UK Health Security Agency

Spotlight on sexually transmitted infections in Yorkshire and Humber

2020 data

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1. Summary

Sexually transmitted infections (STIs) represent an important public health problem in Yorkshire and Humber. Of all the UK Health Security Agency (UKHSA) regions, Yorkshire and Humber had the fourth highest rate of new STIs in 2020 (454 per 100,000 population). Rates by upper tier local authority ranged from 228 new STI diagnoses per 100,000 population in East Riding of Yorkshire to 816 new STI diagnoses per 100,000 population in Leeds.

The number of new STIs diagnosed in Yorkshire and Humber residents fell by 33% between 2019 and 2020. Diagnoses fell across all 5 main STIs: syphilis decreased by 26%, gonorrhoea by 23%, chlamydia by 32%, genital herpes by 35% and genital warts by 48%.

Rates of new STIs varied between men and women (395 and 506 per 100,000 residents respectively). Over half of all new STI diagnoses (excl. chlamydia reported via CTAD) were from females (56%), 23% were from heterosexual males and 8% from men who have sex with men (MSM). Most STIs were more prevalent among heterosexual women and men in Yorkshire and Humber, except for syphilis where the majority of diagnoses were identified in MSM (71%).

STIs disproportionately affect young people. Yorkshire and Humber residents aged between 15 and 24 years accounted for 59% of all new STI diagnoses in 2020. A steep decline in genital warts diagnosis rates (97% decrease) was seen between 2016 and 2020 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 Yorkshire and Humber: over 18,100 (85%). Although only 1% of new STIs are diagnosed among people who identify as black Caribbean, this group have the highest rate: 1,336 per 100,000. Where country of birth was known, 89% of Yorkshire and Humber residents diagnosed with a new STI in 2020 (excluding chlamydia diagnoses reported via CTAD) were UK-born.

Implications for prevention

During the coronavirus (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 (1) leading to an increase of consultations of both types in 2020 (2).

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 large number of 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 (2, 3, 4, 5, 6).

The high rates of STIs among young people are likely to be due to greater rates of partner change (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 episode of genital warts and genital herpes. However, decreases in gonorrhoea and chlamydia were less pronounced. These decreases, especially in STIs usually diagnosed at face-to-face consultation, such as first episode genital warts and herpes, may be in part due to a reduction in face-to-face consultations during the pandemic. 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 (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 (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 (2).

As MSM continue to experience high rates of STIs, they remain a priority for targeted STI prevention and health promotion work. There is a particular need to strengthen public health measures to reduce transmission of syphilis. National clinical guidelines recommend frequent testing for MSM with high-risk behaviours (10), but surveillance data suggests this is not uniformly carried out. There are also concerns about poor knowledge and awareness of syphilis among MSM (2,11). Therefore, published in June 2019, the Syphilis Action Plan (12), has recommendations to address the continued increase in syphilis diagnoses in England. The plan is based upon action that optimises 4 prevention pillars: (1) increasing testing frequency of MSM with high-risk behaviours and re-testing cases after treatment, (2) deliver partner notification, (3) maintain high antenatal screening coverage and vigilance, (4) sustain targeted health promotion.

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 (2,13).

Access to high quality information is essential for good sexual health and an on-line resource and a telephone helpline (14) 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 (2,15). 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 (16, 17, 18). 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 (2,19).

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 (20).

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 (2).

UKHSA's key messages

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

- 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, and –
  - 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

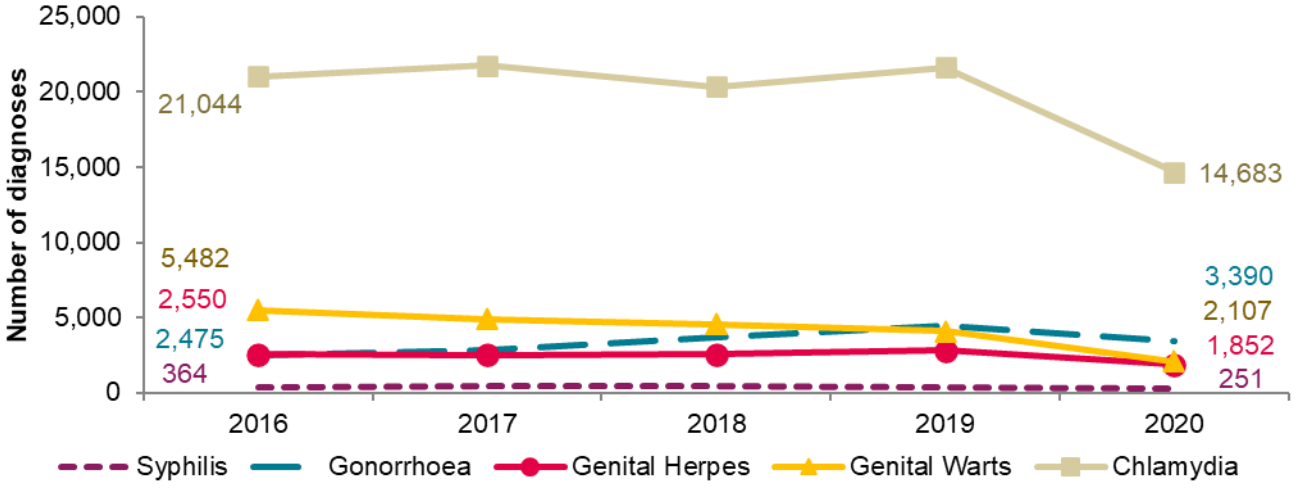
2. Charts, tables and map

Figure 1. New STI diagnoses by UKHSA region of residence: England 2020

Data sources: GUMCAD, CTAD

Figure 1 is a bar chart showing the rate of new STI diagnoses by UKHSA region of residence in 2020. The rate of new STI diagnoses per 100,000 in Yorkshire and Humber was 453.6 and was the fourth highest regional rate.

