



Public Health  
England

Protecting and improving the nation's health

# **Spotlight on sexually transmitted infections in the North West**

2018 data

# About Public Health England

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# 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 55,300 new STIs were diagnosed in North West residents in 2018, representing a rate of 763 diagnoses per 100,000 population. Rates by upper tier local authority ranged from 493 new STI diagnoses per 100,000 population in Cheshire East to 1,402 new STI diagnoses per 100,000 population in Manchester. The rate for Manchester was the 17<sup>th</sup> highest in England.

The number of new STIs diagnosed in North West residents rose by 5% between 2017 and 2018. Rises were seen in the numbers of most of the 5 major STIs: syphilis increased by 10%, gonorrhoea by 28%, chlamydia by 2% and genital herpes by 6%. Genital warts decreased by 2%. The rise in gonorrhoea diagnoses has occurred across all age groups and in both males and females.

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 and this is an indicator in the Public Health Outcomes Framework. In 2018 the chlamydia diagnosis rate among North West residents aged 15 to 24 years was 2,148 per 100,000 residents.

Men and women have similar rates of new STIs (771 and 747 per 100,000 residents respectively).

Where gender and sexual orientation are known, men who have sex with men (MSM) account for 16% of North West residents diagnosed with a new STI in a specialist sexual health service (SHS) (73% of those diagnosed with syphilis and 41% of those diagnosed with gonorrhoea).

STIs disproportionately affect young people. North West residents aged between 15 and 24 years accounted for 54% of all new STI diagnoses in 2018. A steep decline (64% decrease in females, 52% in males) has been seen between 2014 and 2018 in genital warts diagnosis rates in females aged 15-19. This follows the introduction in 2008 of vaccination against Human papillomavirus (HPV), the virus which causes genital warts, for 12 and 13 year old females.

The white ethnic group has the highest number of new STI diagnoses: over 37,400 (88%). Although only 1% of new STIs are in black Caribbeans, they have the highest rate: 2,231 per 100,000, which is 4 times the rate seen in the white ethnic group. Where

country of birth was known, 88% of North West residents diagnosed in a specialist SHS in 2018 with a new STI were UK-born.

## Implications for prevention

The impact of STIs remains greatest in young heterosexuals aged 15 to 24 years, black ethnic minorities and MSM.<sup>1</sup> 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 funds an on-line resource<sup>2</sup> and a telephone helpline<sup>3</sup> 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.<sup>4</sup> The rates of new STIs in people aged 15 to 24 are higher in females, largely due to the inclusion of Chlamydia diagnoses from the screen programme. Young women of this age may have greater contact with sexual health services where they would be offered screening more often. 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.<sup>5,6,7</sup> PHE runs a health promotion campaign to promote condom use and positive sexual relationships among 16 to 24 year olds.<sup>8</sup> 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.<sup>9</sup>

The NCSP promotes testing for chlamydia, the most commonly diagnosed bacterial STI, in sexually active young people annually or on change of partner. There are notable variations in the chlamydia detection rate among 15 to 24 year olds, often reflecting rates of testing. The high positivity rates in all testing service types suggest that continued easy access to chlamydia screening is crucial. The increase in numbers testing through eSexual Health Services (eSHSs, also known as internet, online or eServices) nationally shows that these services are acceptable to young people and

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<sup>1</sup> Sexually transmitted infections and screening for chlamydia in England, 2018. Public Health England

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/806118/hpr1919\\_stis-ncsp\\_ann18.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/806118/hpr1919_stis-ncsp_ann18.pdf)

<sup>2</sup> <https://sexwise.fpa.org.uk/>

<sup>3</sup> <https://sexwise.fpa.org.uk/where-to-get-help/helplines>

<sup>4</sup> 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.

<sup>5</sup> 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.

<sup>6</sup> Sex Education Forum. SRE - the evidence: <http://www.sexeducationforum.org.uk/media/28306/SRE-the-evidence-March-2015.pdf>. Accessed 31st May 2018.

<sup>7</sup> Department for Education. Policy paper: Relationships education, RSE and PSHE: <https://www.gov.uk/government/publications/relationships-education-rse-and-pshe>.

<sup>8</sup> <https://www.nhs.uk/protect-against-stis-use-a-condom/home>

<sup>9</sup> 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>.

effective at reaching a population with high rates of infection. To ensure chlamydia screening is delivered as effectively and efficiently as possible, PHE supports local areas through the chlamydia care pathway (CCP) workshops. These workshops provide local commissioners and providers with a comprehensive case management pathway from offer of chlamydia testing, uptake, diagnosis, treatment, to partner notification and retesting<sup>10</sup>.

The trend for increases in gonorrhoea diagnoses is concerning due to the emergence of extensively drug resistant gonorrhoea (XDR-NG) in England. In 2018, a case of infection with *Neisseria gonorrhoeae* with ceftriaxone resistance and high-level azithromycin resistance was detected in a man who had acquired the infection from Thailand<sup>11</sup>; later that year, 2 additional cases of infection with a strain of *N. gonorrhoeae* with ceftriaxone resistance and intermediate azithromycin resistance were detected in 2 women in different regions of England, both of whom had overlapping sexual networks with UK residents who had travelled to Ibiza, Spain<sup>12</sup>. PHE actively monitors, and acts on, the spread of antibiotic resistance in gonorrhoea and potential treatment failures. In response to the more recent cases of XDR-NG, PHE has introduced enhanced surveillance at sexual health services to identify and manage ceftriaxone resistant strains promptly.

The long term trend for a 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.<sup>13,14</sup> PHE has published an Action Plan<sup>15</sup>, with recommendations for PHE and partner organisations, to address the continued increase in syphilis diagnoses in England. A successful response is dependent upon action that optimises 4 prevention pillars fundamental to syphilis control and prevention:

- increase testing frequency of high-risk MSM and re-testing of syphilis cases after treatment
- deliver partner notification to BASHH standards
- maintain high antenatal screening coverage and vigilance for syphilis throughout antenatal care
- sustain targeted health promotion

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<sup>10</sup> Public Health England. NCSP: chlamydia care pathway: <https://www.gov.uk/government/publications/ncsp-chlamydia-care-pathway>.

<sup>11</sup> Eyre DW, Sanderson ND, Lord E, Regisford-Reimmer N, Chau K, Barker L, et al. (2018) Gonorrhoea treatment failure caused by a *Neisseria gonorrhoeae* strain with combined ceftriaxone and high-level azithromycin resistance, England, February 2018. *Euro Surveill.* 23(27):1800323.

<sup>12</sup> Eyre DW, Town K, Street T, Barker L, Sanderson N, Cole MJ, et al. (2019) Detection in the United Kingdom of the *Neisseria gonorrhoeae* FC428 clone, with ceftriaxone resistance and intermediate resistance to azithromycin, October to December 2018. *Euro Surveill.* 24(10):1900147.

