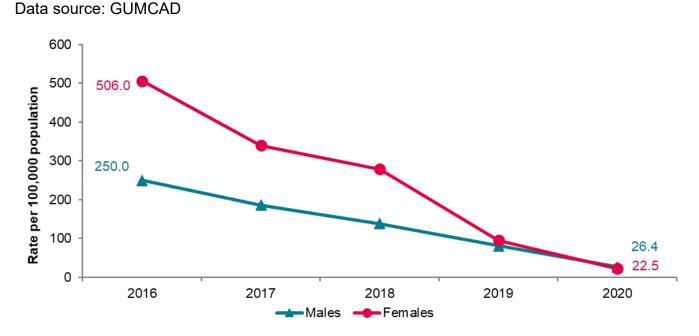
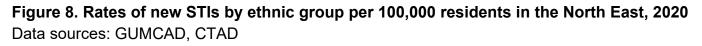


Figure 7 shows a decreasing trend line of the rate of genital warts per 100,000 in males and females aged 15 to 19 years across 2016 to 2020.



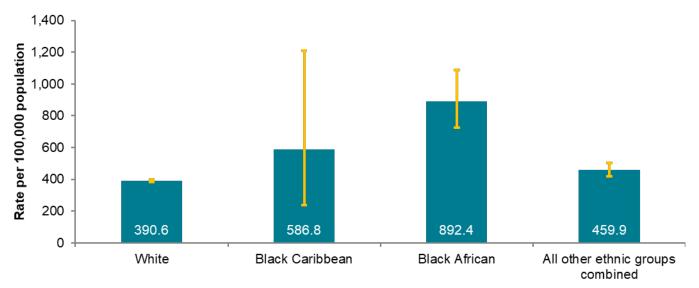
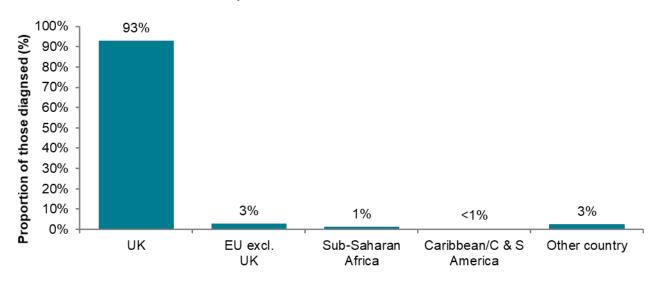


Figure 8 is a bar chart shows rates of new STIs by ethnic group in the North East. The highest rate of new STIs per 100,000 was in Black African population groups (892.4 per 100,000) in 2020 and the lowest rate in White ethnic groups (390.6).

Figure 9. Proportions of North East residents diagnosed with a new STI by world region of birth*, 2020

Data source: GUMCAD data only



* Data on country of birth is not collected by CTAD. All information about world region of birth is based on diagnoses made in specialist and non-specialist services which report to GUMCAD.

Figure 9 is a bar graph shows proportions of North East residents with a new STI diagnoses by world region of birth. The highest proportion of new STI diagnoses was in UK born (93%) North East residents.

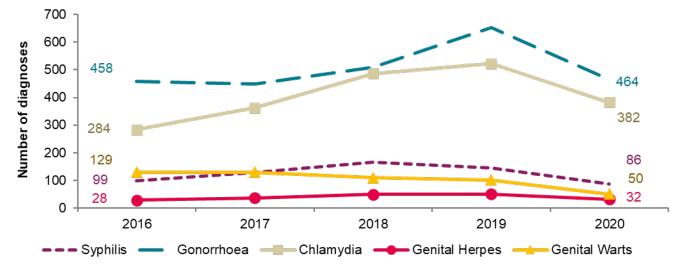


Figure 10. Diagnoses of the 5 main STIs among MSM*: North East residents, 2016 to 2020 Data source: GUMCAD data only

* Data on sexual orientation is not collected by CTAD. All information about MSM is based on diagnoses made in specialist and non-specialist services which report to GUMCAD.

Figure 10 shows a line trend of the **5** main STI diagnoses among MSM. Gonorrhoea was the most common diagnosis among MSM in the North East in 2020. The number of diagnoses of all 5 main STI diagnoses decreased from 2019 to 2020.

