



Public Health
England

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Spotlight on sexually transmitted infections in the North West 2017 data

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Contents

1. Summary	4
2. Charts, tables and maps	9
3. Information on data sources	19
4. Further information	21
5. About Field Services	22
6. Acknowledgements	23

1. Summary

Sexually transmitted infections (STIs) represent an important public health problem in the North West. Out of all the Public Health England centres it has the second highest rate of new STIs in England.

More than 52,700 new STIs were diagnosed in North West residents in 2017, representing a rate of 730 diagnoses per 100,000 population. Rates by upper tier local authority ranged from 432 new STI diagnoses per 100,000 population in Cumbria to 1,305 new STI diagnoses per 100,000 population in Manchester.

The number of new STIs diagnosed in North West residents fell by 4% between 2016 and 2017. Falls were seen in the numbers of most of the 5 major STIs: chlamydia decreased by 5%, genital herpes by 7% and genital warts by 9%. Syphilis increased by 31% and gonorrhoea by 28%.

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. This is an indicator in the Public Health Outcomes Framework. In 2017 the chlamydia diagnosis rate among North West residents aged 15 to 24 years was 2,120 per 100,000 residents.

Men and women have similar rates of new STIs (717 and 731 per 100,000 residents respectively).

Where gender and sexual orientation are known, men who have sex with men (MSM) account for 15% of North West residents diagnosed with a new STI a specialist sexual health service (SHS)¹ (79% of those diagnosed with syphilis and 42% of those diagnosed with gonorrhoea).

STIs disproportionately affect young people. North West residents aged between 15 and 24 years accounted for 56% of all new STI diagnoses in 2017.

The white ethnic group has the highest number of new STI diagnoses: over 34,800 (89%). Although only 1% of new STIs are in black Caribbeans, they have the highest rate: 1,941 per 100,000, which is 4 times the rate seen in the white ethnic group. Where country of birth was known, 89% of North West residents diagnosed in a specialist SHS in 2017 with a new STI were UK-born.

¹ Sexual health services (SHSs) include both specialist (level 3) and non-specialist (level 1 & 2) SHSs. Specialist SHSs refers to genitourinary medicine (GUM) and integrated GUM/sexual and reproductive health (SRH) services. Non-specialist SHSs refers to SRH services, young people's services, online sexual health services, termination of pregnancy services, pharmacies, outreach and general practice, and other community-based settings.

Implications for prevention

The impact of STIs remains greatest in young heterosexuals aged 15 to 24 years, black ethnic minorities and MSM.² Public Health England (PHE) is conducting and managing a number of initiatives to address this inequality.

Access to high quality information is essential for good sexual health and PHE has funded an online resource³ and a telephone helpline⁴ to provide advice on contraception, pregnancy and STIs.

The high rates of STIs among young people are likely to be due to greater rates of partner change.⁵ 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.^{6,7,8} PHE recently launched a health promotion campaign to promote condom use and positive sexual relationships among 16 to 24 year olds.⁹ The vast majority of areas in England have condom schemes which distribute condoms to young people (mostly under 20 years of age) through a variety of outlets with an estimated coverage of 6% in under 20 year olds.¹⁰

There has been a long term decline in the chlamydia detection rate among 15 to 24 year olds and notable variations by geographic area, often reflecting rates of testing. Given the large drops in testing nationally, and the high positivity of women within sexual and reproductive health services, it is likely that some infected women are going undiagnosed.

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 SHSs 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

² Sexually transmitted infections and screening for chlamydia in England, 2017. Public Health England
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/713944/hpr2018_AA-STIs_v5.pdf

³ <https://sexwise.fpa.org.uk/>

⁴ <https://sexwise.fpa.org.uk/where-to-get-help/helplines>

⁵ Mercer CH et al. Changes in sexual attitudes and lifestyles in Britain through the life course and over time: findings from the National Surveys of Sexual Attitudes and Lifestyles (Natsal). *The Lancet* 2013; 382(9907):1781- 94.

⁶ Macdowall W et al. Associations between source of information about sex and sexual health outcomes in Britain: findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3). *BMJ Open* 2015; 5(3): e007837. DOI: 10.1136/bmjopen-2015-007837. PubMed PMID: PMC4360826.

⁷ Sex Education Forum. SRE - the evidence: <http://www.sexeducationforum.org.uk/media/28306/SRE-the-evidence-March-2015.pdf>. Accessed 31 May 2018.

⁸ Department for Education. Policy paper: Relationships education, RSE and PSHE: <https://www.gov.uk/government/publications/relationships-education-rse-and-pshe>.

⁹ <https://www.nhs.uk/protect-against-stis-use-a-condom/home>

¹⁰ Ratna N, A N, Hadley A, Brigstock-Barron O. Condom Distribution Schemes in England 2015/16: <https://www.gov.uk/government/publications/condom-distribution-schemes-in-england>.

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 (CCP) to outline comprehensive case management for an episode of chlamydia testing, diagnosis and treatment.¹¹ CCP support is delivered through facilitated workshops, the aim of which is to create action plans for how services might be improved or resources redistributed to most effectively identify infected individuals.

The increase in gonorrhoea diagnoses between 2016 and 2017 is concerning due to the ongoing circulation of high-level azithromycin resistant gonorrhoea.¹² Additionally, the first detected case of extensively drug resistant *Neisseria gonorrhoeae* with resistance to ceftriaxone and high-level resistance to azithromycin, the 2 antibiotics used as front-line dual therapy, was detected in the UK in March 2018.¹³

To detect any further importations or local circulation of similar multi-drug resistant strains, clinical laboratories should continue to refer *N. gonorrhoeae* isolates with resistance to ceftriaxone or azithromycin to the PHE Reference Bacteriology at PHE Colindale for confirmation. General Practitioners are reminded to refer all suspected cases of gonorrhoea to specialist SHSs for appropriate management.¹⁴

The continuing rise of syphilis among MSM also remains a concern. There is evidence that condomless sex associated with HIV sero-adaptive behaviours (which include selecting partners perceived to be of the same HIV sero-status) is leading to increased STI transmission.^{15,16} PHE will publish an Action Plan, with recommendations for PHE and partner organisations, to address the continued increase in syphilis diagnoses in England.