<sup>13</sup> 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)

<sup>14</sup> 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.

<sup>15</sup> PHE. Addressing the increase in syphilis in England: PHE Action Plan. June 2019.

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/806076/Addressing\\_the\\_increase\\_in\\_syphilis\\_in\\_England\\_Action\\_Plan\\_June\\_2019.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/806076/Addressing_the_increase_in_syphilis_in_England_Action_Plan_June_2019.pdf)

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.<sup>16</sup> 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.

As MSM continue to experience high rates of STIs they remain a priority for targeted STI prevention and health promotion work. HIV Prevention England has 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 an expected outcome of the National HPV Immunisation Programme that has achieved high coverage in 12 to 13 year old females and has used a vaccine against HPV6/11 as well as HPV16/18 since 2012. Data clearly show that heterosexual males are benefiting through herd protection. The recent decision to extend the National HPV Immunisation Programme to include 12 to 13 year old males will provide direct protection in the future. In addition to the programme for adolescents, HPV vaccination for MSM <45 years of age attending specialist sexual health services (SHSs) and HIV clinics started across England in April 2018. The impact of direct (and indirect) protection against HPV gained from MSM vaccination is expected to be seen on genital warts (firstly) and HPV-related cancers in MSM in coming years.

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.<sup>17</sup> 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, 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.

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<sup>16</sup> 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.

<sup>17</sup> 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.

## PHE's key messages

Open-access to sexual health services that provide rapid treatment and partner notification can reduce the risk of STI complications and infection spread.

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.

Local authorities should ensure continued access to chlamydia screening for under 25 year olds through a range of settings including eSHSs. This should include partner notification and retesting those who are diagnosed to ensure reductions in onward transmission and subsequent harm.

An informed and positive attitude to sexual health will be enhanced by effective implementation of 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.

Vaccination for human papillomavirus in MSM and school-aged adolescents, as well as immunisation against hepatitis A and hepatitis B in MSM will reduce the risk of infection with these viruses.

PHE has published a Syphilis Action Plan, with recommendations for PHE and partner organisations, to address the continued increase in syphilis diagnoses in England.

Consistent and correct use of condoms can significantly reduce risk of STIs; the availability of condoms should be promoted by local services including through condom distribution schemes.

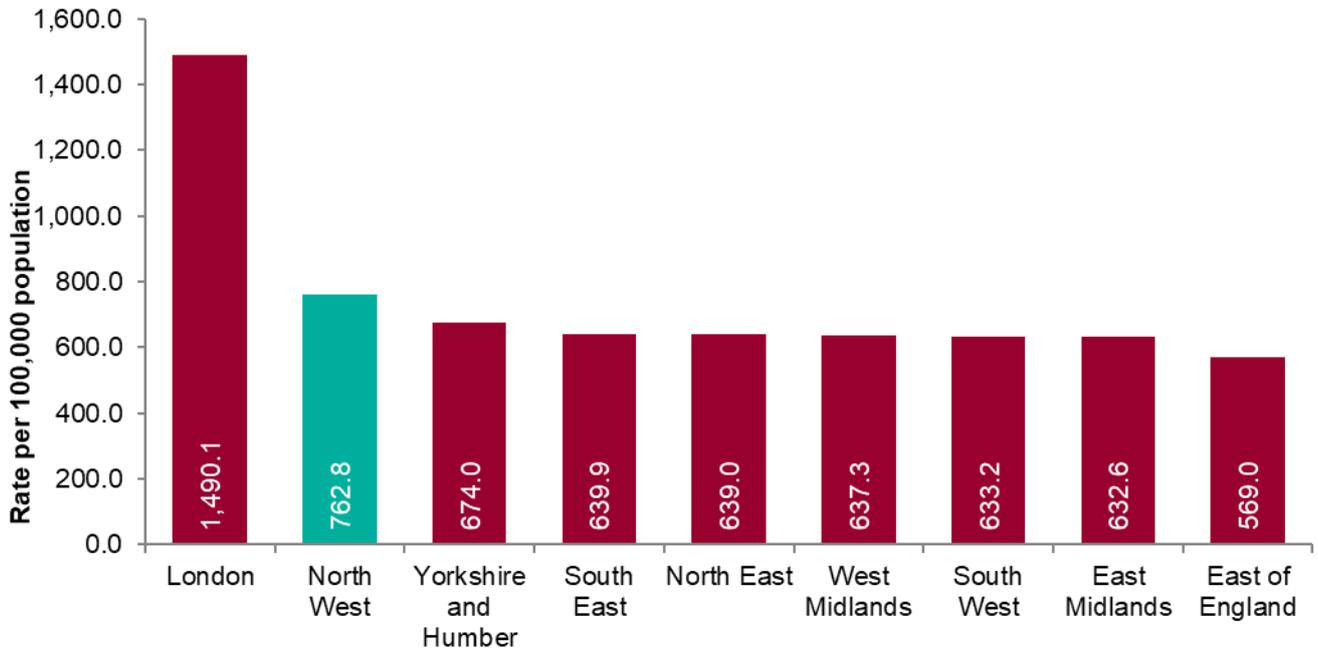
Regular testing for HIV and STIs is essential for good sexual health and everyone should have an STI screen, including an HIV test, annually if having condomless sex with new or casual partners.

In addition:

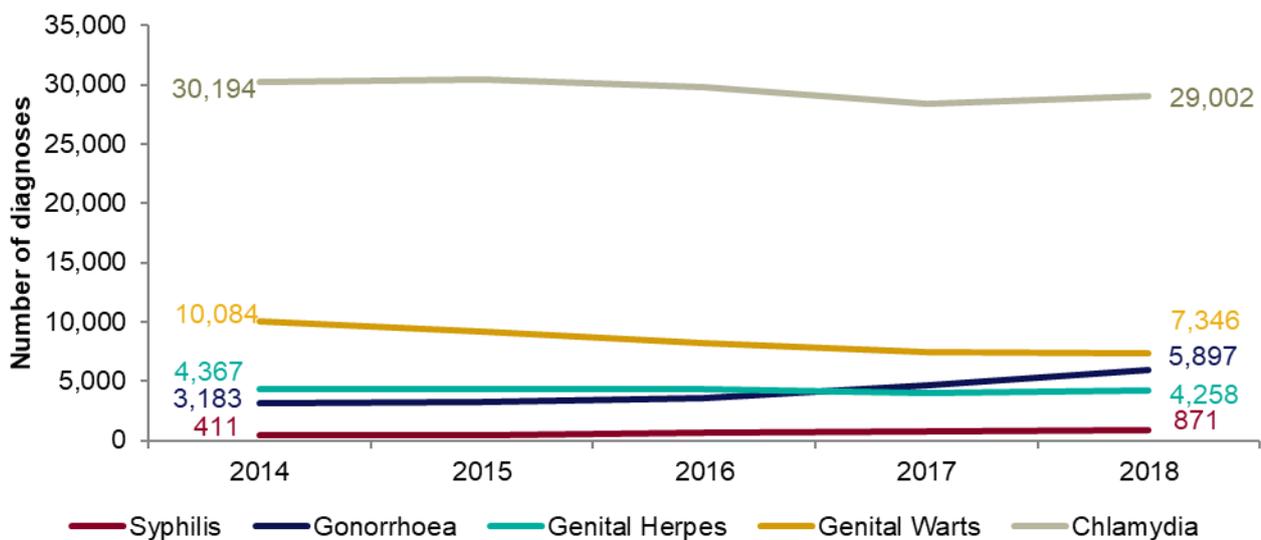
- anyone under 25 who is sexually active should be screened for chlamydia annually, and on change of sexual partner
- gay, bisexual and other men who have sex with men should test annually for HIV and STIs and every 3 months if having condomless sex with new or casual partners

