



Public Health  
England

Protecting and improving the nation's health

# **Sexually transmitted infections in Yorkshire and Humber 2016 data**

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# 1. Summary

Sexually transmitted infections (STIs) represent an important public health problem in Yorkshire and Humber. Out of all the Public Health England centres, it has the third highest rate of new STIs in England.

More than 36,300 new STIs were diagnosed in Yorkshire and Humber residents in 2016, representing a rate of 674 diagnoses per 100,000 adults. Rates by upper tier local authority ranged from 458 new STI diagnoses per 100,000 population in North Yorkshire to 1,043 new STI diagnoses per 100,000 population in Hull.

**\*\*PLEASE NOTE:** during 2015, many local sexual health services across Yorkshire and the Humber changed. This may have an effect on the numbers and rates of STIs reported in 2015 and consequently in the comparisons and trends seen at a local authority level presented in this report.

The number of new STIs diagnosed in Yorkshire and Humber residents remained the same between 2015 and 2016. Rises were seen in the numbers of most of the 5 major STIs: syphilis increased by 84%, gonorrhoea by 1%, chlamydia by 1% and genital herpes by 2%. Genital warts decreased by 9%. The increase in syphilis has been particularly noticeable in 2016 and higher than the national increase (20%) but may indicate Yorkshire and Humber catching up with national trends in syphilis. Further work to review the cases of syphilis in Yorkshire and the Humber is ongoing and a will be the subject of a separate report due for completion in September.

PHE recommends that local areas should be working towards achieving a chlamydia detection rate of at least 2,300 per 100,000 among individuals aged 15 to 24 years. This is an indicator in the Public Health Outcome Framework. In 2016 the chlamydia diagnosis rate among Yorkshire and Humber residents aged 15 to 24 years was 2,072 per 100,000 residents.

Rates of new STIs vary somewhat between men and women (628 and 716 per 100,000 residents respectively).

Where gender and sexual orientation are known, men who have sex with men account for 9% of Yorkshire and Humber residents diagnosed with a new STI in a GUM clinic (75% of those diagnosed with syphilis and 32% of those diagnosed with gonorrhoea). STIs disproportionately affect young people. Yorkshire and Humber residents aged between 15 and 24 years accounted for 61% of all new STI diagnoses in 2016.

The white ethnic group has the highest number of new STI diagnoses: over 25,800 (88%). Although only 1% of new STIs are in black Caribbeans, they have the highest

rate: 1,687 per 100,000, which is 3 times the rate seen in the white ethnic group. Where country of birth was known, 90% of Yorkshire and Humber residents diagnosed in a GUM clinic in 2016 with a new STI were UK-born.

Further information at local authority level can be found on the 'Sexual and Reproductive Health Profiles': <http://fingertips.phe.org.uk/profile/sexualhealth>

## Implications for prevention

The impact of STIs remains greatest in young heterosexuals 15 to 24 years, black ethnic minorities and MSM. Public Health England (PHE) is conducting and managing a number of initiatives to address this inequality.

To improve the sexual health of young people, PHE is undertaking formative research for a health promotion campaign to promote condom use and positive sexual relationships among this population. Additionally, statutory, high-quality relationship and sex education at all secondary schools will equip young people with the information and skills to improve their sexual health.

There is a notable variation in the chlamydia detection rate among 15 to 24 year olds by geographic area, often reflecting rates of testing. Local authorities with detection rates below the PHOF recommended indicator of 2,300 per 100,000 population should consider means to promote chlamydia screening to most effectively detect and control chlamydia infections.

Local areas should focus on embedding chlamydia screening for 15 to 24 year olds into a variety of non-specialist Sexual Health Clinics (SHCs) and community-based settings, focusing on those which serve the populations with the highest need based on positivity. They should also emphasise the need for repeat screening annually and on change of sexual partner, as well as the need for re-testing after a positive diagnosis within 3 months of initial diagnosis; and ensure treatment and partner notification standards are met.

To help local areas improve their chlamydia detection rate in 15 to 24 year olds, PHE developed the chlamydia care pathway to outline comprehensive case management for an episode of chlamydia testing, diagnosis and treatment.

Of particular concern is the continuing rise of syphilis nationally among MSM. There is evidence that condomless sex associated with HIV sero-adaptive behaviours (which includes selecting partners perceived to be of the same HIV sero-status), is leading to increased STI transmission.

Nationally, the rate of acute bacterial STIs in HIV-positive MSM is up to four times that of MSM who were HIV-negative or of unknown HIV status. This suggests that rapid STI transmission is occurring in dense sexual networks of HIV-positive MSM. Sero-adaptive behaviour increases the risk of infection with STIs, hepatitis B and C, and sexually transmissible enteric infections like *Shigella* spp. For those who are HIV negative, sero-adaptive behaviour increases the risk of HIV seroconversion as 13% of MSM nationally are unaware of their infection.

As MSM continue to experience high rates of STIs, they remain a priority for targeted STI prevention and health promotion work. HIV Prevention England have been contracted to deliver, on behalf of PHE, a range of activities which include promoting condom use and awareness of STIs, which are particularly aimed at MSM.