Nationally, the rate of acute bacterial STIs in HIV-positive MSM is up to 4 times that of MSM who were HIV-negative or of unknown HIV status.¹⁷ This suggests that rapid STI transmission is occurring in dense sexual networks of HIV-positive MSM. Sero-adaptive

¹¹ Public Health England. NCSP: chlamydia care pathway: <https://www.gov.uk/government/publications/ncsp-chlamydia-care-pathway>.

¹² Fifer H et al. Failure of Dual Antimicrobial Therapy in Treatment of Gonorrhoea. *New England Journal of Medicine* 2016; 374(25): 2504-6. DOI: 10.1056/NEJMc1512757. PubMed PMID: 27332921

¹³ Public Health England. Multi-drug resistant gonorrhoea in England: 2018: <https://www.gov.uk/government/publications/multi-drug-resistant-gonorrhoea-in-england-2018>.

¹⁴ Royal College of General Practitioners (Sex; Drugs; HIV and Viral Hepatitis Group), British Association for Sexual Health and HIV. Sexually Transmitted Infections in Primary Care 2013 (RCGP/BASHH). Lazaro N: <http://www.rcgp.org.uk/clinical-and-research/resources/a-to-z/clinical-resources/sexually-transmitted-infections-in-primary-care.aspx>

¹⁵ Aghaizu A et al. Sexual behaviours, HIV testing, and the proportion of men at risk of transmitting and acquiring HIV in London, UK, 2000–13: a serial cross-sectional study. *The Lancet HIV*. 2016; 3(9): e431-e40. DOI: [http://dx.doi.org/10.1016/S2352-3018\(16\)30037-6](http://dx.doi.org/10.1016/S2352-3018(16)30037-6)

¹⁶ Daskalopoulou M et al. Condomless sex in HIV-diagnosed men who have sex with men in the UK: prevalence, correlates, and implications for HIV transmission. *Sexually Transmitted Infections* 2017. DOI: 10.1136/sextrans-2016-053029.

¹⁷ Malek R et al. Contribution of transmission in HIV-positive men who have sex with men to evolving epidemics of sexually transmitted infections in England: an analysis using multiple data sources, 2009-2013.

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 national figures indicated that 13% of MSM who are infected with HIV are unaware of their infection.¹⁸

As MSM continue to experience high rates of STIs they remain a priority for targeted STI prevention and health promotion work. HIV Prevention England¹⁹ 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 ran from June 2016 to the end of March 2018 in 42 specialist SHSs and HIV clinics across England.²⁰

The experience of this pilot supported the decision to proceed to a phased national rollout of targeted HPV vaccination for MSM attending specialist SHSs and HIV clinics, from April 2018. While a national impact on genital warts in this population is not expected to be seen for some time, 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. 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.²¹ HIV Prevention England also delivers, on behalf of PHE, prevention activity targeted at black ethnic communities.

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,

¹⁸ Towards elimination of HIV transmission, AIDS and HIV-related deaths in the UK. PHE. 2017 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/675809/Towards_elimination_of_HIV_transmission_AIDS_and_HIV_related_deaths_in_the_UK.pdf

¹⁹ <http://www.hivpreventionengland.org.uk/>

²⁰ <https://www.gov.uk/government/publications/hpv-vaccination-for-men-who-have-sex-with-men-year-1-pilot>

²¹ Wayal S et al. Examining ethnic variations in sexual behaviours and sexual health markers: evidence from a British national probability sample survey. *The Lancet Public Health* 2017; 2(10): e458-e472.

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

- strengthened local and national services for the prevention, diagnosis, treatment, and care of STIs need to be delivered to the general population as well as focus on groups with greater sexual health needs, including young adults, black ethnic minorities and MSM
- local authorities need to enable young women to be tested for chlamydia when they access contraceptive services
- an informed and positive attitude to sexual health will be enhanced by statutory, high-quality relationship and sex education (RSE) in secondary schools; RSE will also equip young people with the skills to maintain their sexual health and overall wellbeing
- immunisation for human papillomavirus in young girls and MSM as well as immunisation against hepatitis A and hepatitis B in MSM will reduce the risk of infection with these viruses
- consistent and correct use of condoms can significantly reduce risk of STIs - the availability of condoms should be promoted through media campaigns as well as through local services including condom distribution schemes
- 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 an STI screen, including an HIV test, annually if having condomless sex with new or casual partners
- open-access to services that provide rapid treatment and partner notification can reduce the risk of STI complications and infection spread

2. Charts, tables and maps

Figure 1: New STI diagnoses by Public Health England centre (PHEC) of residence: England 2017. Data sources: GUMCAD, CTAD