## 2 Charts, tables and maps

**Figure 1: New STI diagnoses by Public Health England centre (PHEC) of residence: England 2018.** Data sources: GUMCAD, CTAD



**Figure 2: Number of diagnoses of the 5 main STIs: North West residents, 2014-2018.** Data sources: GUMCAD, CTAD



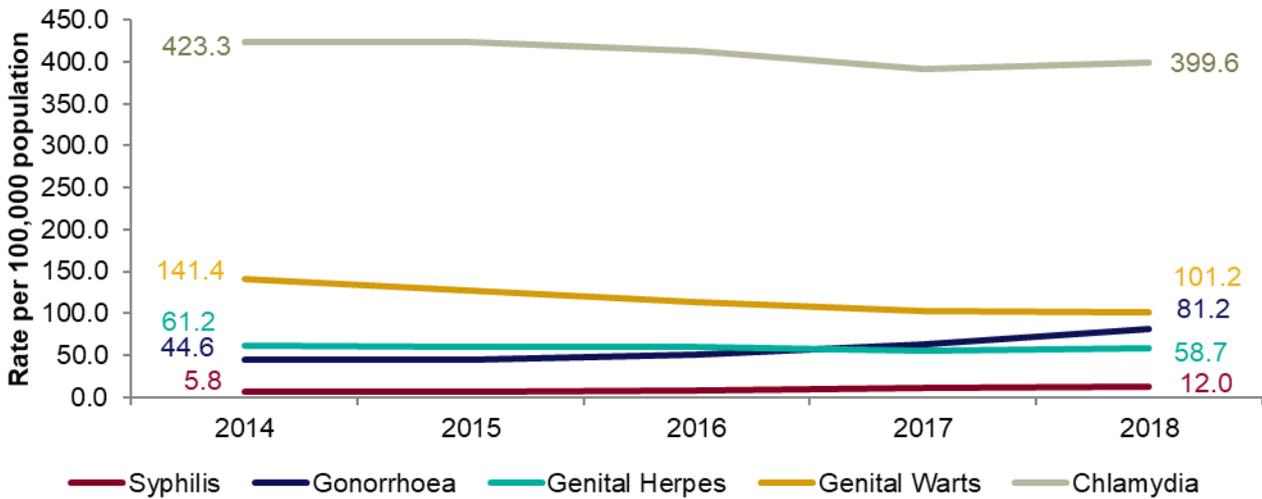
Any increase in gonorrhoea diagnoses may be due to the increased use of highly sensitive nucleic acid amplification tests (NAATs) and additional screening of extra-genital sites in MSM.

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, 2014-2018.** Data sources: GUMCAD, CTAD



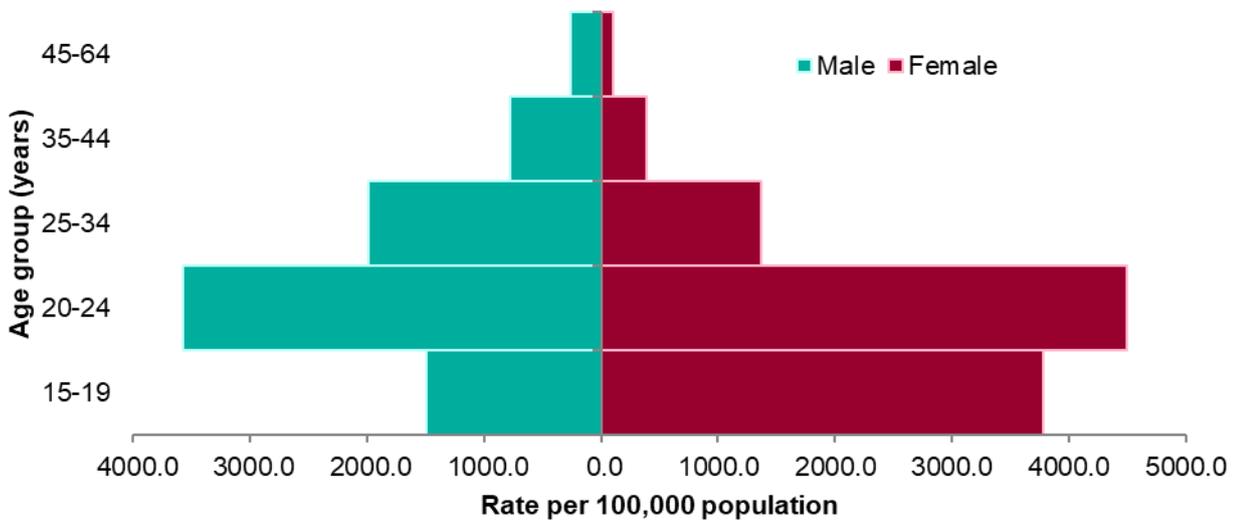
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 Any increase in genital herpes diagnoses may be due to the use of more sensitive NAATs.  
 Increases or decreases may also reflect changes in testing practices.