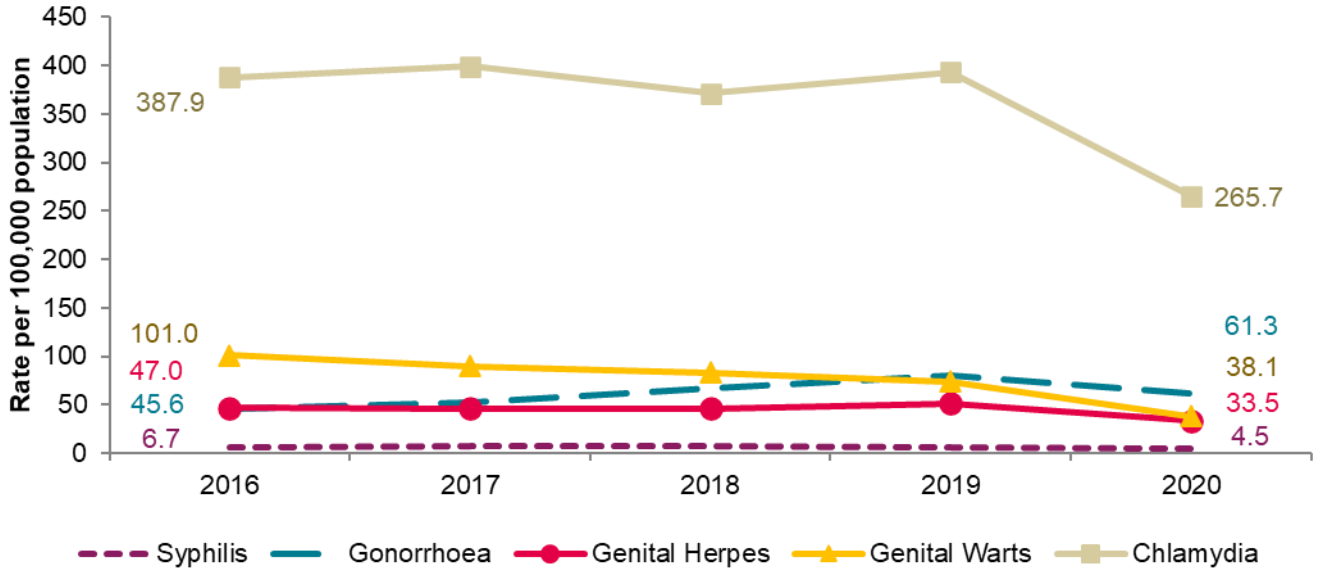
Figure 2. Number of diagnoses of the 5 main STIs: Yorkshire and Humber residents, 2016 to 2020



Data sources: GUMCAD, CTAD

Figure 2 shows a trend line of the number of diagnoses of the 5 main STIs for Yorkshire and Humber residents between 2016 and 2020. It shows falls in syphilis, gonorrhoea, genital herpes, genital warts, and chlamydia diagnoses from 2019 to 2020.

Figure 3. Diagnosis rates of the 5 main STIs: Yorkshire and Humber residents, 2016 to 2020



Data sources: GUMCAD, CTAD

Figure 3 shows at trend line of the diagnosis rates of the 5 main STIs for Yorkshire and Humber residents from 2016 to 2020. It shows falls in syphilis, gonorrhoea, genital herpes, genital warts, and chlamydia diagnosis rates from 2019 to 2020.

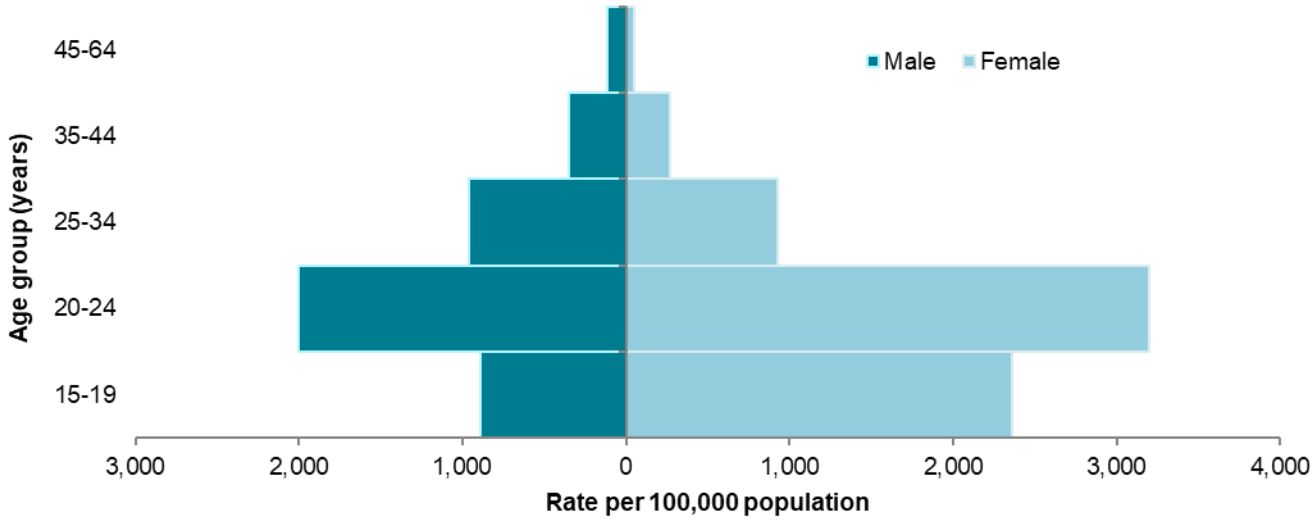
Table 1. Percentage change in new STI diagnoses: Yorkshire and Humber residents

Diagnoses	2020	% change 2016-2020	% change 2019-2020
New STIs	25,066	-32%	-33%
Syphilis	251	-31%	-26%
Gonorrhoea	3,390	37%	-23%
Chlamydia	14,683	-30%	-32%
Genital Herpes	1,852	-27%	-35%
Genital Warts	2,107	-62%	-48%

Data sources: GUMCAD, CTAD

Table 1 shows the number and percentage change in new STI diagnoses in Yorkshire and Humber residents. Chlamydia was the most commonly diagnosed STI amongst Yorkshire and Humber residents in 2020, with 14,683 new diagnoses. Between 2016 and 2020 gonorrhoea had a proportional increase of 37%, and the greatest proportional decrease was in genital warts (62%). From 2019 to 2020 all new STIs, syphilis, gonorrhoea, chlamydia, genital herpes, and genital warts diagnoses decreased. The greatest proportional decrease from 2019 to 2020 was in genital warts (48%).