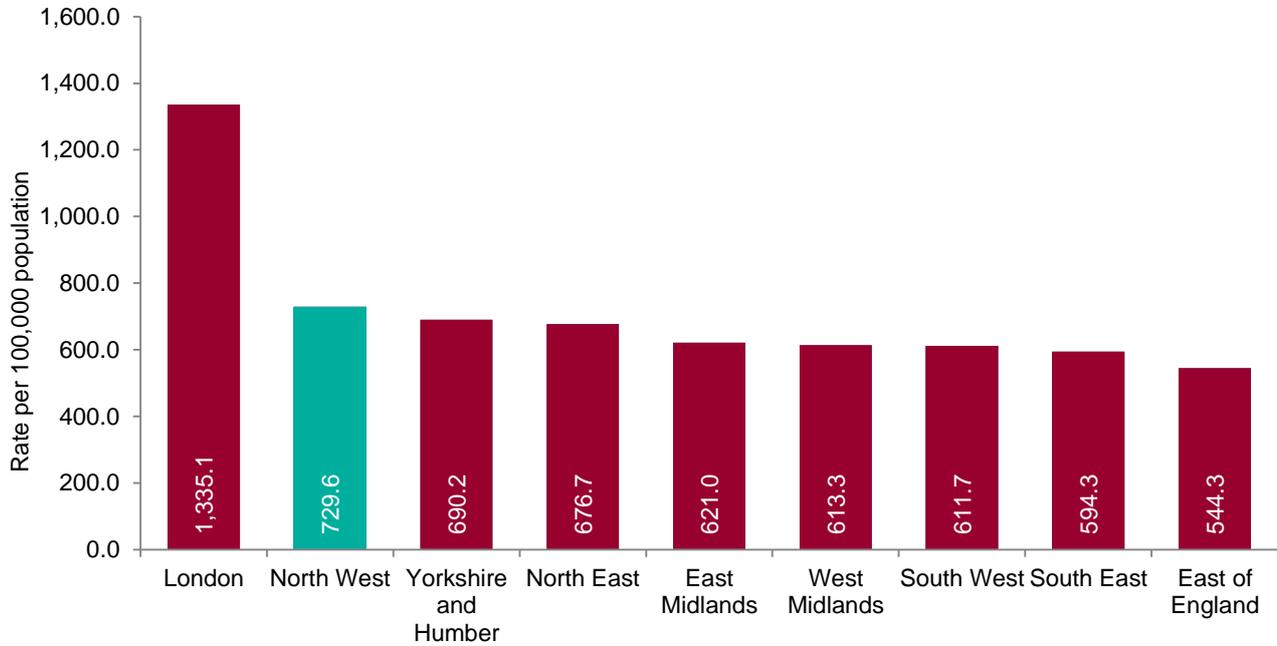
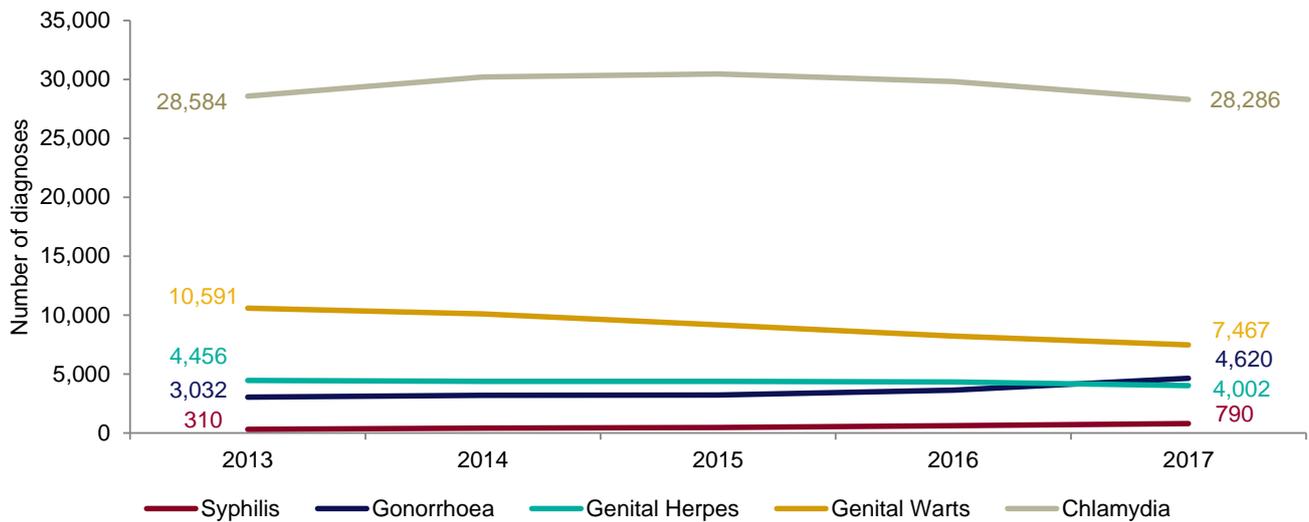


Figure 2: Number of diagnoses of the 5 main STIs: North West residents, 2013-2017. Data sources: GUMCAD, CTAD



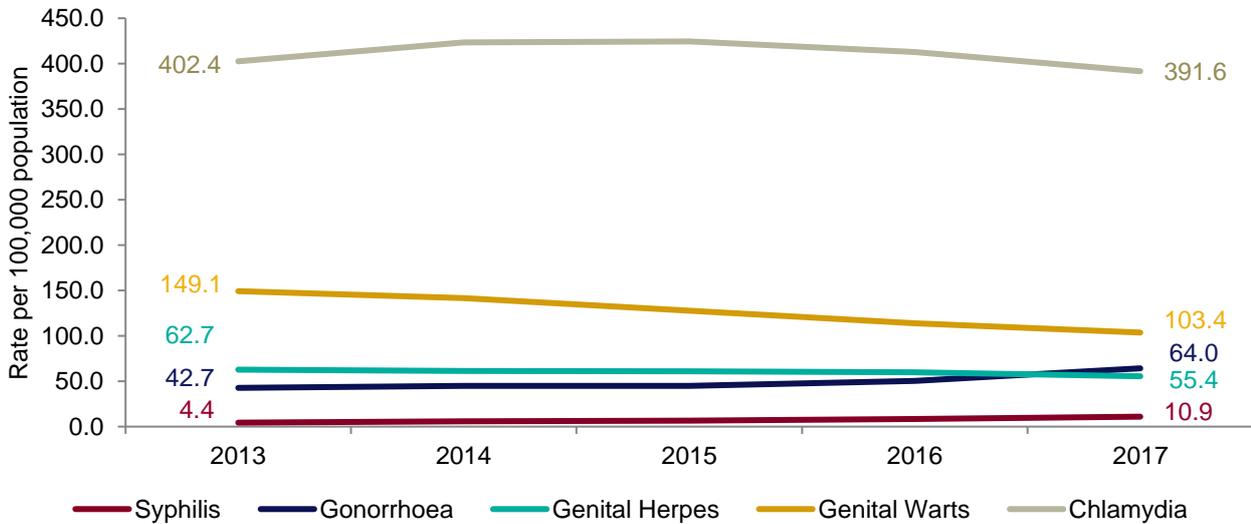
Any increase in gonorrhoea diagnoses may be due to the increased use of highly sensitive nucleic acid amplification tests (NAATs) and additional screening of extra-genital sites in MSM.

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: North West residents, 2013-2017. 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.
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 Increases or decreases may also reflect changes in testing practices.

Table 1: Percentage change in new STI diagnoses: North West residents. Data sources: GUMCAD, CTAD

Diagnoses	2017	% change 2013-2017	% change 2016-2017
New STIs	52,708	-11%	-4%
Syphilis	790	155%	31%
Gonorrhoea	4,620	52%	28%
Chlamydia	28,286	-1%	-5%
Genital Herpes	4,002	-10%	-7%
Genital Warts	7,467	-29%	-9%

Please see notes for Figure 3.