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

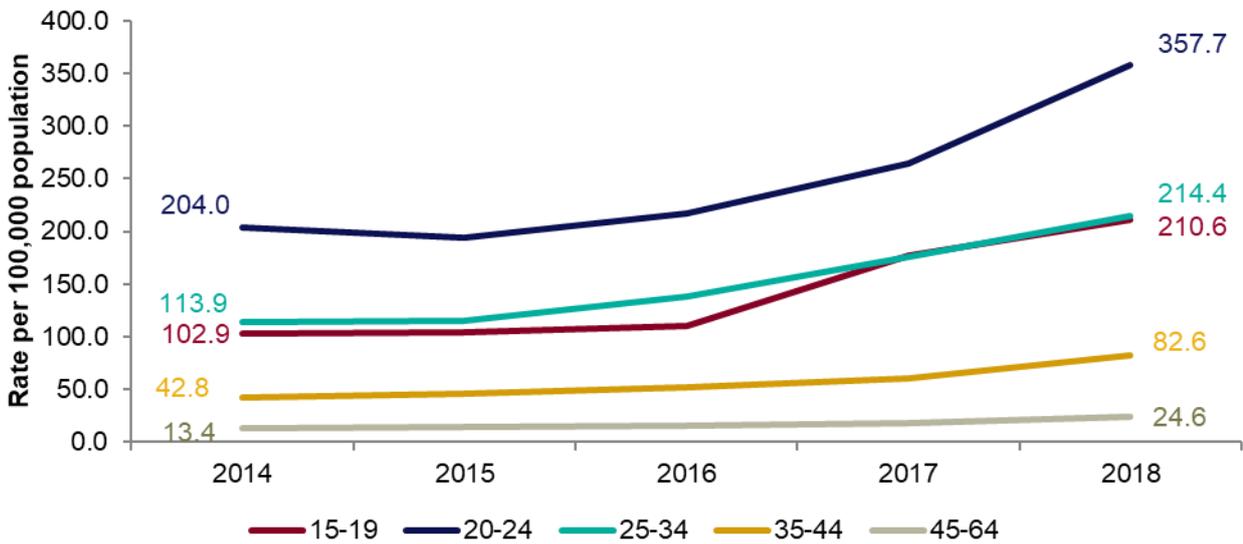
Diagnoses	2018	% change 2014-2018	% change 2017-2018
New STIs	55,369	-7%	5%
Syphilis	871	112%	10%
Gonorrhoea	5,897	85%	28%
Chlamydia	29,002	-4%	2%
Genital Herpes	4,258	-2%	6%
Genital Warts	7,346	-27%	-2%

Please see notes for Figure 3.

**Figure 4: Rate of new STIs per 100,000 residents by age group in the North West, 2018.**  
 Data sources: GUMCAD, CTAD

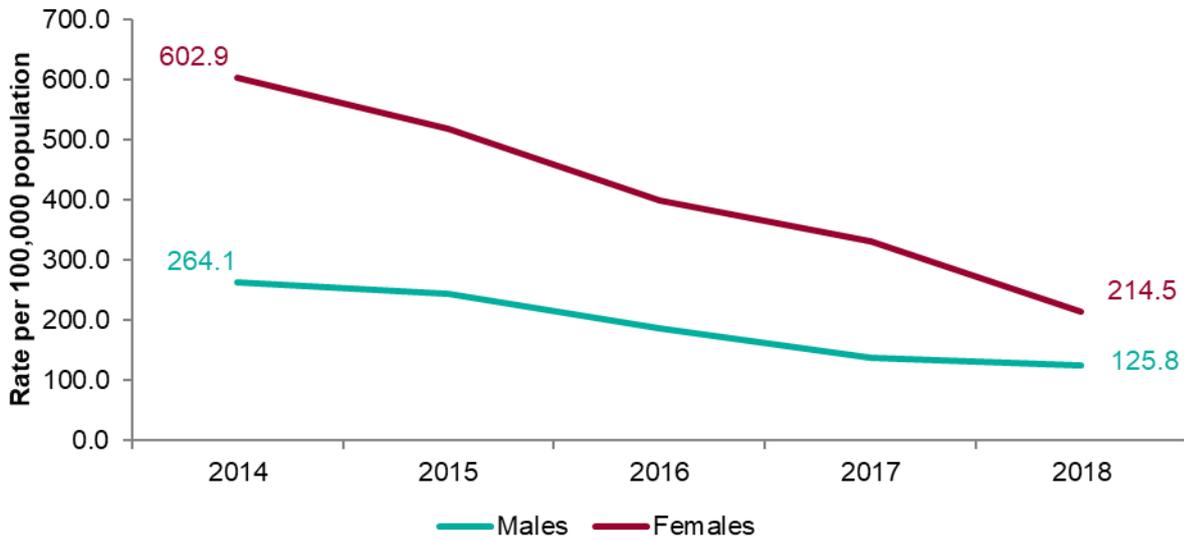


**Figure 5: Rates of gonorrhoea per 100,000 residents by age group in the North West, 2014-2018**  
 Data source: GUMCAD



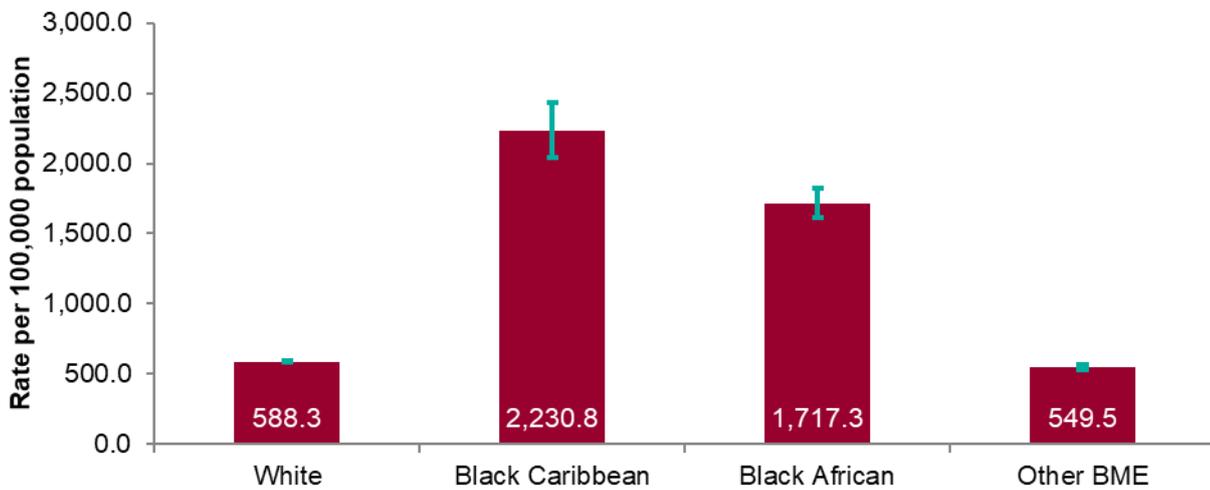
**Figure 6: Rates of genital warts per 100,000 residents aged 15-19 years by gender in the North West, 2014-2018.**