The continued reduction in genital warts is associated with the high coverage of HPV vaccination in adolescent girls through the National HPV Vaccination Programme. While young heterosexual men stand to benefit from female only HPV vaccination through herd protection, this is not necessarily the case for MSM. As a result, a targeted HPV vaccination pilot programme for MSM was introduced in England in 2016 to inform the potential national rollout of vaccination of MSM attending specialist SHCs and HIV clinics: [www.gov.uk/government/publications/hpv-vaccination-pilot-for-men-who-have-sex-with-men-msm](http://www.gov.uk/government/publications/hpv-vaccination-pilot-for-men-who-have-sex-with-men-msm). HPV vaccination of MSM will provide direct protection against HPV infection with the aim of reducing the incidence of genital warts and HPV-related cancers.

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. HIV Prevention England also delivers, on behalf of PHE, prevention activity targeted at these groups. PHE is collaborating with academic institutions to improve understanding of the behaviours, attitudes, and other factors influencing their STI risk and support the delivery of timely interventions which maximise patient and public health benefit.

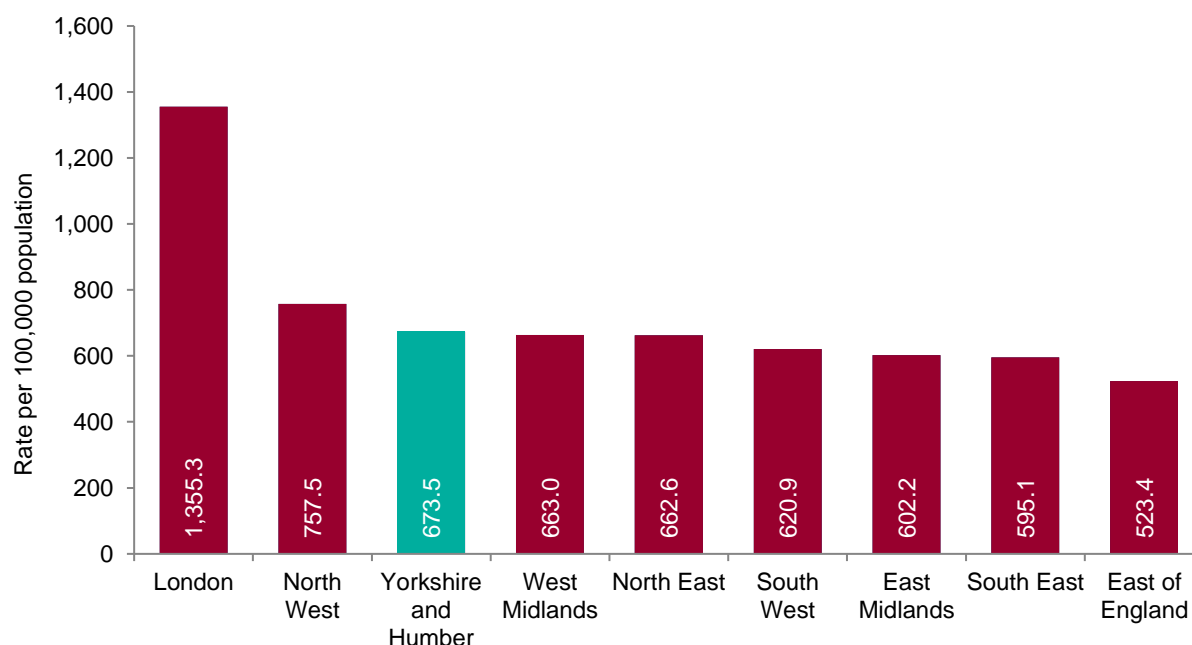
Health promotion and education remain vital for STI prevention, through improving risk awareness and encouraging safer sexual behaviour. Consistent and correct condom use substantially reduces the risk of being infected with an STI. Prevention efforts should include condom provision, ensuring open access to sexual health services with STI screening and robust contact tracing, and should focus on groups at highest risk such as young people, black ethnic minorities and MSM. Effective commissioning of high quality sexual health services, as highlighted in the Framework for Sexual Health Improvement in England, will promote delivery of these key messages.

## PHE's key messages

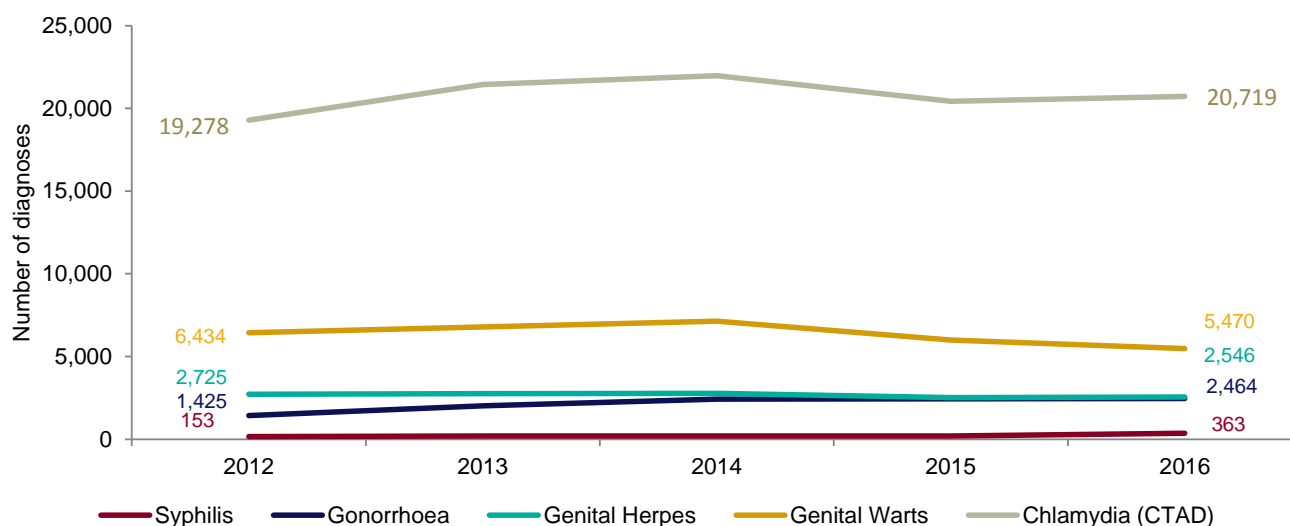
- statutory, high-quality relationship and sex education in secondary schools will equip young people with the skills to improve their sexual health and overall wellbeing
- strengthened local and national prevention activities need to focus on groups at highest risk, including young adults, black ethnic minorities and MSM
- consistent and correct use of condoms can significantly reduce risk of STIs
- rapid, open access to treatment and partner notification can reduce the risk of complications and infection spread
- regular testing for HIV and STIs is essential for good sexual health:
  - anyone under 25 who is sexually active should be screened for chlamydia annually, and on change of sexual partner
  - MSM should test annually for HIV and STIs, and every 3 months if having condomless sex with new or casual partners
  - black ethnic minority men and women should have a regular STI screen, including an HIV test, if having condomless sex with new or casual partners