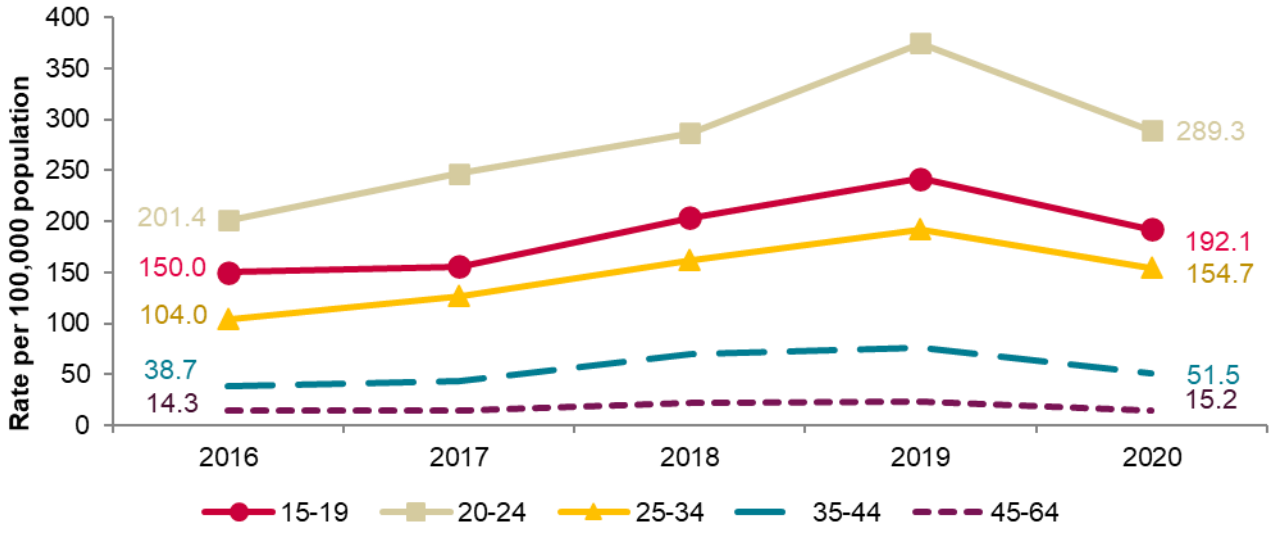
Figure 4. Rates of new STIs per 100,000 residents by age group* and gender in Yorkshire and Humber, 2020



Data sources: GUMCAD, CTAD

Figure 4 shows the rates of new STIs per 100,000 residents by age group and gender for Yorkshire and Humber in 2020. The highest rates of new STIs were in females aged 15 to 19 years and 20 to 24 years, and in males aged 20 to 24 years.

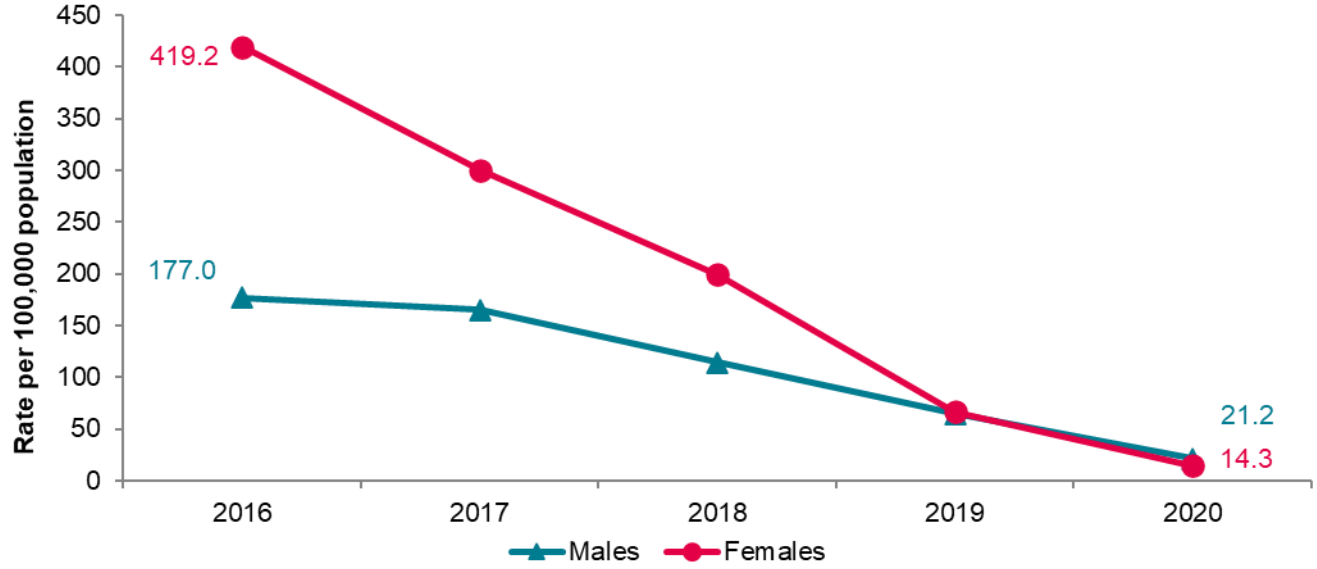
Figure 5. Rates of gonorrhoea per 100,000 residents by age group* in Yorkshire and Humber, 2016 to 2020



Data source: GUMCAD

Figure 5 shows rates of gonorrhoea per 100,000 residents by age group in Yorkshire and Humber between 2016 and 2020. The rates of gonorrhoea were highest in those aged 20 to 24 years. Rates for all age groups increased between 2016 and 2019 and then decreased between 2019 and 2020.