Data source: GUMCAD



**Figure 7: Rates of new STIs by ethnicity per 100,000 population in the North West, 2018**

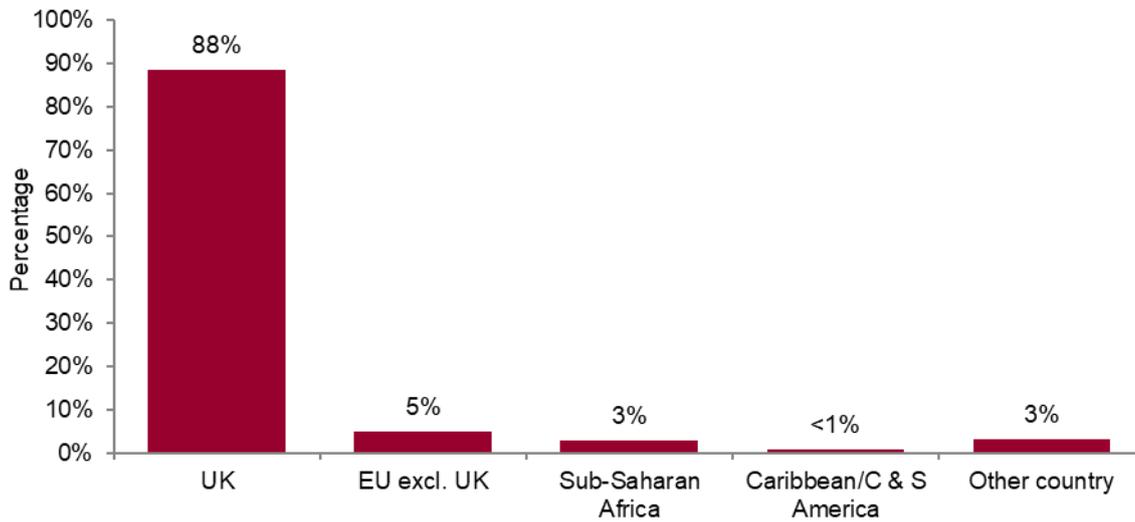
Data sources: GUMCAD, CTAD



**Table 2: Proportion of North West residents diagnosed with a new STI by ethnicity: 2018**  
 Data sources: GUMCAD, CTAD

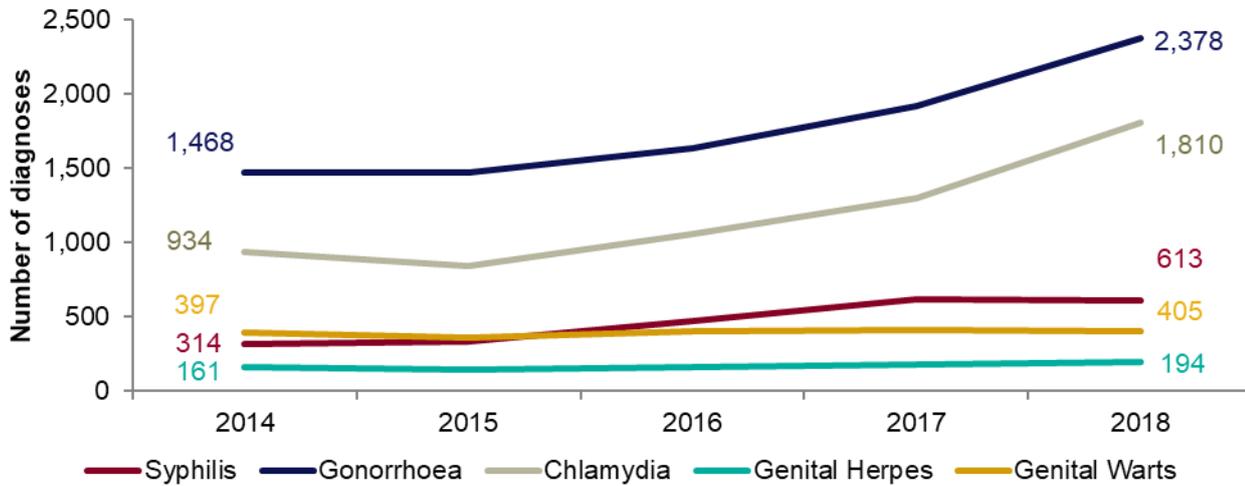
Ethnic group	Number	Percentage excluding unknown
White	37,425	88%
Black Caribbean	516	1%
Black African	1,018	2%
Other BME	3,341	8%
Unknown	13,069	

**Figure 8: Proportions of North West residents diagnosed with a new STI in specialist SHSs by world region of birth\*: 2018.** 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: Diagnoses of the 5 main STIs among MSM\*: North West residents, 2014-2018.**  
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.

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.

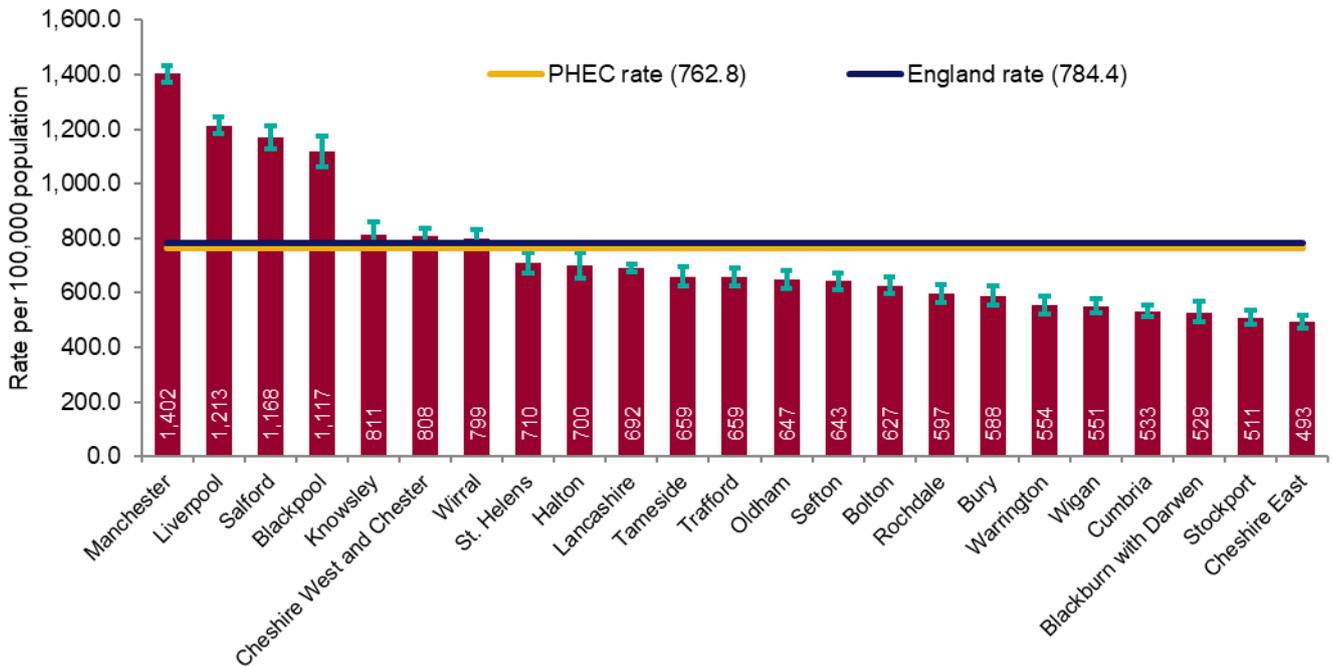
Any increase or decrease may reflect changes in testing.