## 2. Charts, tables and maps

**Figure 1: New STI diagnoses by Public Health England Centre (PHEC) of residence: England 2016.** Data sources: GUMCAD, CTAD



**Figure 2: Number of diagnoses of the five main STIs: Yorkshire and Humber residents, 2012-2016.** Data sources: GUMCAD, CTAD



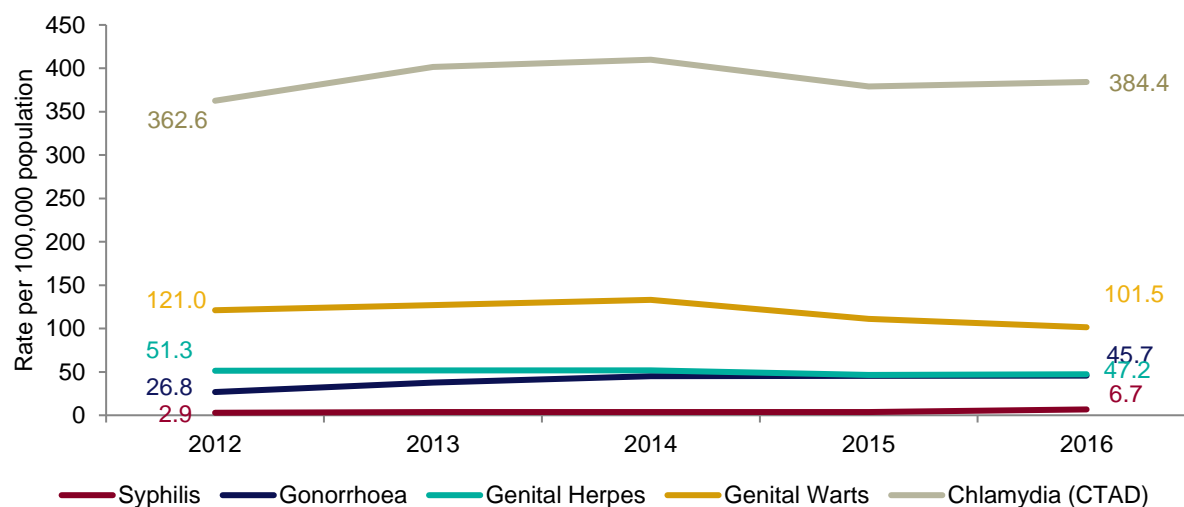
Any increase in gonorrhoea diagnoses may be due to the increased use of highly sensitive nucleic acid amplification tests (NAATs) and additional screening of extra-genital sites in MSM.

Any decrease in genital wart diagnoses may be due to a moderately protective effect of HPV-16/18 vaccination.

Any increase in genital herpes diagnoses may be due to the use of more sensitive NAATs.

Increases or decreases may also reflect changes in testing practices.



**Figure 3: Diagnosis rates of the 5 main STIs: Yorkshire and Humber residents, 2012-2016.** Data sources: GUMCAD, CTAD

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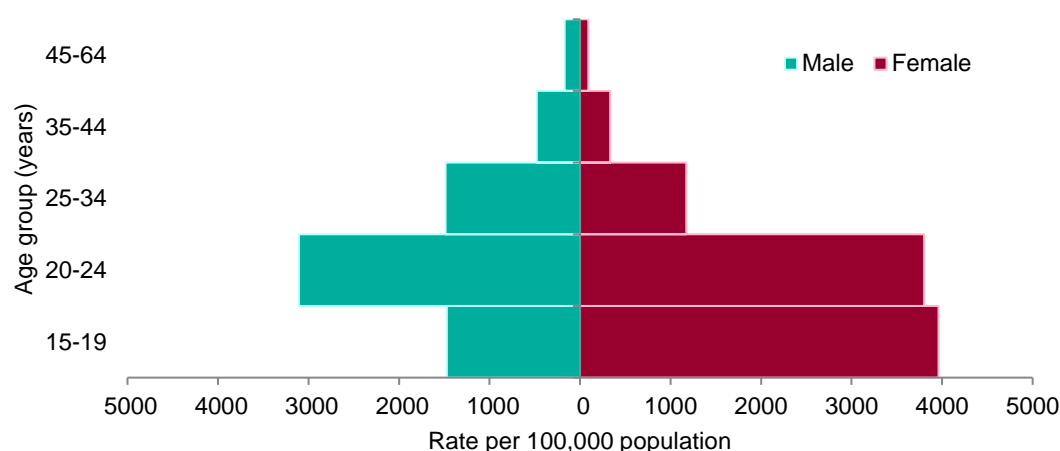
Increases or decreases may also reflect changes in testing practices.