Figure 4: Rate of new STIs per 100,000 residents by age group in the North West, 2017.
Data sources: GUMCAD, CTAD

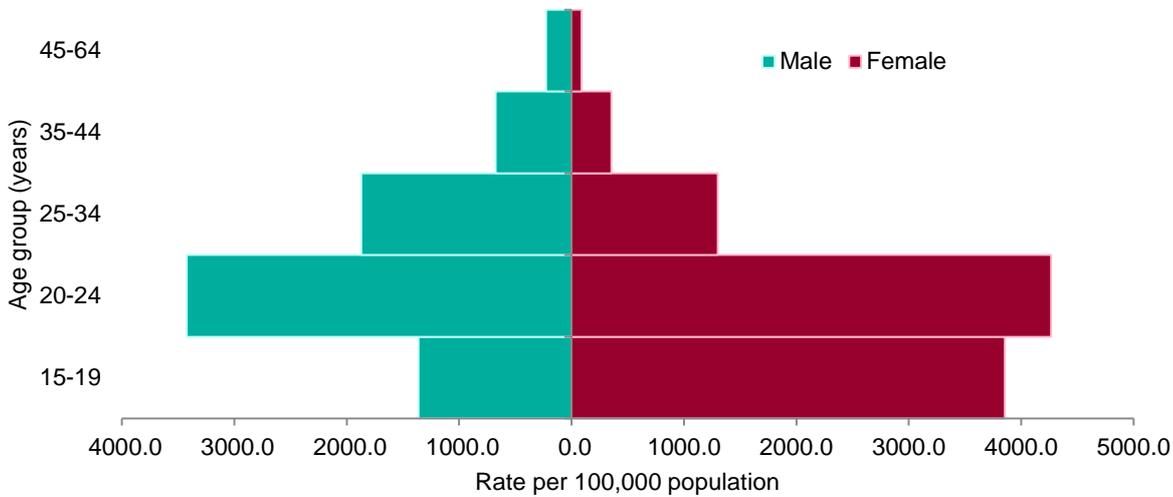


Figure 5: Rates by ethnicity per 100,000 population of North West residents diagnosed with a new STI: 2017. Data sources: GUMCAD, CTAD

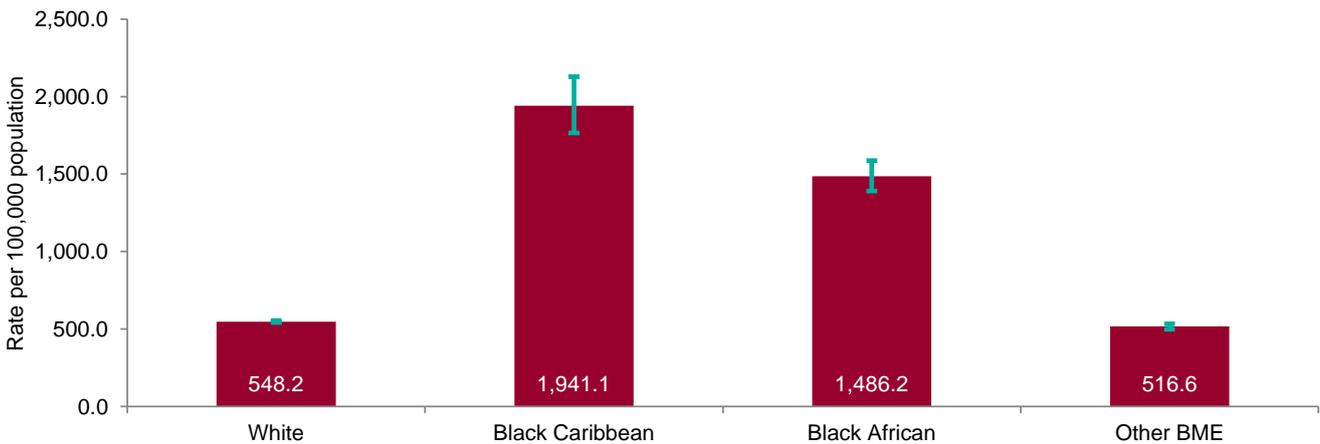


Table 2: Proportion of North West residents diagnosed with a new STI by ethnicity: 2017
Data sources: GUMCAD, CTAD

Ethnic group	Number	Percentage excluding unknown
White	34,878	89%
Black Caribbean	449	1%
Black African	881	2%
Other BME	3,141	8%
Unknown	13,359	

Figure 6: Proportions of North West residents diagnosed with a new STI in specialist SHSs by world region of birth: 2017. Data sources: GUMCAD data only