**Table 3: Percentage change in new STI diagnoses in MSM\* diagnosed in specialist SHSs: North West residents.** Data sources: GUMCAD data only

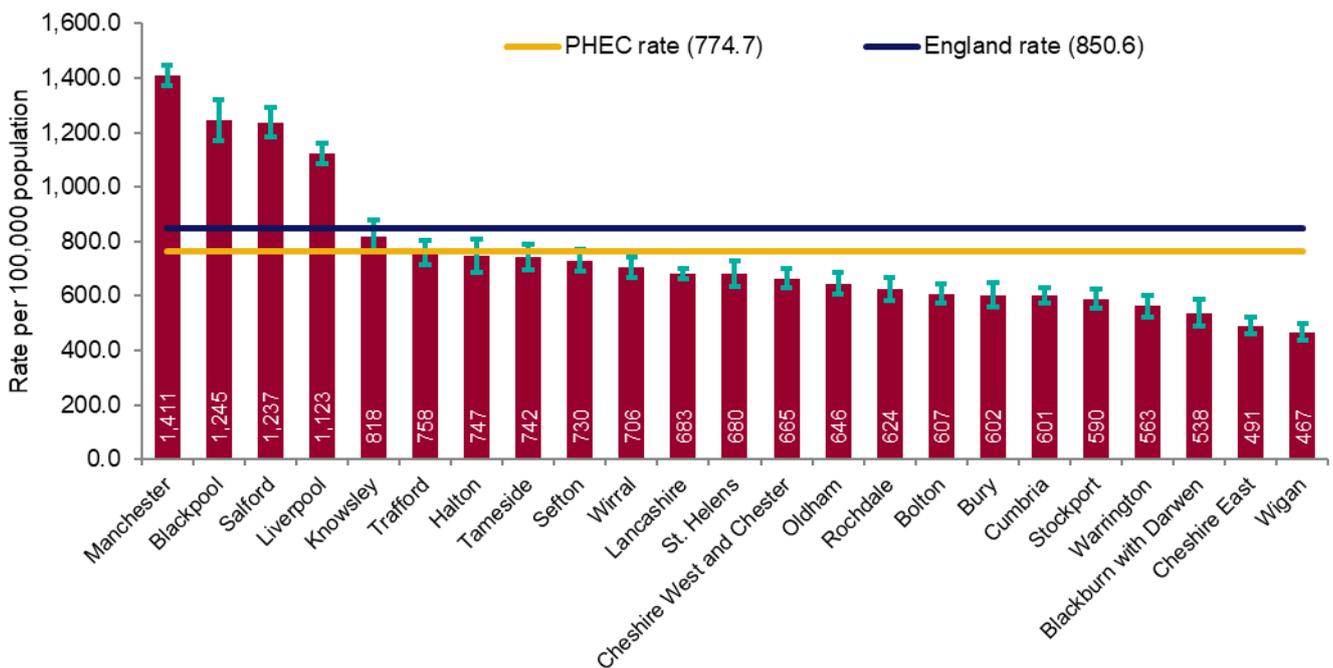
Diagnoses	2018	% change 2014-2018	% change 2017-2018
New STIs	6,411	46%	17%
Syphilis	613	95%	0%
Gonorrhoea	2,378	62%	24%
Chlamydia	1,810	94%	39%
Genital Herpes	194	20%	6%
Genital Warts	405	2%	-1%

Please see notes for Figure 9 (including asterisk).

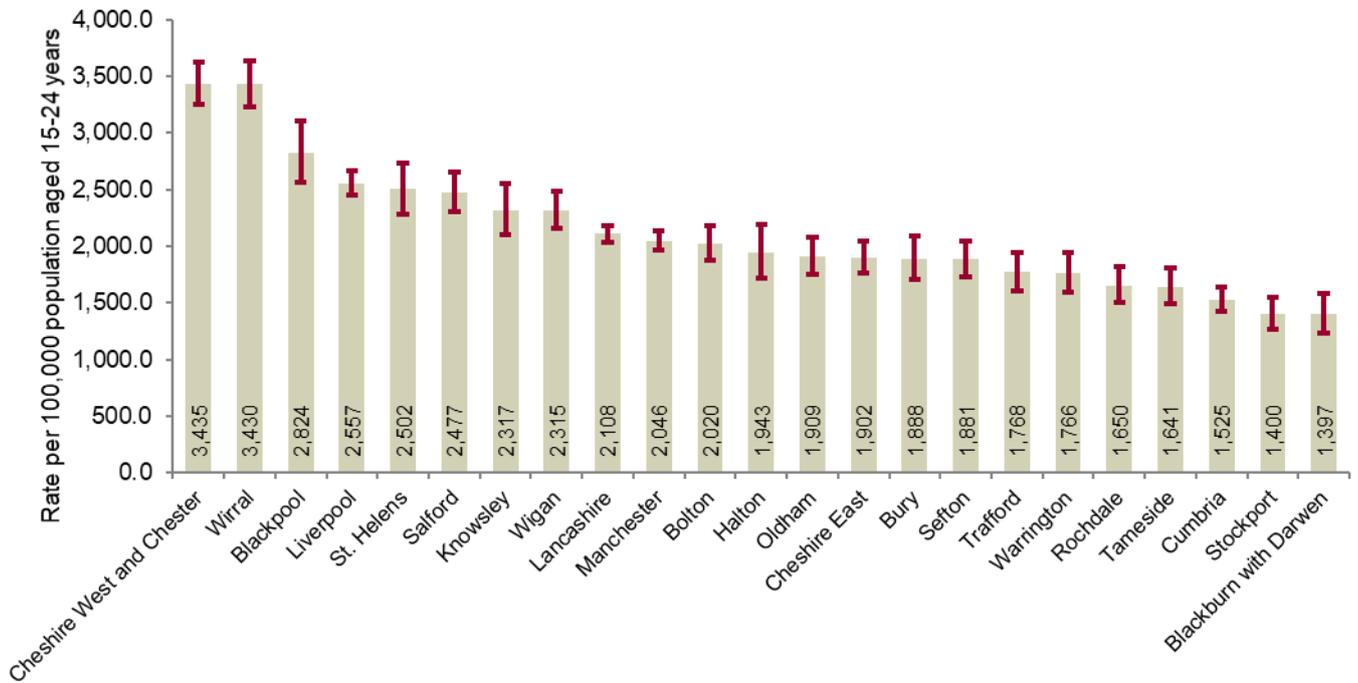
**Figure 10a: Rate of new STI diagnoses per 100,000 population among North West residents by upper tier local authority of residence: 2018.** Data sources: GUMCAD, CTAD