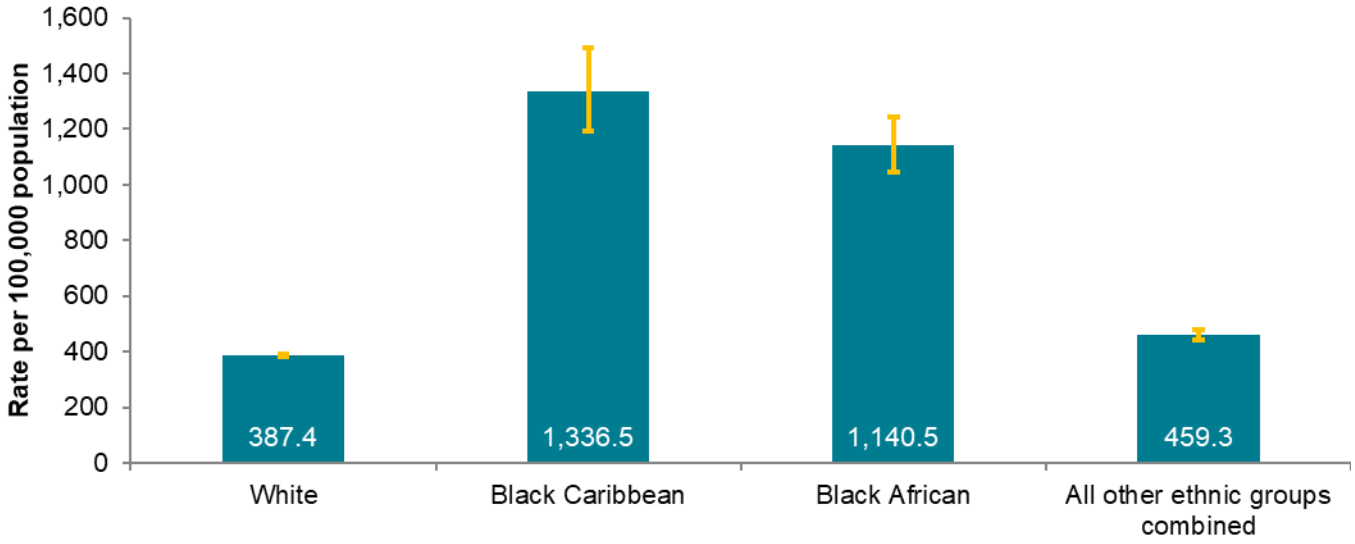
Figure 6. Rates of genital warts per 100,000 residents aged 15 to 19 years by gender in Yorkshire and Humber, 2020



Data source: GUMCAD

Figure 6 shows the rates of genital warts per 100,000 residents aged 15 to 19 years by gender in Yorkshire and Humber between 2016 and 2020. The rates of genital warts decreased in both females and males between 2016 and 2020, and the rate of decrease was higher in females.

Figure 7. Rates of new STIs by ethnic group per 100,000 residents in Yorkshire and Humber, 2020



Data sources: GUMCAD, CTAD

Figure 7 is a bar chart that shows the rates of new STIs per 100,000 residents by ethnicity in Yorkshire and Humber in 2020. The highest rates of new STIs in 2020 were in Black Caribbean (1,336.5 per 100,000) and Black African population groups (1,140.5 per 100,000).

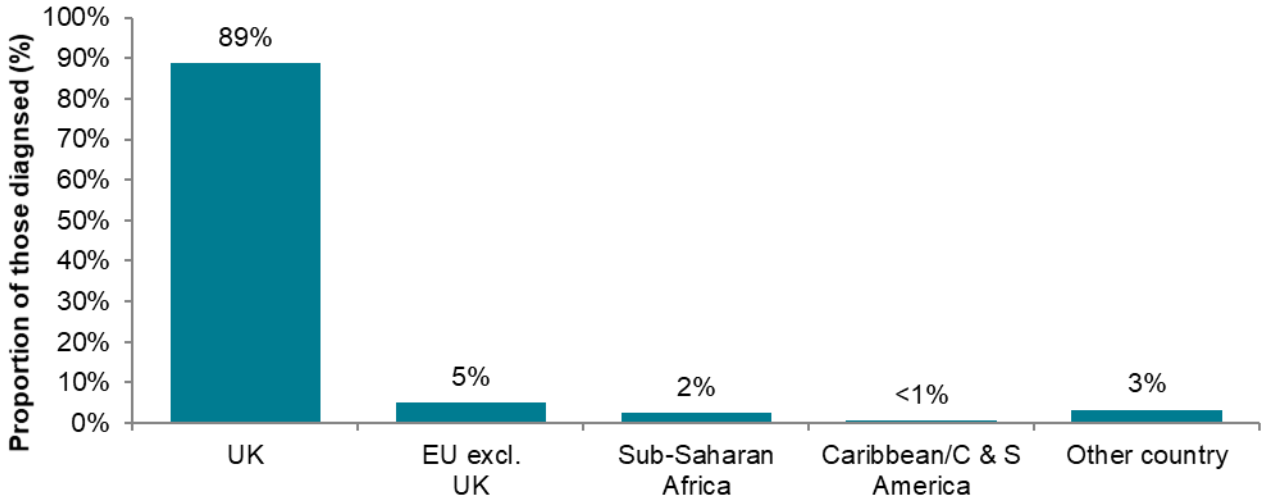
Table 2. Proportion of Yorkshire and Humber residents diagnosed with a new STI by ethnicity: 2020

Ethnic group	Number	Percentage excluding unknown
White	18,177	85%
Black Caribbean	313	1%
Black African	525	2%
All other ethnic groups combined	2,399	11%
Unknown	3,652	

Data sources: GUMCAD, CTAD

Table 2 shows the number and proportion of Yorkshire and Humber residents diagnosed with a new STI by ethnicity in 2020. The highest number of new STIs in 2020 were diagnosed in White population groups (18,177) which accounted for 85% of new STIs where ethnicity was known. Black Caribbean population groups made up 1%, Black African population groups made up 2%, and all other ethnic groups made up 11% of new STIs.