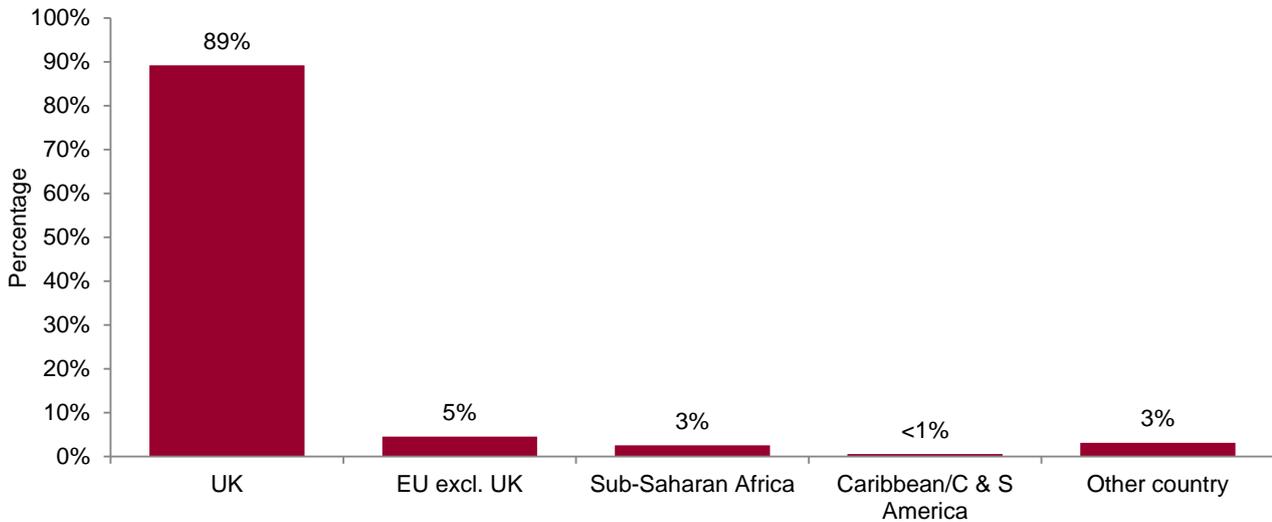
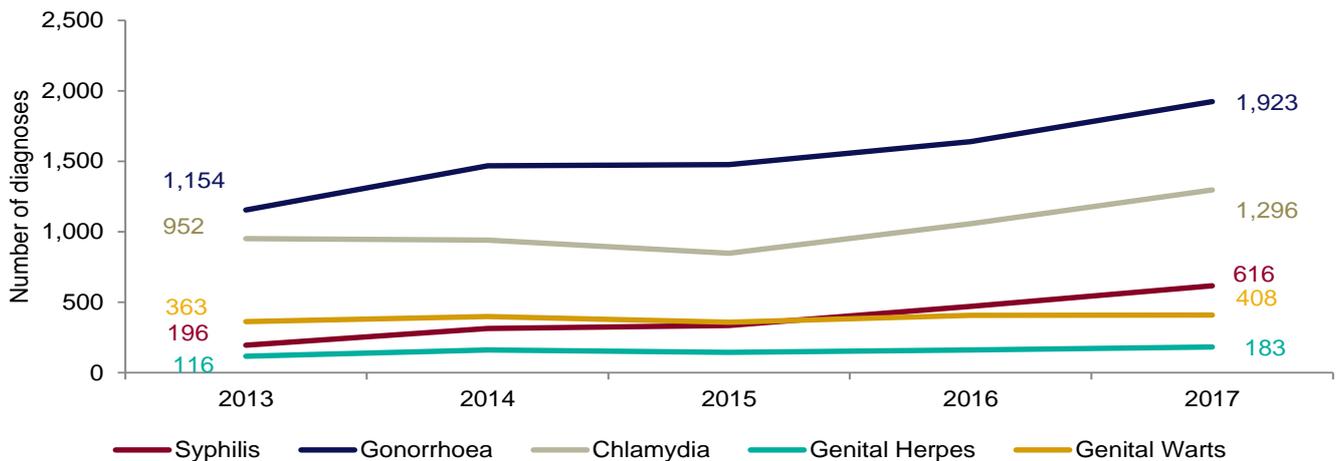


Figure 7: Diagnoses of the 5 main STIs among MSM in specialist SHSs: North West residents, 2013-2017. Data source: GUMCAD data only



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 SHSs: North West residents. Data sources: GUMCAD data only

Diagnoses	2017	% change 2013-2017	% change 2016-2017
New STIs	5,481	45%	16%
Syphilis	616	214%	31%
Gonorrhoea	1,923	67%	17%
Chlamydia	1,296	36%	23%
Genital Herpes	183	58%	14%
Genital Warts	408	12%	0%

Please see notes for Figure 7.

Figure 8a: Rate of new STI diagnoses per 100,000 population among North West residents by upper tier local authority of residence: 2017. Data sources: GUMCAD, CTAD

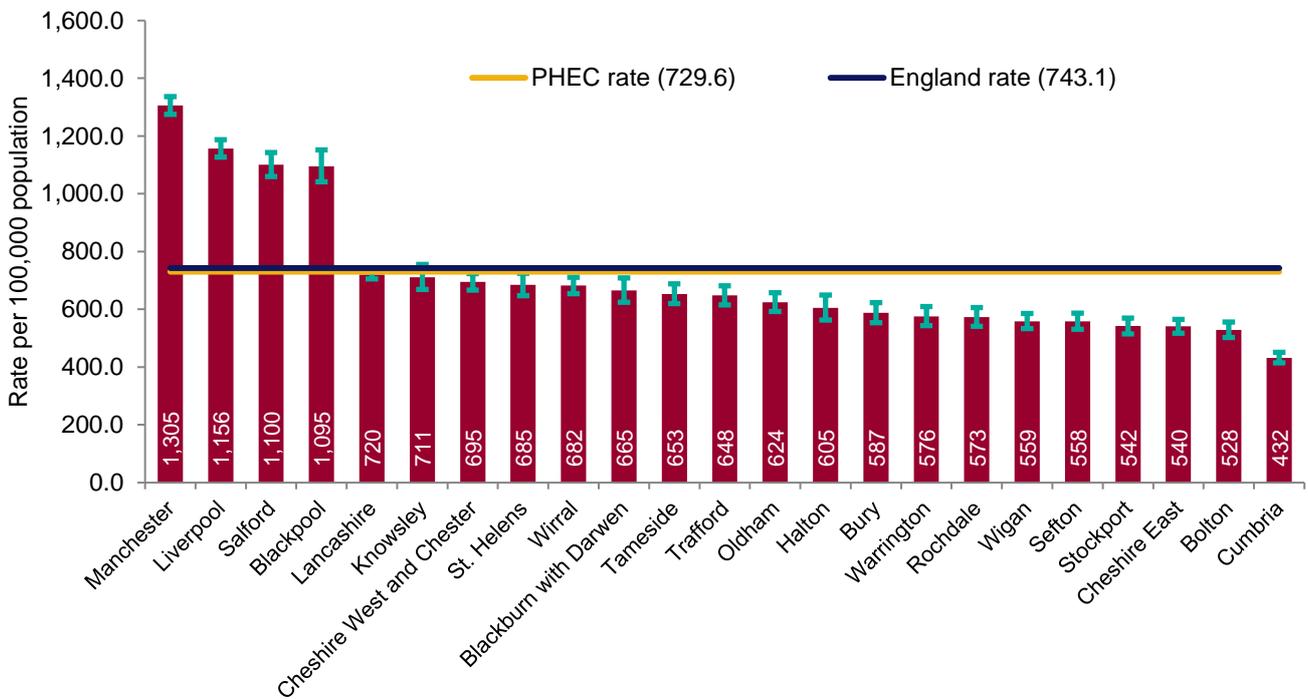


Figure 8b: Rate of new STI diagnoses (excluding chlamydia diagnoses in persons aged 15-24 years) per 100,000 population aged 15-64 years among North West residents by upper tier local authority of residence: 2017. Data sources: GUMCAD, CTAD