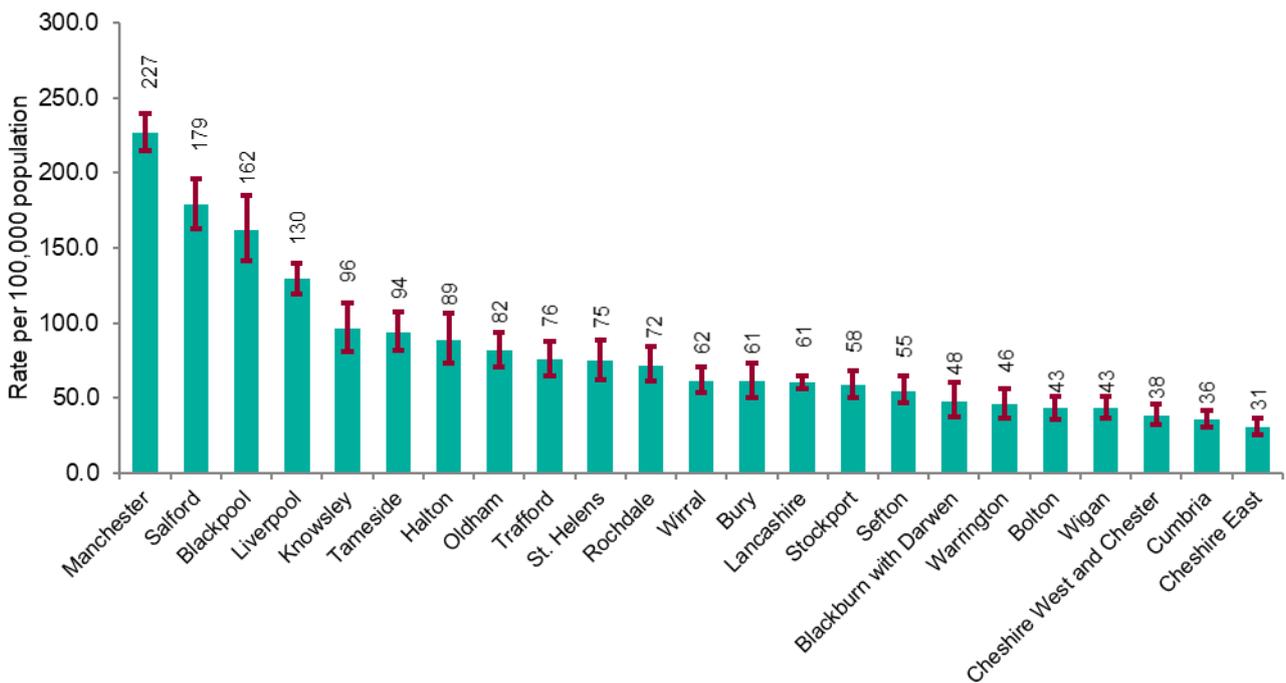
**Figure 10b: Rate of new STI diagnoses (excluding chlamydia diagnoses in persons aged 15-24 years) per 100,000 population aged 15-64 years among North West residents by upper tier local authority of residence: 2018.** Data sources: GUMCAD, CTAD



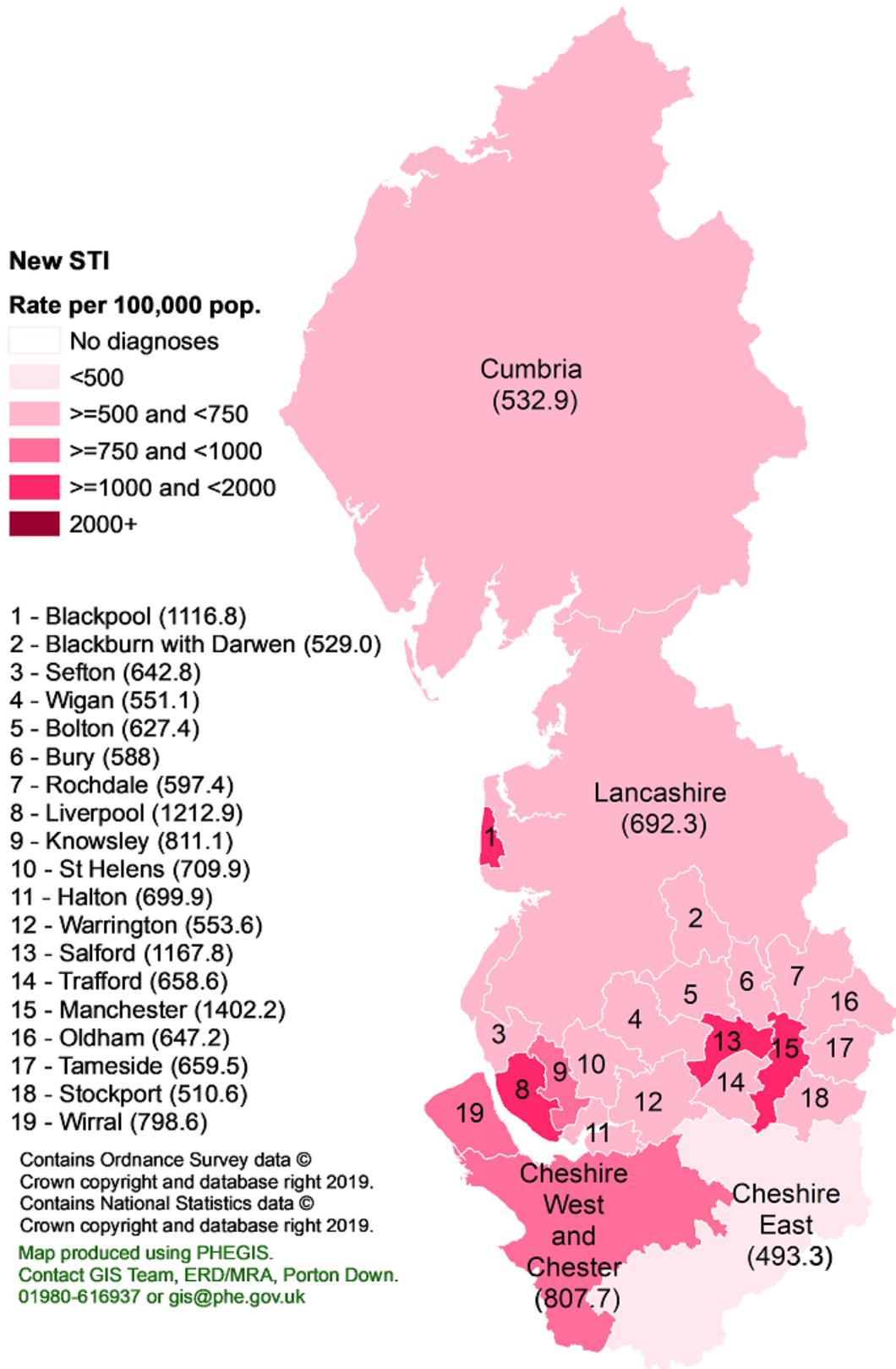
**Figure 11: Chlamydia detection rate per 100,000 population aged 15-24 years in North West residents by upper tier local authority of residence: 2018.** Data sources: GUMCAD, CTAD