Table 2. Percentage change in new STI diagnoses in MSM*: North East residents
Data sources: GUMCAD data only

Diagnoses	2020	% change 2016 to 2020	% change 2019 to 2020
New STIs	1,133	-8%	-33%
Syphilis	86	-13%	-40%
Gonorrhoea	464	1%	-29%
Chlamydia	382	35%	-27%
Genital herpes	32	14%	-36%
Genital warts	50	-61%	-50%

Table 3 shows gonorrhoea as the highest number of new STI diagnoses among MSM in the North East. All new STI diagnoses showed a decrease from 2019 to 2020. Genital warts showed the largest percentage decrease (-50%) from 2019 to 2020, likely in part due to the introduction of HPV vaccination for MSM in this period.

Figure 11a. Rate of new STI diagnoses per 100,000 population among North East residents by upper tier local authority of residence (UTLA): 2020



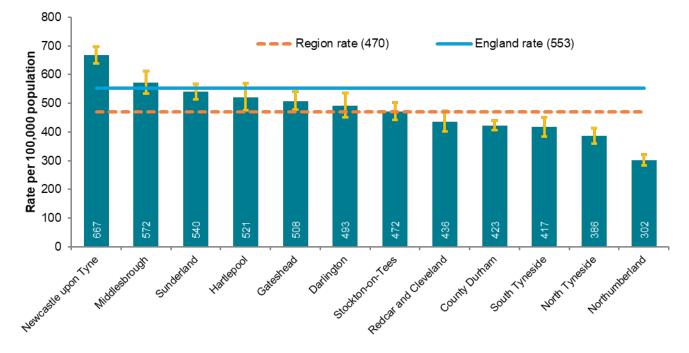


Figure 11a is a bar graph shows the highest rate of new STI diagnoses per 100,000 population was in Newcastle (667) which is higher than the regional and England rates. The lowest rate was in Northumberland (302).

Figure 12. Chlamydia detection rate per 100,000 population aged 15 to 24 years in North East residents by upper tier local authority of residence: 2020



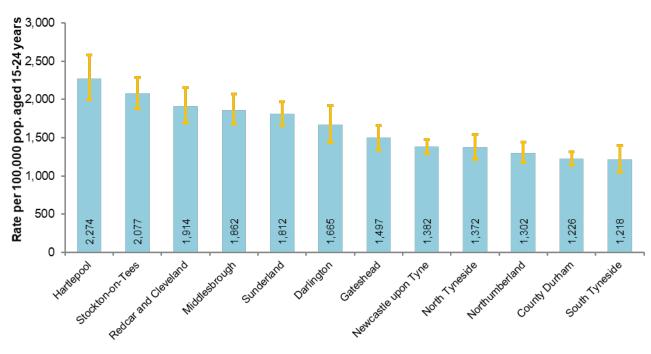


Figure 12 is a bar graph shows the highest chlamydia detection rate per 100,000 population aged 15 to 24 years was in Hartlepool (2,274) and the lowest in South Tyneside (1,218).

Figure 13. Rate of gonorrhoea diagnoses per 100,000 population in North East residents by upper tier local authority of residence: 2020 Data source: GUMCAD

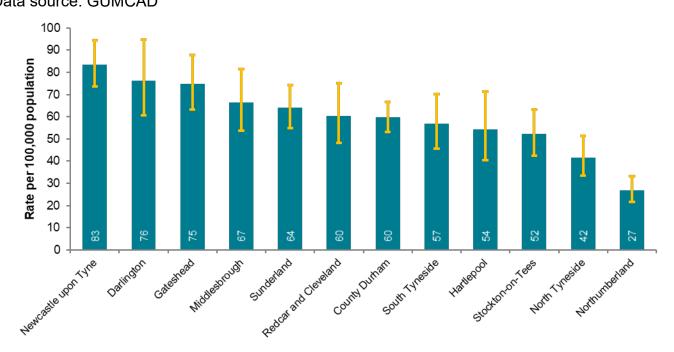


Figure 13 is a bar graph shows the highest rate of gonorrhoea diagnoses per 100,000 population was in Newcastle (83) and the lowest in Northumberland (27).