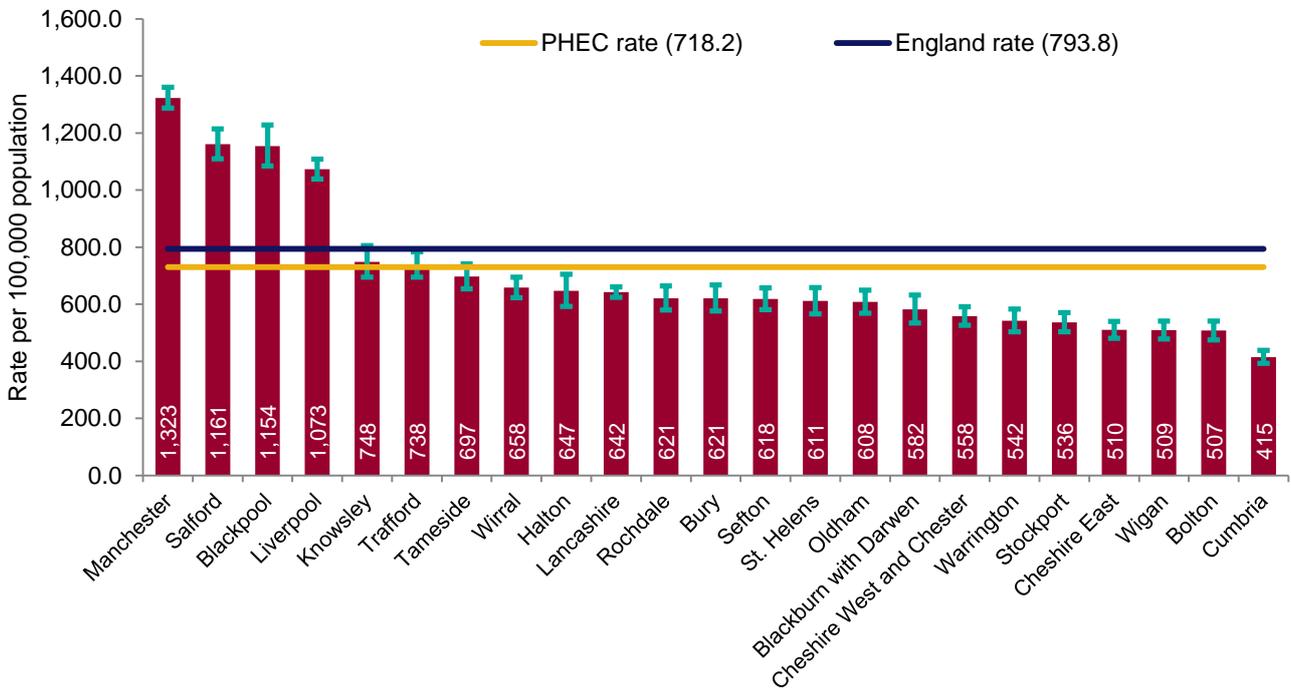


Figure 9: Chlamydia detection rate per 100,000 population aged 15-24 years in North West residents by upper tier local authority of residence: 2017. Data sources: GUMCAD, CTAD

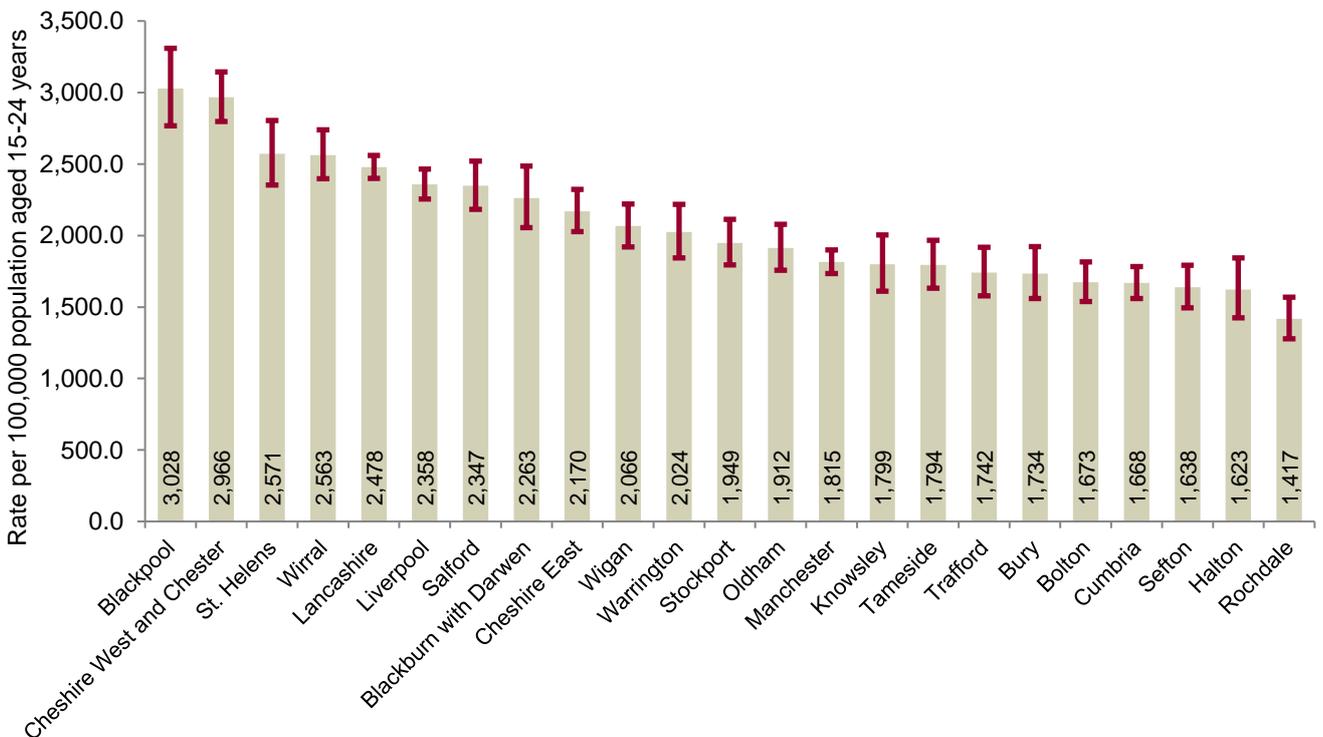


Figure 10: Rate of gonorrhoea diagnoses per 100,000 population in North West residents by upper tier local authority of residence: 2017. Data source: GUMCAD

