



Public Health
England

Spotlight on sexually transmitted infections in the East Midlands

2018 data

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1 Summary

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

More than 30,100 new STIs were diagnosed in East Midlands residents in 2018, representing a rate of 633 diagnoses per 100,000 population. Rates by upper tier local authority ranged from 522 new STI diagnoses per 100,000 population in Leicestershire to 1,157 new STI diagnoses per 100,000 population in Nottingham.

The number of new STIs diagnosed in East Midlands residents rose by 2% between 2017 and 2018. Falls were seen in the numbers of 3 of the 5 major STIs: syphilis decreased by 5%, genital herpes by <1% and genital warts by 5%. Gonorrhoea increased by 32% and chlamydia by 4%.

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 East Midlands residents aged 15 to 24 years was 1,947 per 100,000 residents.

Men and women have similar rates of new STIs (597 and 663 per 100,000 residents respectively).

Where gender and sexual orientation are known, men who have sex with men (MSM) account for 10% of East Midlands residents diagnosed with a new STI excluding chlamydia diagnoses reported via CTAD (72% of those diagnosed with syphilis and 30% of those diagnosed with gonorrhoea).

STIs disproportionately affect young people. East Midlands residents aged between 15 and 24 years accounted for 58% of all new STI diagnoses in 2018. A steep decline (60% decrease) has been seen between 2014 and 2018 in the rates of genital warts diagnosis in females aged 15-19. This follows the introduction in 2008 of vaccination against Human papillomavirus (HPV), the virus which causes genital warts, for girls.

In terms of ethnic groupings, the white ethnic group has the highest number of new STI diagnoses: over 19,900 (83%). Although only 3% of new STIs are in black Caribbeans, they have the highest rate: 2,179 per 100,000, which is 4 times the rate seen in the white ethnic group. Where country of birth was known, 87% of East Midlands residents diagnosed with a new STI in 2018 (excluding chlamydia diagnoses reported via CTAD) 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.¹ 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 resource² and a telephone helpline³ 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.⁴ 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.^{5,6,7} PHE runs a health promotion campaign to promote condom use and positive sexual relationships among 16 to 24 year olds.⁸ 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.⁹

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 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

¹ 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

² <https://sexwise.fpa.org.uk/>

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

⁴ 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.

⁵ 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.

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

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

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

⁹ 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>.

from offer of chlamydia testing, uptake, diagnosis, treatment, partner notification and retesting¹⁰.

The trend for increases in gonorrhoea diagnoses is a concern 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 Thailand¹¹; 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, Spain¹² (13). 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.^{13,14} PHE has published an Action Plan¹⁵, 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

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 status¹⁶. This suggests that rapid STI

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

¹¹ 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.

¹² 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.

¹³ 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)

¹⁴ 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.

¹⁵ 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

¹⁶ 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.

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 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 an expected outcome of the National HPV Immunisation Programme that has achieved high coverage in girls and has used a vaccine against HPV6/11 as well as HPV16/18 since 2012. Data clearly show that heterosexual boys are benefiting through the effect of herd protection. The recent decision to extend the National HPV Immunisation Programme to include boys 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^{17,18}. 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.¹⁹ 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.

¹⁷ Edelstein M, Iyanger N, Hennessy N, Meshier D, Checchi M, Soldan K, et al. (2019) Implementation and evaluation of the human papillomavirus (HPV) vaccination pilot for men who have sex with men (MSM), England, April 2016 to March 2017. *Euro Surveill.* 24(8).

¹⁸ <http://www.hivpreventionengland.org.uk/>

¹⁹ 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 now all school-aged adolescents (male programme commenced 2019), 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

2.1 Overview

The rate of new STI diagnoses made within the East Midlands lies towards the lowest of all the centres when compared to the rest of England as seen in Figure 1.

Diagnoses of chlamydia remains the highest amongst all STIs. Since 2014 the number of chlamydia diagnoses has been relatively stable with only a 2% decline in diagnoses. Syphilis and gonorrhoea have shown increases since 2014, 44% and 78% respectively. Between 2017 and 2018 the number of new STI diagnoses has remained level, with a small but notable increase for chlamydia and gonorrhoea (4% and 32% respectively). Genital warts, genital herpes and syphilis diagnoses have minutely decreased (~5%). Overall, STI figures in the East Midlands are relatively stable over the most recent years.