Figure 14. Syphilis diagnosis rates per 100,000 population by UTLA of residence: the North East, 2020

Data Source: GUMCAD

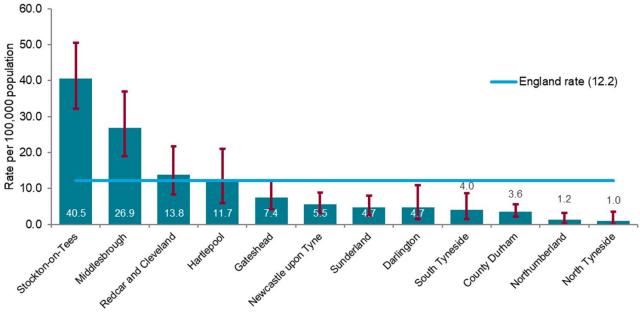
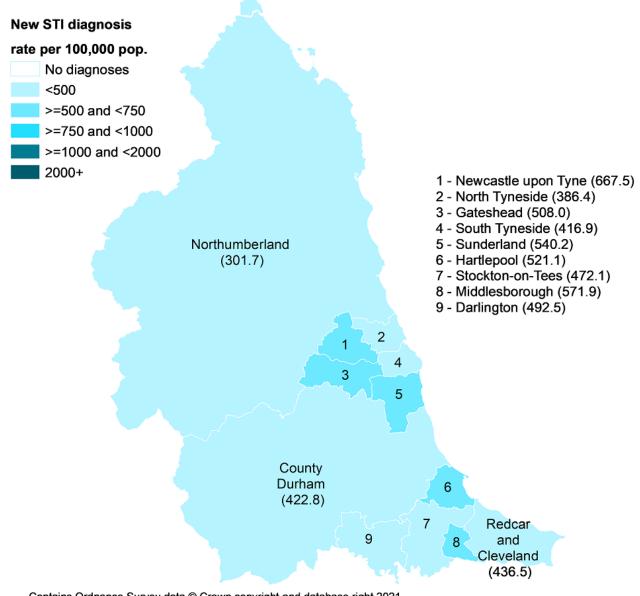


Figure 14 shows Stockton-on-Tees as the highest syphilis diagnosis rate per 100,000 population in the North East (40.5), followed by Middlesbrough (26.9), both above the England rate.

Figure 15. Map of new STI rates per 100,000 residents by upper tier local authority in the North East: 2020

Data sources: GUMCAD, CTAD



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Figure 15 is a map showsall North East local authorities had new STI diagnoses rates under 750 per 100,000 population in 2020. Newcastle, Gateshead, Sunderland, Hartlepool and Middlesbrough have the highest rates in the North East region.

Figure 16. STI testing rate (excluding chlamydia in under 25 year olds) per 100,000 population in North East residents aged 15 to 64: 2016 to 2020 Data sources: GUMCAD, CTAD

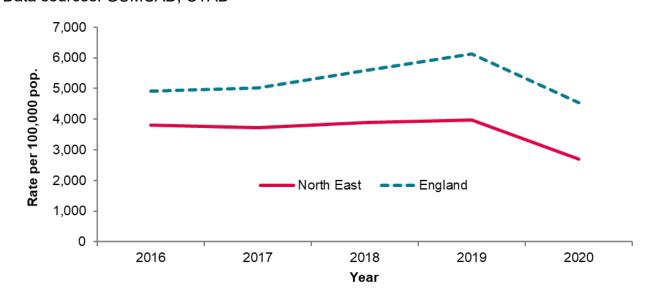
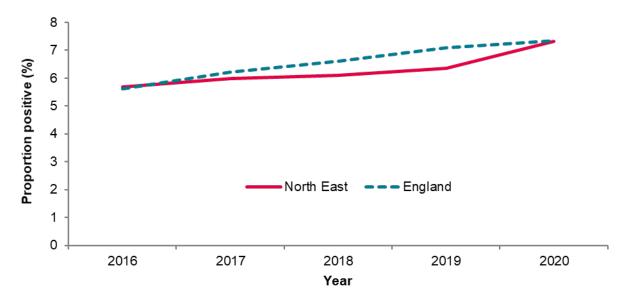


Figure 16 shows a line trend of the STI testing rate per 100,000, with a marked decrease from 2019 to 2020. The North East rate has been below the England rate since 2016.