**Table 1: Percentage change in new STI diagnoses: Yorkshire and Humber residents.** Data sources: GUMCAD, CTAD

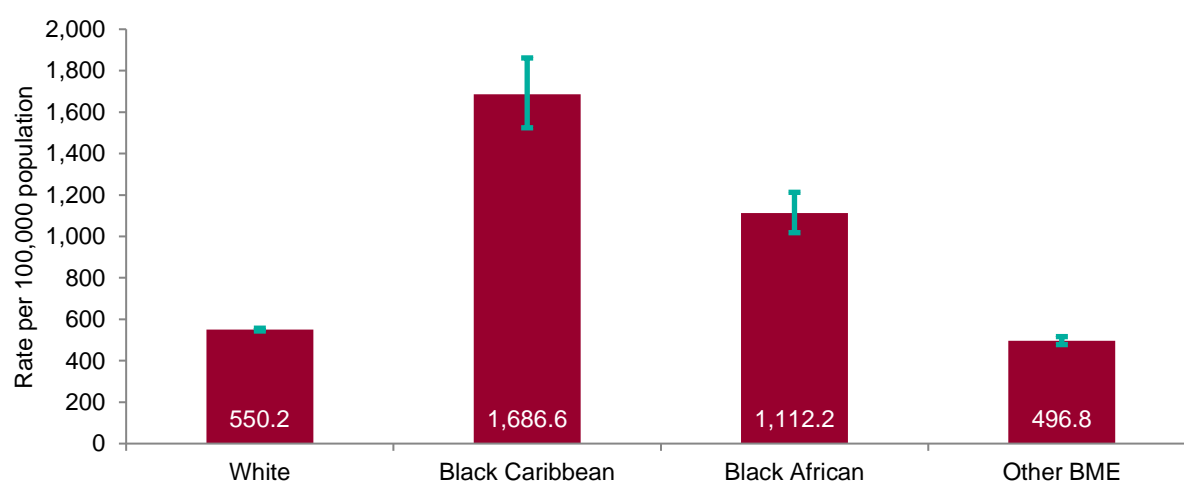
Diagnoses	2016	% change 2012-2016	% change 2015-2016
New STIs	36,306	0%	-1%
Syphilis	363	137%	84%
Gonorrhoea	2,464	73%	1%
Chlamydia	20,719	7%	1%
Genital Herpes	2,546	-7%	2%
Genital Warts	5,470	-15%	-9%

Please see notes for Figure 3.

**Figure 4: Rate of new STIs per 100,000 residents by age group in Yorkshire and Humber, 2016.** Data sources: GUMCAD, CTAD



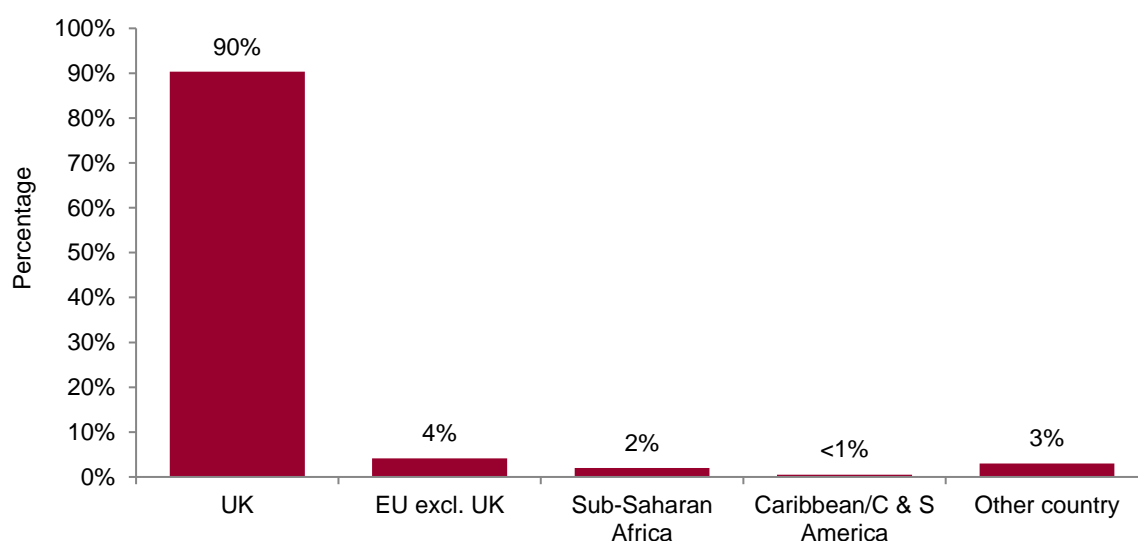
**Figure 5: Rates by ethnicity per 100,000 population of Yorkshire and Humber residents diagnosed with a new STI: 2016.** Data sources: GUMCAD, CTAD