Figure 8. Proportions of Yorkshire and Humber residents diagnosed with a new STI by world region of birth*: 2020

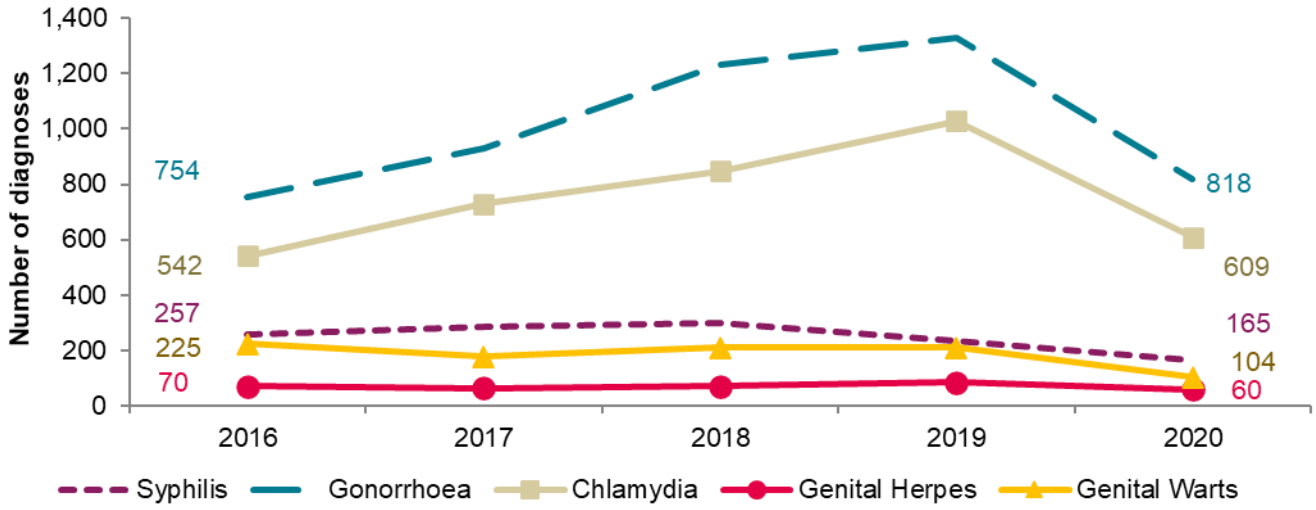


Data source: GUMCAD data only

*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 8 is a bar chart showing the proportion of Yorkshire and Humber residents diagnosed with a new STI by world region of birth in 2020. The UK born population group accounted for the highest proportion of new STI diagnoses in 2020 (89%), with the next highest being EU born (5%).

Figure 9. Diagnoses of the 5 main STIs among MSM*: Yorkshire and Humber 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 9 shows a trend line for diagnoses of the 5 main STIs among men who have sex with men (MSM) Yorkshire and Humber residents from 2016 to 2020. There were increases in the number of gonorrhoea and chlamydia diagnoses between 2016 and 2019 followed by a decrease in diagnoses between 2019 and 2020. The number of genital herpes and genital warts diagnoses was similar between 2016 to 2019, and then decreased from 2019 to 2020. Syphilis diagnoses increased slightly from 2016 to 2018 and decreased between 2018 and 2020.

Table 3. Percentage change in new STI diagnoses in MSM*: Yorkshire and Humber residents

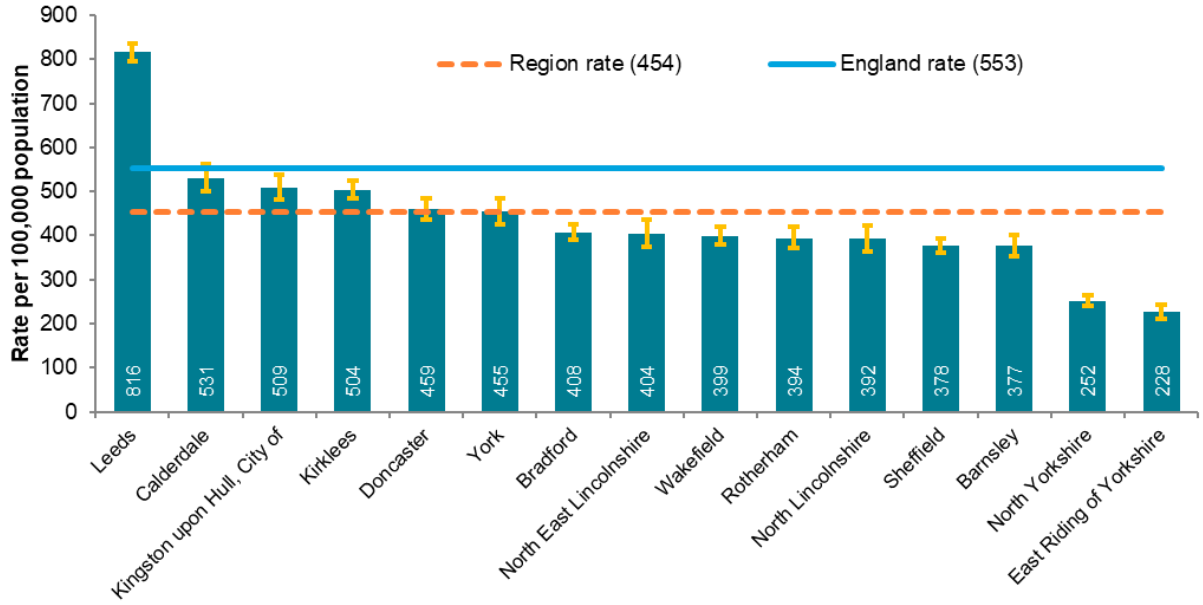
Diagnoses	2020	% change 2016 to 2020	% change 2019 to 2020
All new STIs	1,984	-11%	-39%
Syphilis	165	-36%	-30%
Gonorrhoea	818	8%	-38%
Chlamydia	609	12%	-41%
Genital herpes	60	-14%	-29%
Genital warts	104	-54%	-51%