Figure 17. STI testing positivity rate* (excluding chlamydia in under 25 year olds) in North East residents: 2016 to 2020

Data sources: GUMCAD, CTAD



* The numerator for the STI testing positivity rate now only includes infections which are also included in the denominator. These are: chlamydia (excluding diagnoses in those aged under 25 years), gonorrhoea, syphilis and HIV. Up to 2018 (data for 2017) it included all new STIs.

Figure 17 shows an increasing trend in the STI positivity rate in the North East and England from 2016 to 2020. In 2020, the North East and England rates were similar.

Table 4. Number of diagnoses of the 5 main STIs in the North East by STI, data source and data subset 2020

Data sources: GUMCAD, CTAD

	GU		Total	
5 main STIs	Specialist SHSs	Non-specialist SHSs*	CTAD**	Total
Syphilis	229			229
Gonorrhoea	1,408	168		1,576
Chlamydia	3,338	1,053	2,820	7,211
Genital herpes	1,058			1,058
Genital warts	1,176	1		1,177

* Diagnoses from enhanced GPs reporting to GUMCAD are included in the 'Non-specialist sexual health services (SHSs)' total.

** Including site type 12 chlamydia from GUMCAD.

Table 4 shows chlamydia was the most common STI diagnoses in the North East in 2020. Syphilis was the least common.

Figure 18. Male-to-female ratio of cases for the 5 main STIs* and new STI diagnoses in the North East by year

Data Source: GUMCAD

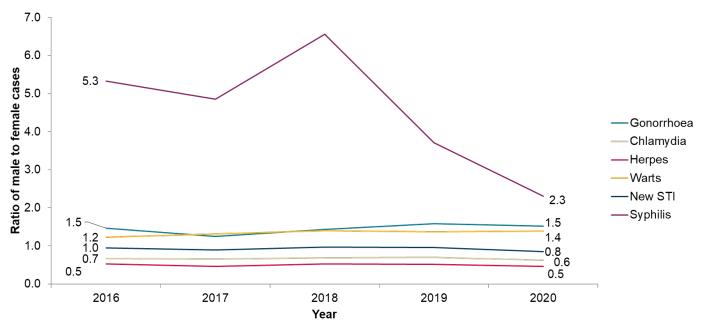
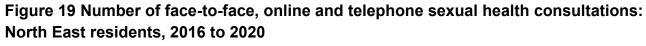


Figure 18 shows a decline in male-to-female ratio of syphilis cases in the North East from 2016 to 2020, reflecting the increase in female cases being seen in some parts of the region. Male-to-female ratio of gonorrohea, chlamydia, herpes, warts and new STI remained stable throughout 2016 to 2020.



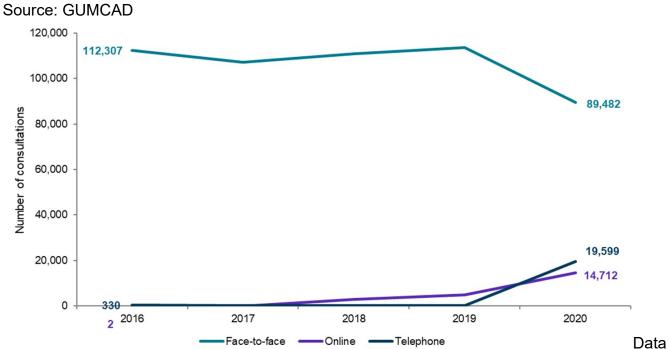
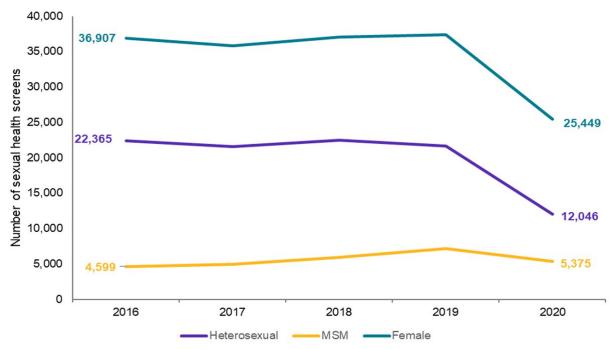


Figure 19 shows a declining trend of face-to-face sexual health consultations in North East residents from 2019 to 2020 but an increase in online and telephone consultations. Overall, consultations of any type increased in the North East between 2016 and 2020. Figure 20 shows a reduction in total sexual health screenings in North East residents who identify as female, heterosexual male and MSM from 2019 to 2020.