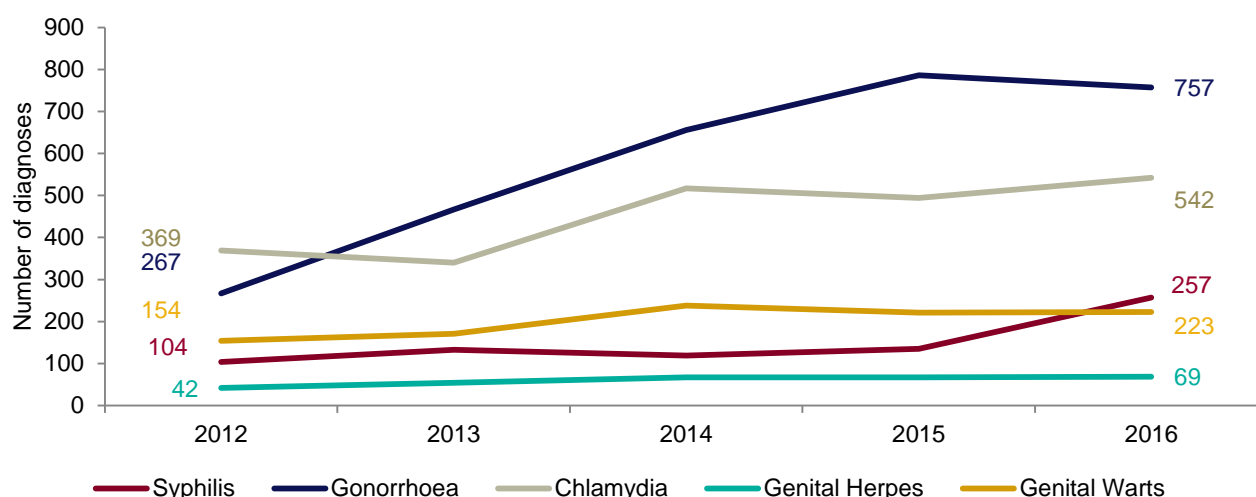
**Table 2: Proportion of Yorkshire and Humber residents diagnosed with a new STI by ethnicity: 2016** Data sources: GUMCAD, CTAD

Ethnic group	Number	Percentage excluding unknown
White	25,813	88%
Black Caribbean	395	1%
Black African	512	2%
Other BME	2,595	9%
Unknown	6,991	

**Figure 6: Proportions of Yorkshire and Humber residents diagnosed with a new STI by world region of birth: 2016.** Data sources: GUMCAD data only



**Figure 7: Diagnoses of the 5 main STIs among MSM in specialist Sexual Health Clinics: Yorkshire and Humber residents, 2012-2016.** Data source: GUMCAD data only



GUMCAD started in 2009. Reporting of sexual orientation is less likely to be complete for earlier years. So rises seen may be partly artefactual.

Any increase in gonorrhoea diagnoses may be due to the increased use of highly sensitive nucleic acid amplification tests (NAATs) and additional screening of extra-genital sites in MSM.

Any decrease in genital wart diagnoses may be due to a moderately protective effect of HPV-16/18 vaccination.

Any increase in genital herpes diagnoses may be due to the use of more sensitive NAATs.

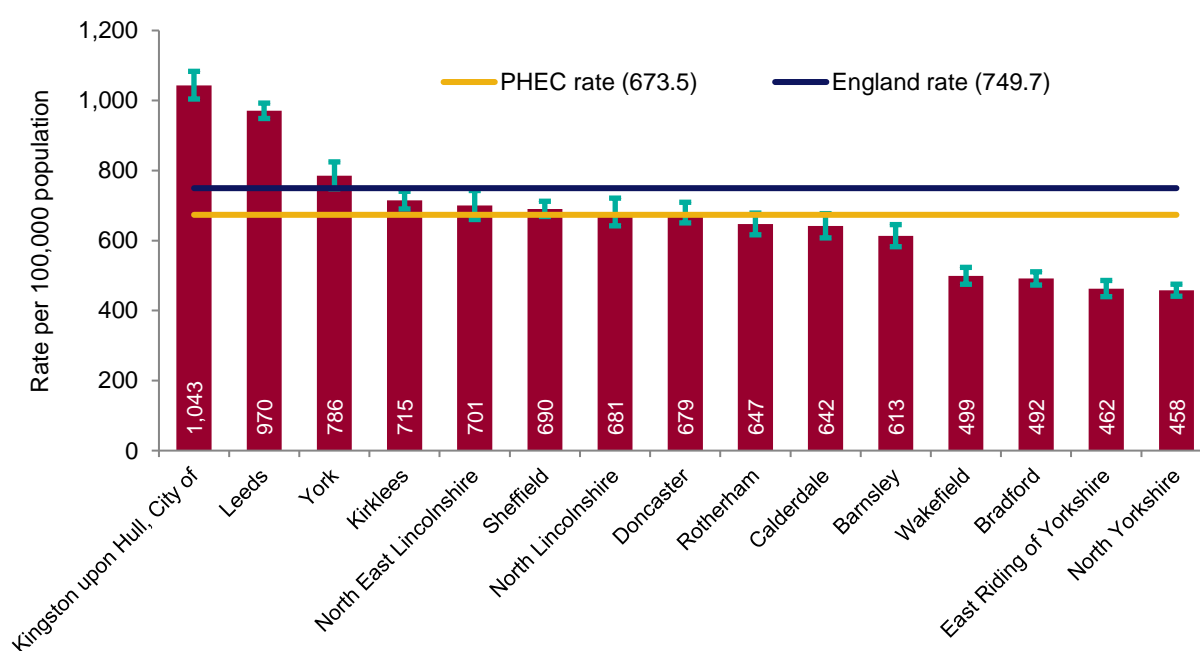
Any increase or decrease may reflect changes in testing.