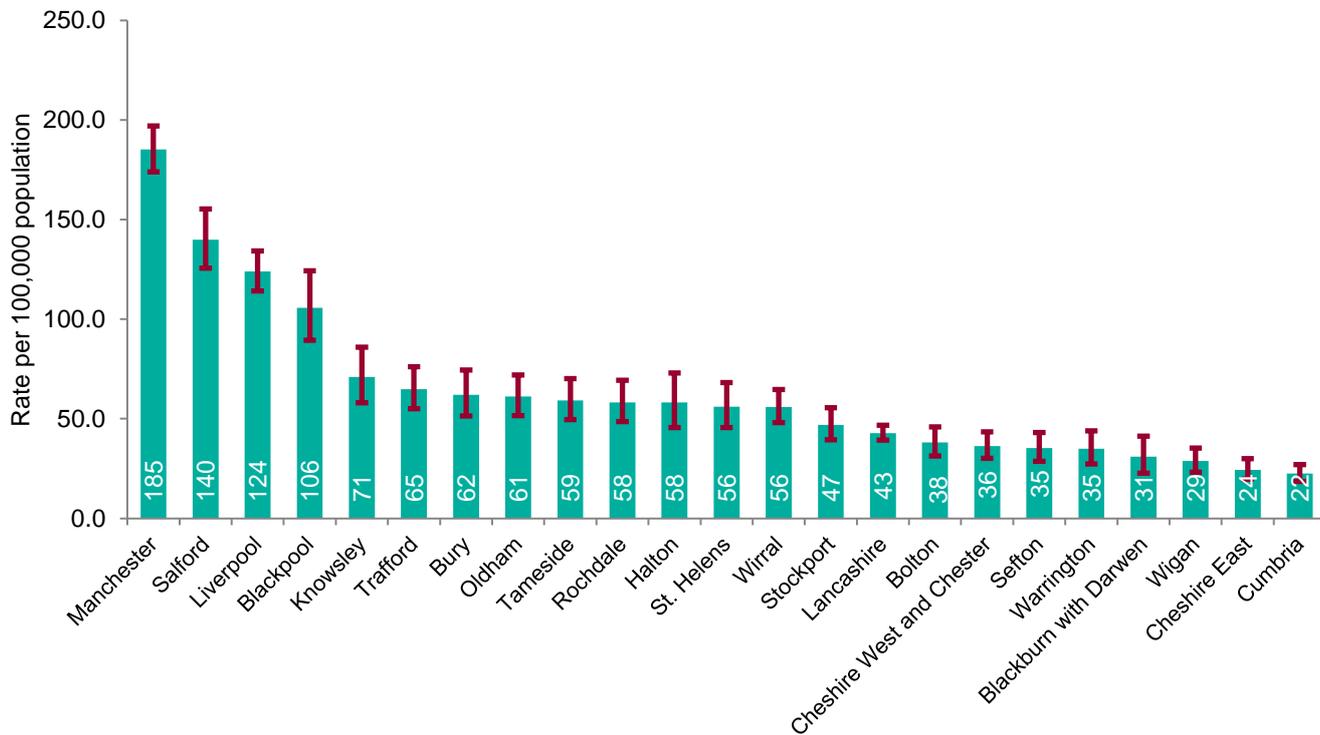


Figure 11: Map of new STI rates per 100,000 residents by upper tier local authority in the North West: 2017. Data sources: GUMCAD, CTAD