Figure 20 Number of total sexual health screens by gender and sexual orientation: North East residents, 2016 to 2020



Data source: GUMCAD

3. Information on data sources

Find more information on local sexual health data sources in the UKHSA guide.

These data are from the GUMCAD and CTAD surveillance systems published on 6 September 2021 (data to the end of calendar year 2020).

3.1 GUMCAD

This disaggregate reporting system collects information about attendances and diagnoses at specialist (Level 3) and non-specialist (Level 2) sexual health services. Information about the patient's area of residence is collected along with demographic data and other variables. GUMCAD superseded the earlier KC60 system and can provide data from 2009 onwards. GUMCAD is the main source of data for this report.

Due to limits on how much personally identifiable information sexual health clinics are able to share, it is not possible to deduplicate between different clinics. There is a possibility that some patients may be counted more than once if they are diagnosed with the same infection (for infection specific analyses) or a new STI of any type (for new STI analyses) at different clinics during the same calendar year.

3.2 CTAD

CTAD collects data on all NHS and local authority or NHS-commissioned chlamydia testing carried out in England. CTAD is comprised of all chlamydia (NAATs) tests for all ages (with the exception of conjunctival samples), from all venues and for all reasons. CTAD enables unified, comprehensive reporting of all chlamydia data, to effectively monitor the impact of the NCSP through estimation of the coverage of population screening, proportion of all tests that are positive and detection rates.

For services which report to GUMCAD and for which CTAD does not receive data on the patient's area of residence (for example, SHSs), information about chlamydia diagnoses is sourced from GUMCAD data.

3.3 New STIs

New STI diagnoses comprise diagnoses of the following: chancroid, LGV, donovanosis, chlamydia, gonorrhoea, genital herpes (first episode), HIV (acute and AIDS defining), *Molluscum contagiosum*, non-specific genital infection (NSGI), non-specific pelvic inflammatory disease (PID) and epididymitis, chlamydial PID and epididymitis (presented in chlamydia total), gonococcal PID and epididymitis (presented in gonorrhoea total), scabies, pediculosis pubis,

syphilis (primary, secondary and early latent), trichomoniasis and genital warts (first episode), *Mycoplasma genitalium*, shigella.

3.4 Calculations

Confidence Intervals were calculated using **Byar's method**.

ONS mid-year population estimates for 2020 were used as a denominator for rates for 2020. ONS ceased producing estimates of population by ethnicity in 2011. Estimates for that year were used as a denominator for rates for 2020.

4. Further information

As of this year, all analyses for this report include data from non-specialist (Level 2) SHSs and enhanced GP services as well as specialist (Level 3) SHSs.

For further information, access the online Sexual and Reproductive Health Profiles.

For more information on local sexual health data sources, see the UKHSA guide.

5. About the Field Service

The Field Service was established in 2018 as a national service comprising geographically dispersed multi-disciplinary teams integrating expertise in Field Epidemiology, Real-time Syndromic Surveillance, Public Health Microbiology and Food, Water and Environmental Microbiology to strengthen the surveillance, intelligence and response functions of UKHSA. The Field Service also leads and coordinates the Global Health work of UKHSA's National Infection Service working with the Global Public Health Team and will lead and coordinate the national aspects of UKHSA's port health functions.

You can contact your local FS team at FES.northeast@ukhsa.gov.uk

6. Acknowledgements

We would like to thank the following:

- local SHSs for supplying the SHS data
- local laboratories for supplying the CTAD data
- UKHSA Blood Safety, Hepatitis, Sexually Transmitted Infections (STI) and HIV Division for collection, analysis and distribution of data

7. References

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