**Table 3: Percentage change in new STI diagnoses in MSM diagnosed in specialist Sexual Health Clinics: Yorkshire and Humber residents.** Data sources: GUMCAD data only

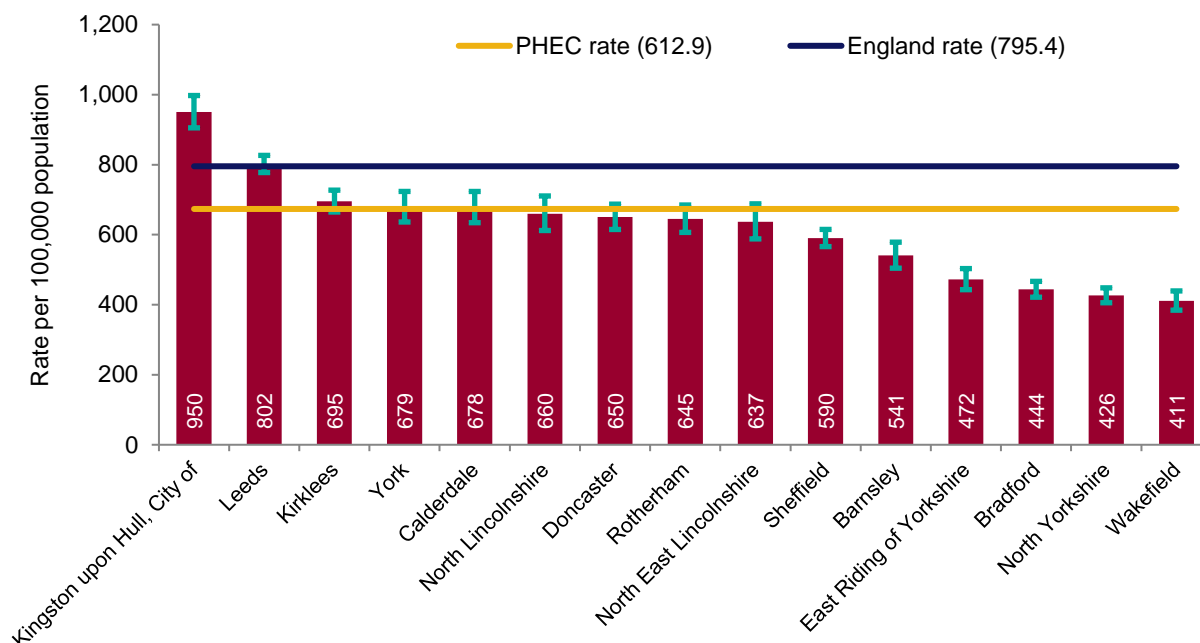
Diagnoses	2016	% change 2012-2016	% change 2015-2016
New STIs	2,219	75%	8%
Syphilis	257	147%	90%
Gonorrhoea	757	184%	-4%
Chlamydia	542	47%	10%
Genital Herpes	69	64%	3%
Genital Warts	223	45%	1%

Please see notes for Figure 7.

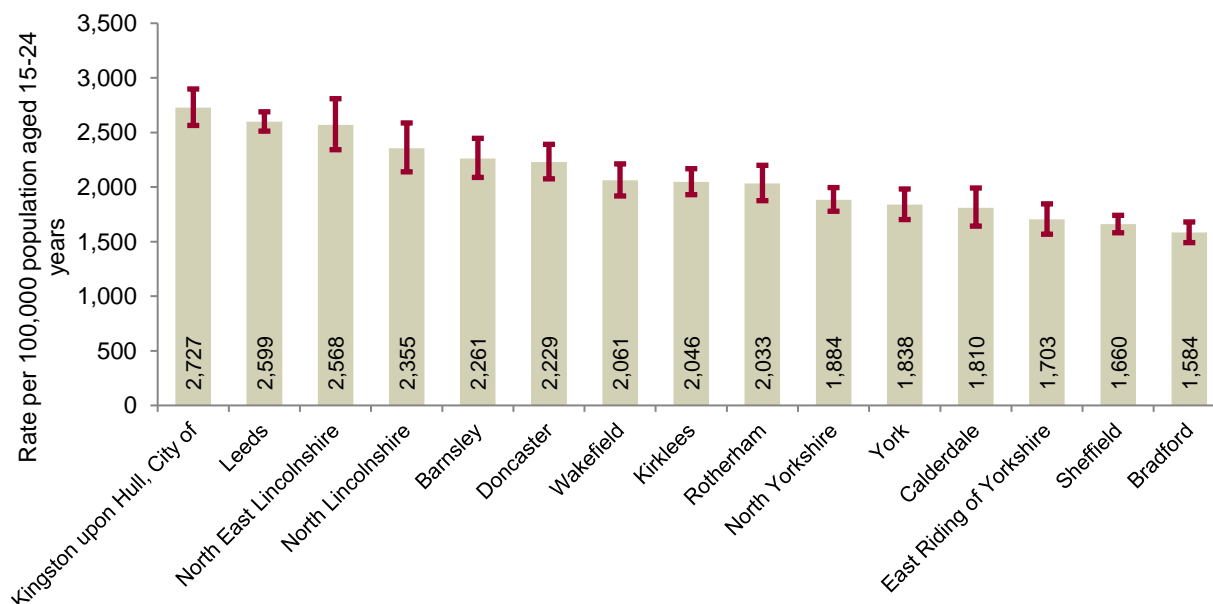
**Figure 8a: Rate of new STI diagnoses per 100,000 population among Yorkshire and Humber residents by upper tier local authority of residence: 2016.** Data sources: GUMCAD, CTAD