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

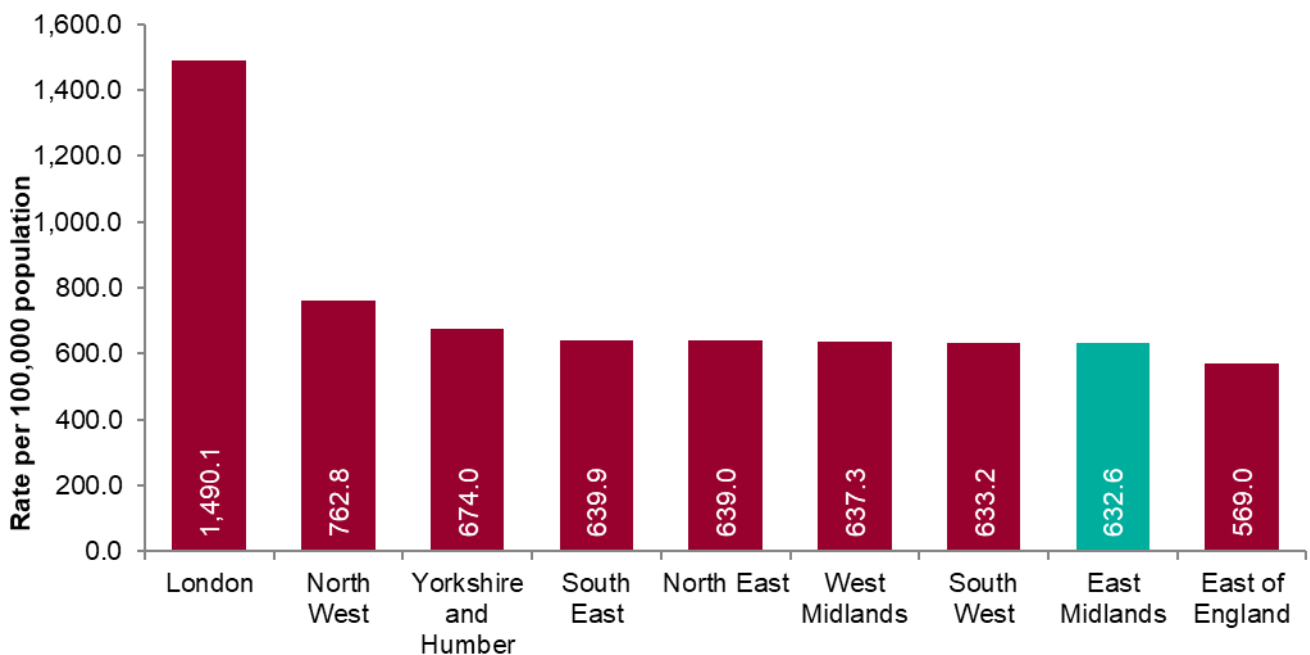
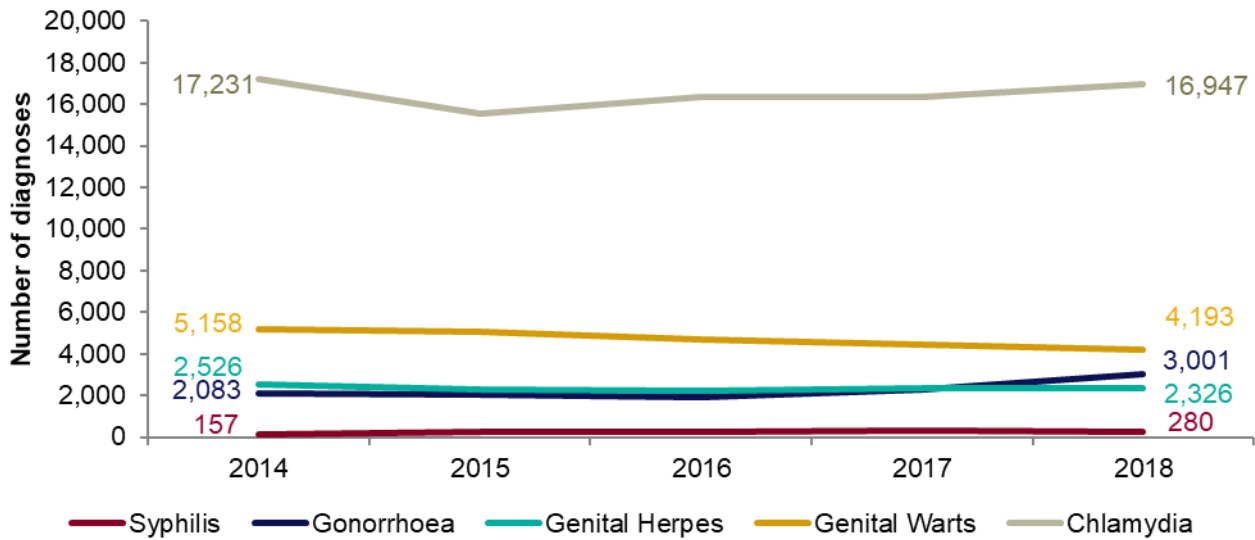
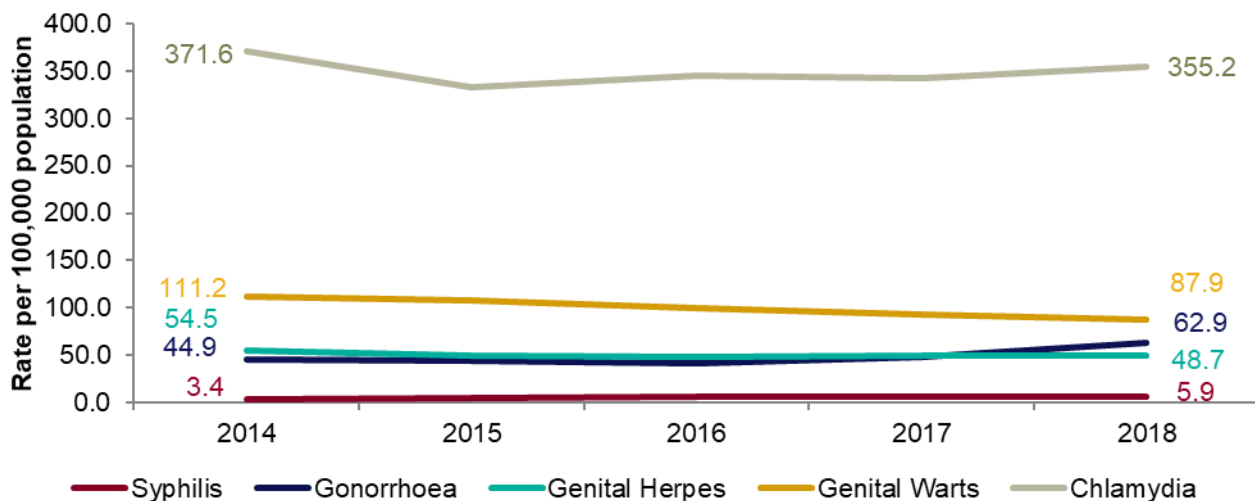