Data sources: GUMCAD data only

Table 3 shows the number and percentage change of new STI diagnoses in MSM Yorkshire and Humber residents. The STI with the highest number of new diagnoses in MSM in 2020 was gonorrhoea (818), followed by chlamydia (609). The largest proportional increase in

diagnoses in MSM from 2016 to 2020 was seen in chlamydia (12%). Between 2019 and 2020 there were proportional decreases in diagnoses of all STIs, and the largest proportional decrease was in genital warts (51%).

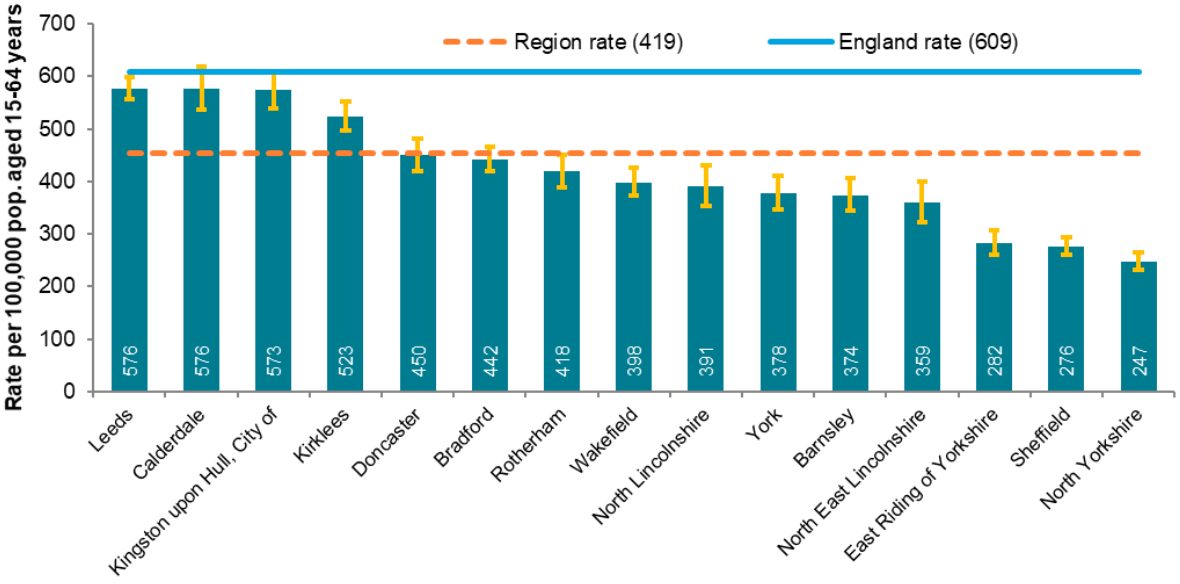
Figure 10a. Rate of new STI diagnoses per 100,000 population among Yorkshire and Humber residents by upper tier local authority of residence (UTLA): 2020



Data sources: GUMCAD, CTAD

Figure 10a shows the rate of new STI diagnoses per 100,000 population among Yorkshire and Humber residents by upper tier local authority in 2020 and the rate by local authority compared to the Yorkshire and Humber regional rate (454) and England rate (553). The rates ranged from the lowest rate of 228 in East Riding of Yorkshire to the highest rate of 816 in Leeds.

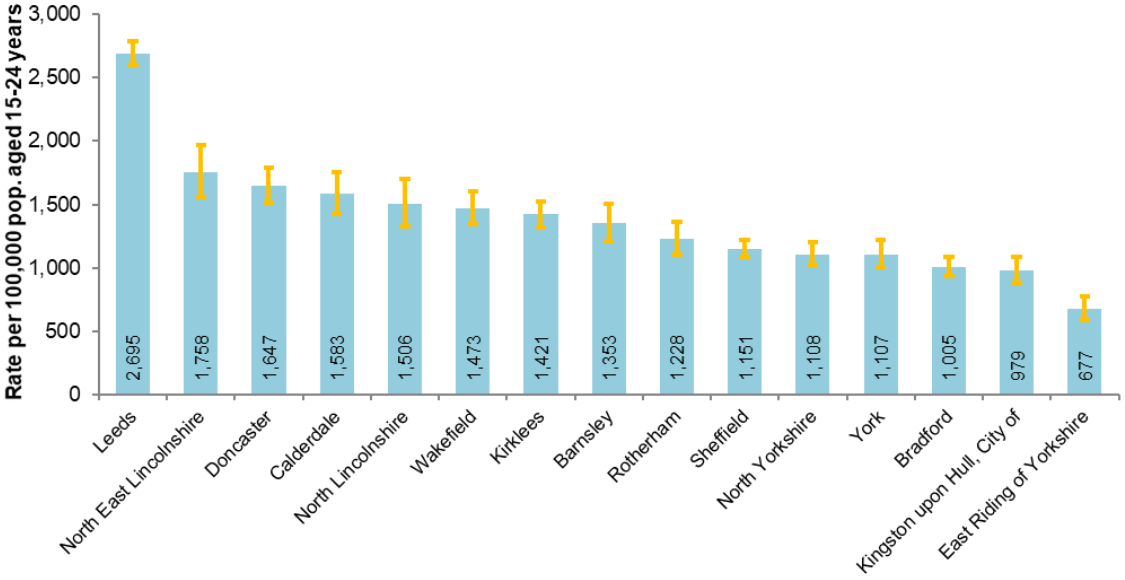
Figure 10b. Rate of new STI diagnoses (excluding chlamydia diagnoses in persons aged 15 to 24 years) per 100,000 population aged 15 to 64 years among Yorkshire and Humber residents by upper tier local authority of residence: 2020