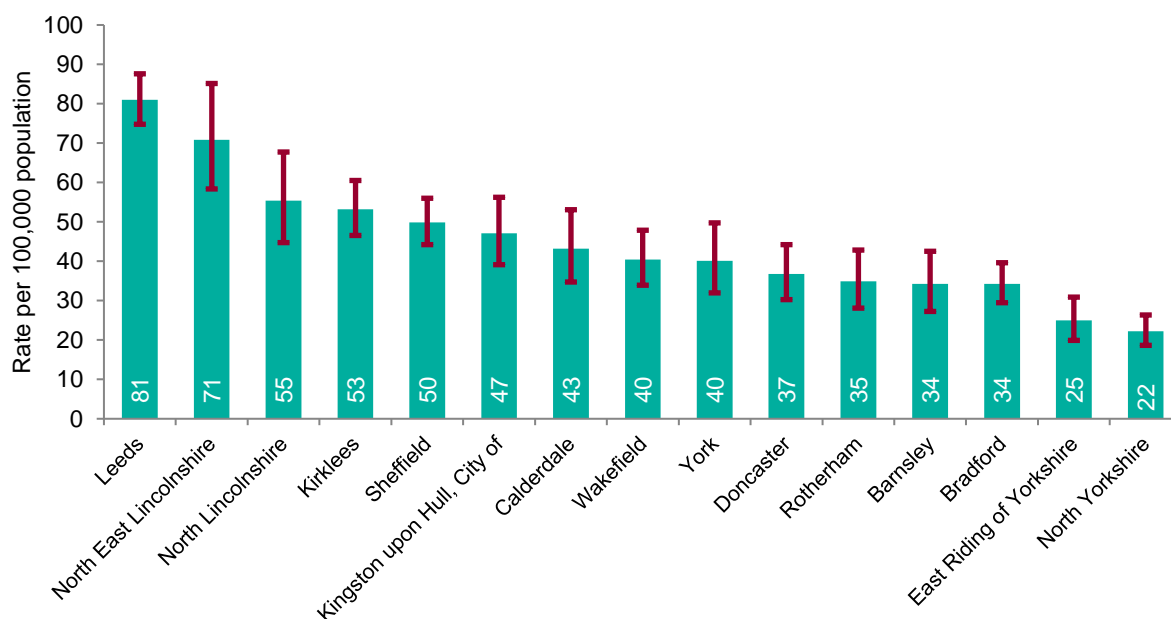
**Figure 8b: Rate of new STI diagnoses (excluding chlamydia diagnoses in persons aged 15-24 years) per 100,000 population aged 15-64 years among Yorkshire and Humber residents by upper tier local authority of residence: 2016.** Data sources: GUMCAD, CTAD



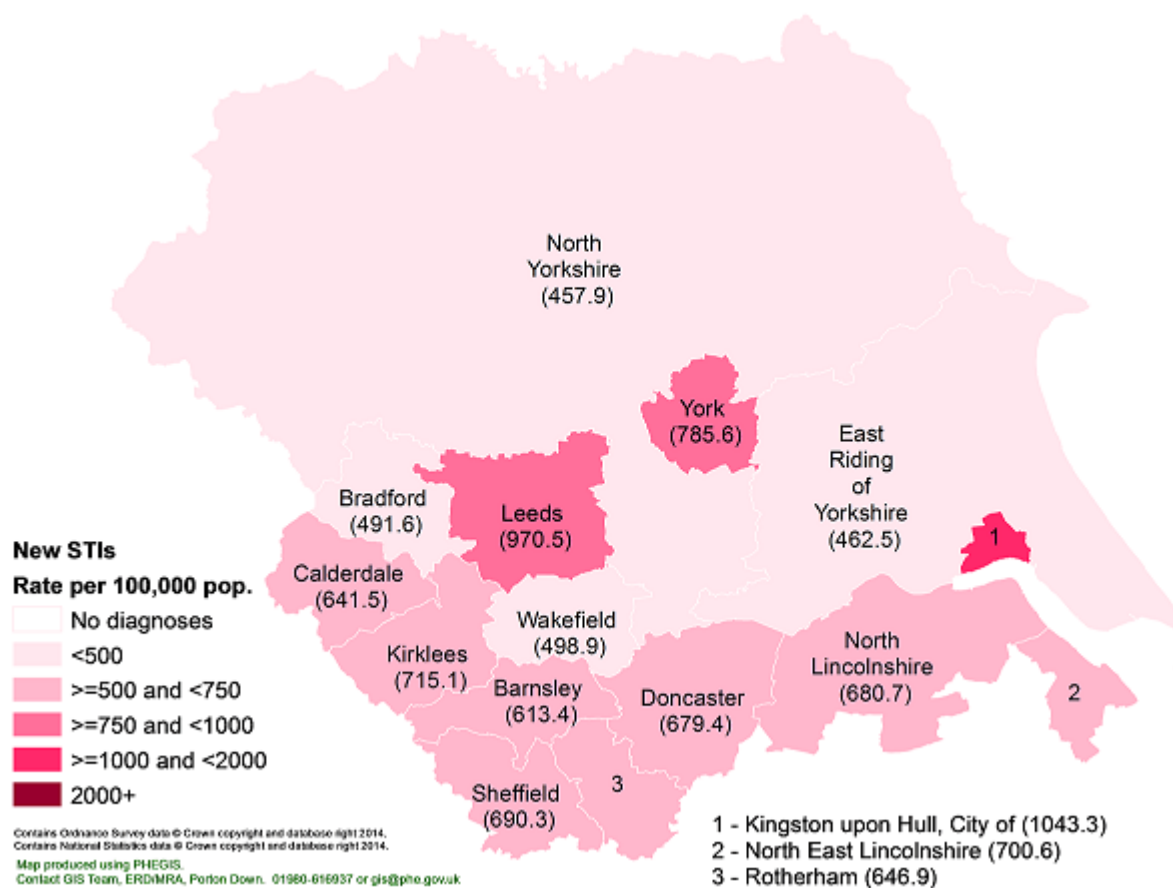
**Figure 9: Chlamydia detection rate per 100,000 population aged 15-24 years in Yorkshire and Humber residents by upper tier local authority of residence: 2016.** Data sources: GUMCAD, CTAD