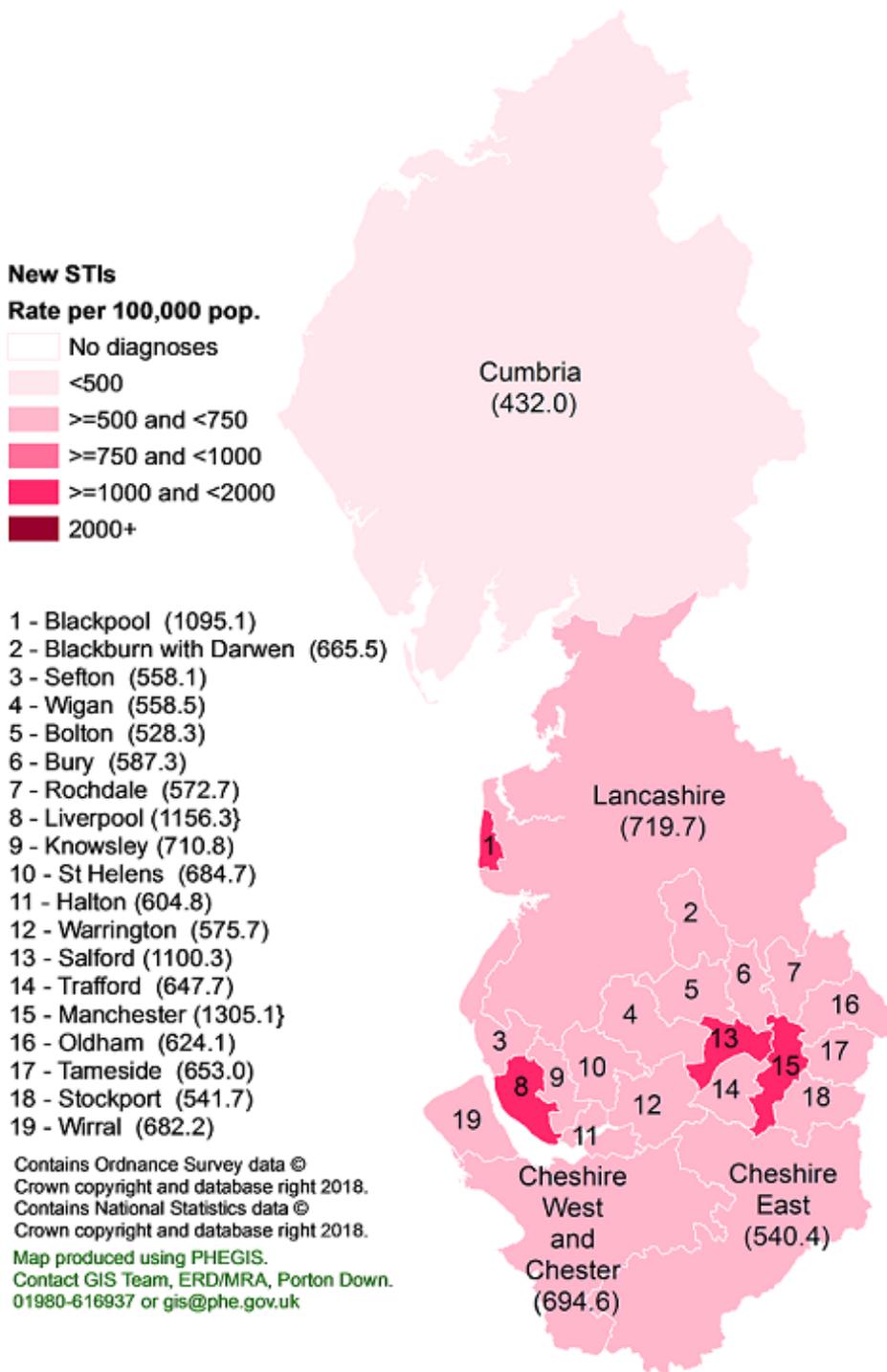


Figure 12: STI testing rate (excluding chlamydia in under 25 year olds) per 100,000 population in North West residents aged 15 to 64: 2013-2017 Data sources: GUMCAD, CTAD



Figure 13: STI testing positivity rate (excluding chlamydia in under 25 year olds) in North West residents: 2013-2017 Data sources: GUMCAD, CTAD

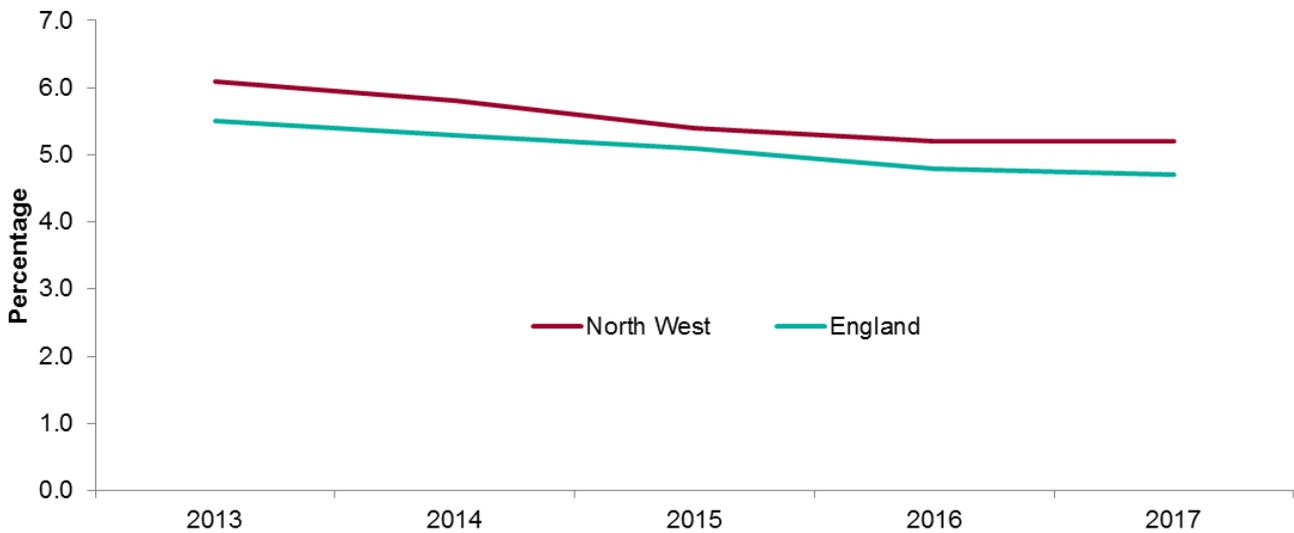


Table 4: Number of diagnoses of new STIs by PHEC of residence, data source and data subset: 2017 Data sources: GUMCAD, CTAD

PHEC of residence	GUMCAD			CTAD**	Total
	Specialist SHSs	Non-specialist SHSs	Enhanced GP*		
East Midlands	21,276	859		7,209	29,344
East of England	27,179	320		7,313	34,812
London	98,585	3,232		15,269	117,086
North East	14,026	19	1	3,796	17,842
North West	37,166	978	33	14,531	52,708
South East	43,135	833		8,114	52,082
South West	24,568	262		8,917	33,747
West Midlands	29,655	92		5,888	35,635
Yorkshire and Humber	27,405	232		9,810	37,447

* This does not represent the total number of new STI diagnoses from enhanced GPs reporting to GUMCAD. The small number of diagnoses included here reflects poor data quality on the residence of cases.

** Including site type 12 chlamydia from GUMCAD.

Table 5: Number of diagnoses of the 5 main STIs in the North West by STI, data source and data subset: 2017 Data sources: GUMCAD, CTAD

5 main STIs	GUMCAD			CTAD**	Total
	Specialist SHSs	Non-specialist SHSs	Enhanced GP*		
Syphilis	785	5			790
Gonorrhoea	4,394	225	1		4,620
Chlamydia	13,755			14,531	28,286
Genital Herpes	3,767	226	9		4,002
Genital Warts	7,049	415	3		7,467

* This does not represent the total number of new STI diagnoses from enhanced GPs reporting to GUMCAD. The small number of diagnoses included here reflects poor data quality on the residence of cases.

** 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

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. The data extract used was produced in April 2018.

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 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 April 2018.

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:

fingertips.phe.org.uk/profile/guidance

Tool for calculating common public health statistics and their confidence interval

ONS mid-year population estimates for 2016 were used as a denominator for rates for 2017. ONS ceased producing estimates of population by ethnicity in 2011. Estimates for that year were used as a denominator for rates for 2017.

4. Further information

Please access the online 'Sexual and Reproductive Health Profiles' for further information: 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

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

North West STI Spotlights are available at: www.gov.uk/government/publications/sexually-transmitted-infections-north-west-data

North West HIV Spotlights are also available at: www.gov.uk/government/publications/hiv-north-west-annual-data-spotlight

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5. About the Field Service

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

FS 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 FS epidemiology 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 FS team at: FES.NorthWest@phe.gov.uk

If you have any comments or feedback regarding this report or the Field Service, please contact: FES.NorthWest@phe.gov.uk

6. Acknowledgements

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- local SHSs for supplying the SHS data
- local laboratories for supplying the CTAD data
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