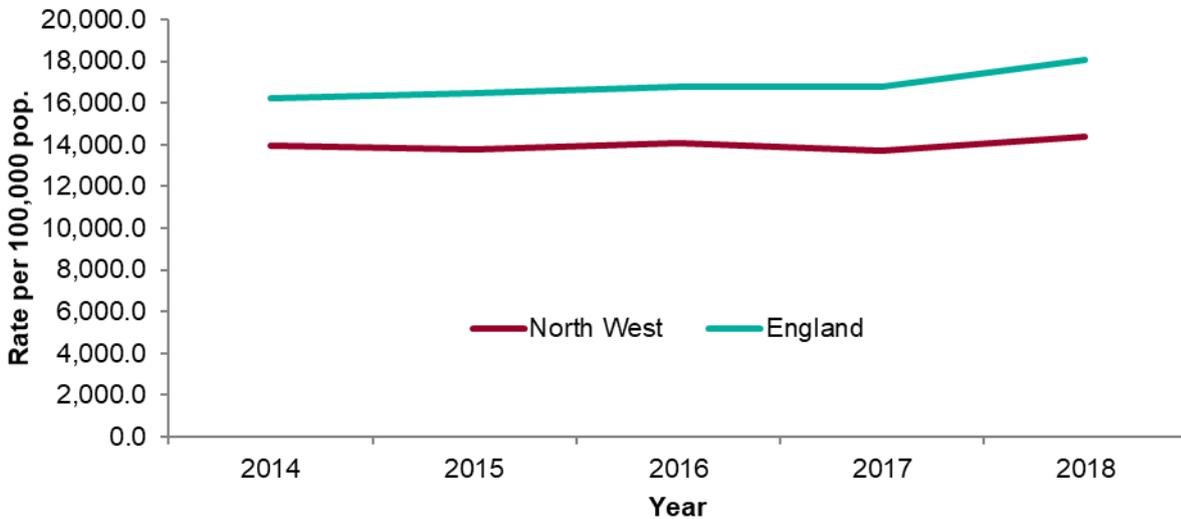
**Figure 12: Rate of gonorrhoea diagnoses per 100,000 population in North West residents by upper tier local authority of residence: 2018.** Data source: GUMCAD



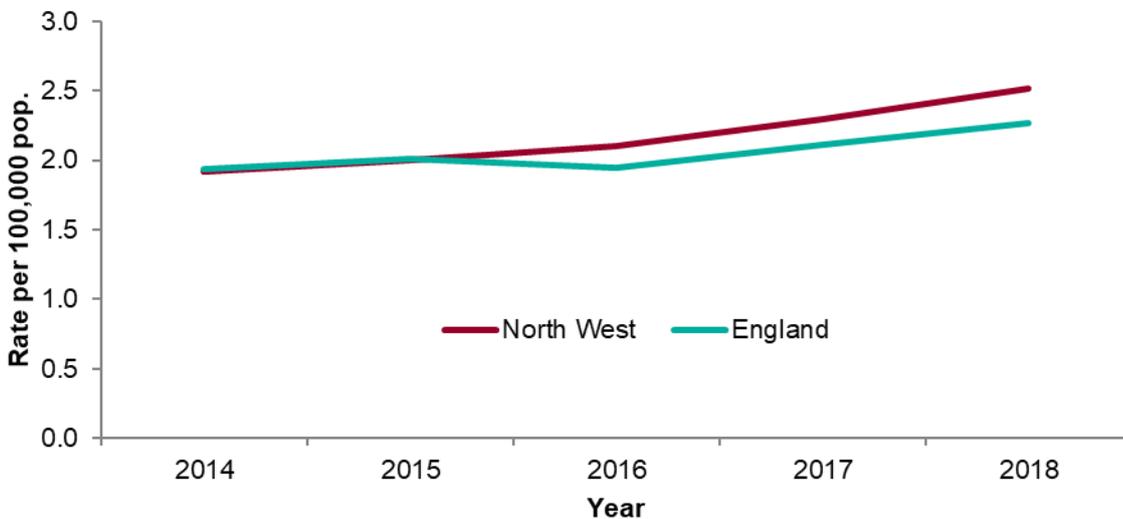
**Figure 13: Map of new STI rates per 100,000 residents by upper tier local authority in the North West: 2018.** Data sources: GUMCAD, CTAD



**Figure 14: STI testing rate (excluding chlamydia in under 25 year olds) per 100,000 population in North West residents aged 15 to 64: 2014-2018** Data sources: GUMCAD, CTAD



**Figure 15: STI testing positivity rate\* (excluding chlamydia in under 25 year olds) in North West residents: 2014-2018** 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.

**Table 4: Number of diagnoses of new STIs by PHEC of residence, data source and data subset: 2018** Data sources: GUMCAD, CTAD

PHEC of residence	GUMCAD		CTAD**	Total
	Specialist SHSs	Non-specialist SHSs*		
East Midlands	21,629	1,300	7,258	30,187
East of England	27,441	3,186	5,996	36,623
London	105,370	6,210	19,917	131,497
North East	13,606	250	3,045	16,901
North West	40,015	1,659	13,695	55,369
South East	45,624	2,006	8,764	56,394
South West	25,220	638	9,344	35,202
West Midlands	32,204	838	4,311	37,353
Yorkshire and Humber	27,705	478	8,551	36,734

**Table 5: Number of diagnoses of the 5 main STIs in the North West by STI, data source and data subset: 2018** Data sources: GUMCAD, CTAD

5 main STIs	GUMCAD		CTAD**	Total
	Specialist SHSs	Non-specialist SHSs*		
Syphilis	863	8		871
Gonorrhoea	5,655	242		5,897
Chlamydia	15,208	99	13,695	29,002
Genital Herpes	3,875	383		4,258
Genital Warts	6,906	440		7,346

\* 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

## 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

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 2019.

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 2019.

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

ONS mid-year population estimates for 2017 were used as a denominator for rates for 2018. ONS ceased producing estimates of population by ethnicity in 2011. Estimates for that year were used as a denominator for rates for 2018.

## 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.

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 [FES.NorthWest@phe.gov.uk](mailto:FES.NorthWest@phe.gov.uk) if they do not have access to this information.

North West STI Spotlights are available on the net at [www.gov.uk/government/publications/sexually-transmitted-infections-north-west-data](http://www.gov.uk/government/publications/sexually-transmitted-infections-north-west-data).

North West HIV Spotlights are also available on the net at [www.gov.uk/government/publications/hiv-north-west-annual-data-spotlight](http://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.

The 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 and 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](mailto: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](mailto:FES.NorthWest@phe.gov.uk)

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