Data sources: GUMCAD, CTAD

Figure 10b shows the rate of new STI diagnoses (excluding chlamydia diagnoses in persons aged 15 to 24 years) per 100,000 population aged 15 to 64 years in Yorkshire and Humber residents by upper tier local authority in 2020. It shows the rate of new STI diagnoses by local authority compared to the Yorkshire and Humber regional rate (419) and England rate (609). The rates ranged from the lowest rate of 247 in North Yorkshire to the highest of 576 in Leeds.

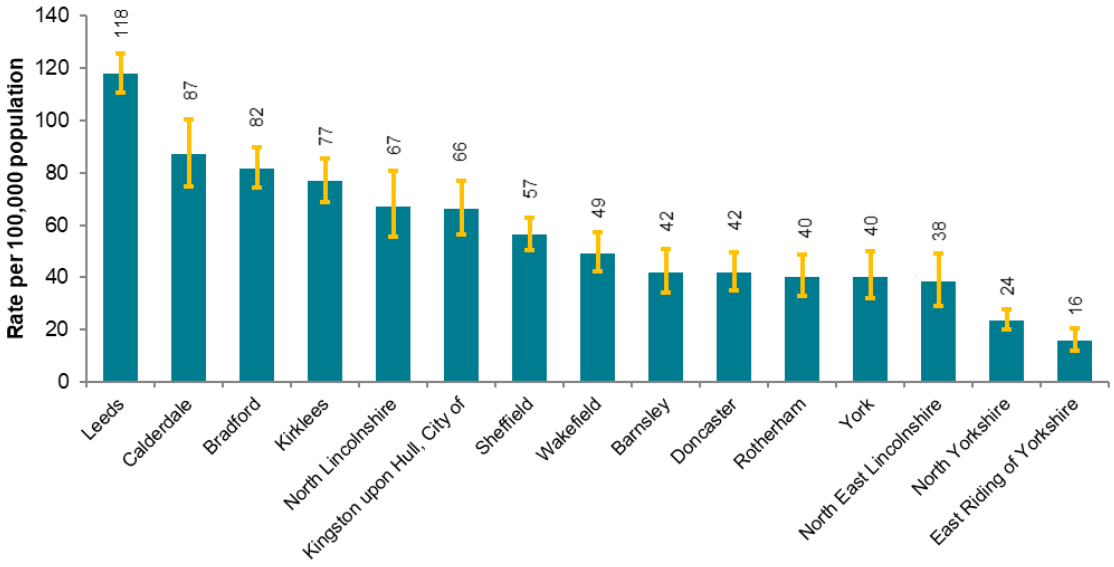
Figure 11. Chlamydia detection rate per 100,000 population aged 15 to 24 years in Yorkshire and Humber residents by upper tier local authority of residence: 2020



Data sources: GUMCAD, CTAD

Figure 11 is a bar chart showing the chlamydia detection rate per 100,000 population aged 15 to 24 years in Yorkshire and Humber residents by upper tier local authority in 2020. There was variation in the chlamydia detection rate between local authorities from 677 in East Riding of Yorkshire to 2,695 in Leeds.

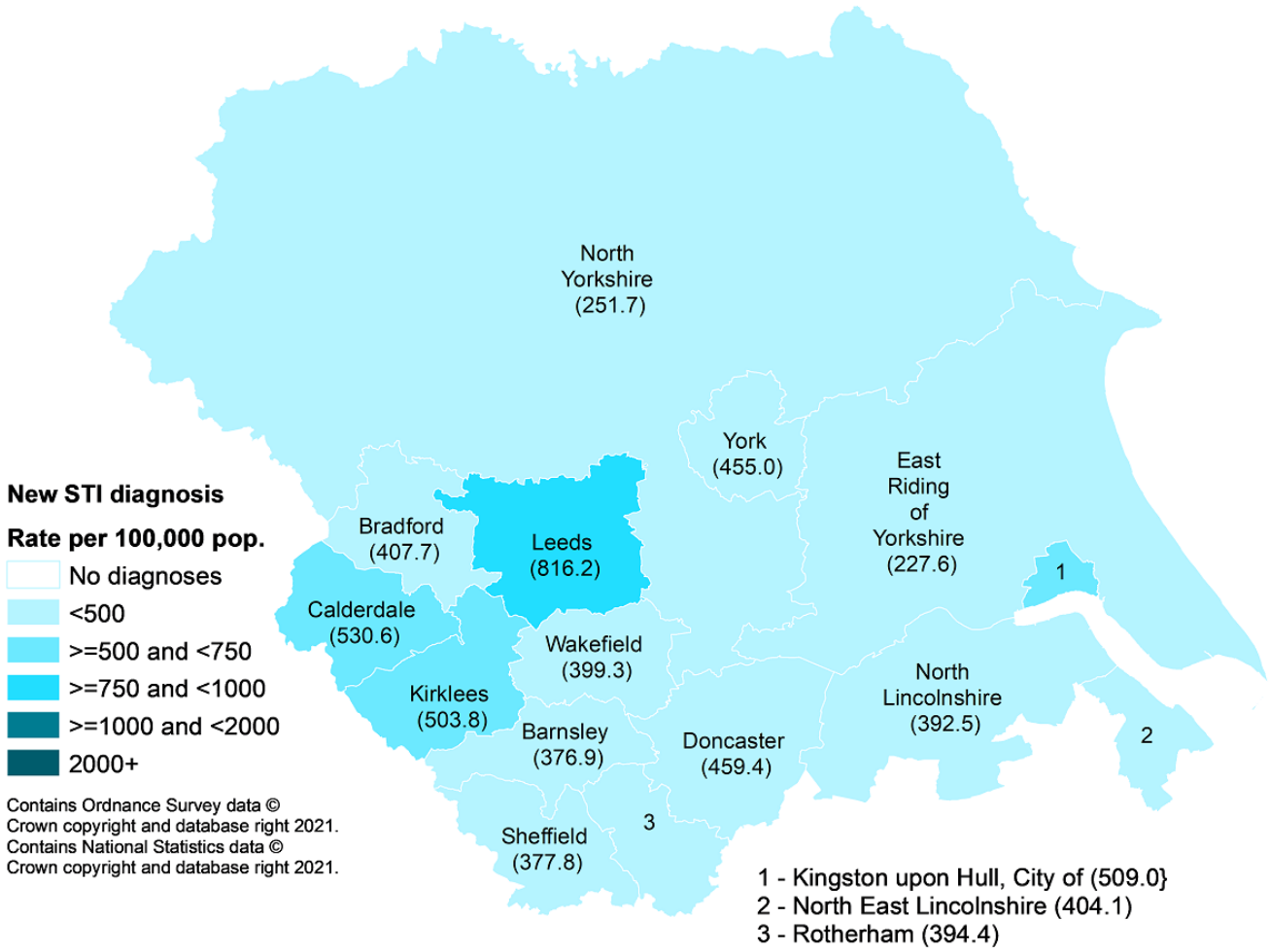
Figure 12. Rate of gonorrhoea diagnoses per 100,000 population in Yorkshire and Humber residents by upper tier local authority of residence: 2020