**Figure 10: Rate of gonorrhoea diagnoses per 100,000 population in Yorkshire and Humber residents by upper tier local authority of residence: 2016.** Data source: GUMCAD



**Figure 11: Map of new STI rates per 100,000 residents by upper tier local authority in Yorkshire and Humber: 2016.** Data sources: GUMCAD, CTAD



**Table 4: Number of diagnoses of new STIs by PHEC of residence, data source and data subset: 2016** Data sources: GUMCAD, CTAD

PHEC of residence	GUMCAD		CTAD*	Total
	Specialist SHCs	Non-specialist SHCs		
East Midlands	19,559	685	7,920	28,164
East of England	25,814	350	7,009	33,173
London	97,545	2,150	17,857	117,552
North East	14,036	39	3,315	17,390
North West	36,794	717	16,828	54,339
South East	41,059	1,003	9,633	51,695
South West	24,257	726	8,985	33,968
West Midlands	31,124	132	6,872	38,128
Yorkshire and Humber	25,685	866	9,755	36,306

**Table 5: Number of diagnoses of the 5 main STIs in Yorkshire and Humber by STI, data source and data subset: 2016** Data sources: GUMCAD, CTAD

5 main STIs	GUMCAD		CTAD*	Total
	Specialist SHCs	Non-specialist SHCs		
Syphilis	351	12		363
Gonorrhoea	2,365	99		2,464
Chlamydia	10,964		9,755	20,719
Genital Herpes	2,394	152		2,546
Genital Warts	5,155	315		5,470

\* Including site type 12 chlamydia from GUMCAD.

## 3. Information on data sources

For more information on local sexual health data sources please access the PHE guide: [www.gov.uk/government/publications/sexual-and-reproductive-health-in-england-local-and-national-data](http://www.gov.uk/government/publications/sexual-and-reproductive-health-in-england-local-and-national-data)

### 3.1 GUMCAD surveillance system

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. The data extract used was produced in April 2017.

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 surveillance system

The CTAD surveillance system collects data on all NHS and LA/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. The data extract used was produced in February 2017.

### 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:

[http://www.erpho.org.uk/statistical\\_tools.aspx](http://www.erpho.org.uk/statistical_tools.aspx)

ONS mid-year population estimates for 2015 were used as a denominator for rates for 2016. ONS ceased producing estimates of population by ethnicity in 2011. Estimates for that year were used as a denominator for rates for 2016.

## 4. Further information

As of this year, all analyses for this report include data from non-specialist (Level 2) Sexual Health Clinics as well as specialist (Level 3) Sexual Health Clinics.

Please access the online 'Sexual and Reproductive Health Profiles' for further information: <http://fingertips.phe.org.uk/profile/sexualhealth>

For more information on local sexual health data sources please access the PHE guide: [www.gov.uk/government/publications/sexual-and-reproductive-health-in-england-local-and-national-data](http://www.gov.uk/government/publications/sexual-and-reproductive-health-in-england-local-and-national-data)

Local authorities have access to LA sexual health epidemiology reports (LASERs) and the HIV and STI portal. They should contact: [yhfes@phe.gov.uk](mailto:yhfes@phe.gov.uk) if they do not have access to this information.

Please contact: [yhfes@phe.gov.uk](mailto:yhfes@phe.gov.uk) for an Annual Epidemiological Report on HIV in Yorkshire and Humber: 2015 data.

## 5. About Field Epidemiology Services

The Field Epidemiology Service (FES) supports Public Health England Centres and partner organisations through the application of epidemiological methods to inform public health action.

FES does this in 2 main ways. Firstly, by providing a flexible expert resource, available as and when needed, to undertake epidemiological investigations for key health protection work. Secondly, through the expert analysis, interpretation and dissemination of surveillance information to PHE Centres, local health partners, service providers and commissioners of services.

Within the FES network, excellence and innovation is encouraged. We foster academic collaborations and take active part and lead in research, development and training.

You can contact your local FES team at: [yhfes@phe.gov.uk](mailto:yhfes@phe.gov.uk)

If you have any comments or feedback regarding this report or the FES service, please contact: [yhfes@phe.gov.uk](mailto:yhfes@phe.gov.uk)

## 6. Acknowledgements

We would like to thank the following:

- local Sexual Health Clinics for supplying data
- local laboratories for supplying the CTAD data
- PHE Centre for Infectious Disease Surveillance and Control (CIDSC) HIV and STI surveillance teams for collection, analysis and distribution of data