Data source: GUMCAD

Figure 12 is a bar chart showing the rate of gonorrhoea diagnoses per 100,000 population in Yorkshire and Humber residents by upper tier local authority of residence in 2020. There was large variation in the rate of gonorrhoea diagnoses in Yorkshire and Humber local authorities in 2020, ranging from 16 per 100,000 in East Riding of Yorkshire to 118 per 100,000 in Leeds.

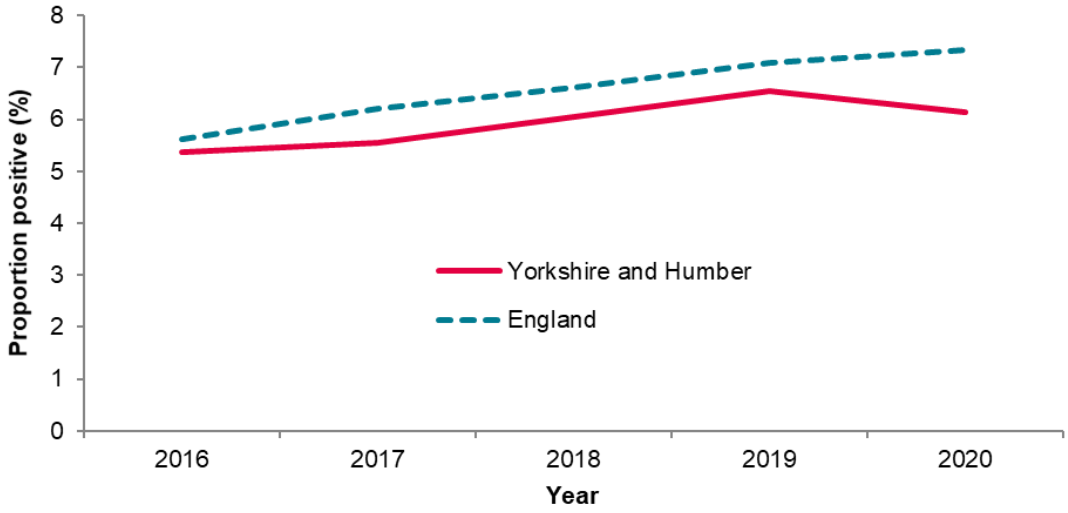
Figure 13. Map of new STI rates per 100,000 residents by upper tier local authority in Yorkshire and Humber: 2020



Data sources: GUMCAD, CTAD

Figure 13 is a map showing new STI rates per 100,000 residents by upper tier local authority in Yorkshire and Humber in 2020. The local authority with the highest rate of new STIs was Leeds.

Figure 16. STI testing positivity rate* (excluding chlamydia in under 25 year olds) in Yorkshire and Humber 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 16 shows a trend line of the STI positivity rate (excluding chlamydia in under 25 year olds) in Yorkshire and Humber and England residents between 2016 and 2020. The STI positivity rate between 2016 and 2020 was slightly lower in Yorkshire and Humber than in England. The STI positivity rate increased in Yorkshire and Humber from 2016 to 2019 and then decreased from 2019 to 2020. In England the STI positivity rate increased throughout 2016 to 2020.

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

Five main STIs	GUMCAD		CTAD**	Total
	Specialist SHSs	Non-specialist SHSs*		
Syphilis	250	1		251
Gonorrhoea	2,842	548		3,390
Chlamydia	6,878	919	6,886	14,683
Genital herpes	1,838	14		1,852
Genital warts	2,081	26		2,107

Data sources: GUMCAD, CTAD

* 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 5 shows the number of diagnoses of the 5 main STIs in Yorkshire and Humber by STI and data source in 2020. The STI with the highest number of diagnoses in Yorkshire and Humber in 2020 was chlamydia (14,683). The majority of new STIs in Yorkshire and Humber were diagnosed in specialist SHSs.

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 2020, 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.

If you have any comments or feedback regarding this report or the Field Service, contact YHFS@ukhsa.gov.uk

6. Acknowledgements

We would like to thank the 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

1. British Association for Sexual Health and HIV (BASHH). BASHH COVID-19 Survey finds over half of services have been closed 2020 (accessed on 1 December 2021)
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