Figure 2: Number of diagnoses of the 5 main STIs: East Midlands residents, 2014-2018.
Data sources: GUMCAD, CTAD



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: East Midlands residents, 2014-2018. Data sources: GUMCAD, CTAD



See notes for Figure 2

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

Diagnoses	2018	% change 2014-2018	% change 2017-2018
New STIs	30,187	-7%	2%
Syphilis	280	78%	-5%
Gonorrhoea	3,001	44%	32%
Chlamydia	16,947	-2%	4%
Genital Herpes	2,326	-8%	0%
Genital Warts	4,193	-19%	-5%

Please see notes for Figure 2.

2.2 Risk groups

Young adults (ages 15 to 24) are at highest risk of acquiring STIs compared to the other age groups, with the highest rate of infection occurring amongst the 20 to 24 year old age group (figure 4). As 15 to 24 year olds are the focus of chlamydia screening, the rate of infections amongst younger people is likely to be higher, as well as their rate of attendance to level 3 Sexual Health Services, therefore, possibly complicating the picture. Young females have a greater rate of infection than young males, particularly when comparing males and females in the 15 to 19 age group. This may be an artefact of testing where young females might be more likely to present to testing sites and attend contraceptive services, or it may be due to behavioural differences between young males and females.

The pattern of infections in the over 25s has a different picture. When comparing males and females above 25 years, there are more new infections amongst males than females differing from that of the younger age groups. The greater number of new infections amongst males within older age groups could be due to the number of MSM cases contributing to the figures. The numbers of new STIs amongst MSMs has increased both over the long and short term; 56% between 2014 and 2018, and 24% between 2017 and 2018 (table 3). Over the long term, between 2014 and 2018, the greatest increase for MSM has been in the number of syphilis infections, 111%, followed by an 106% increase in chlamydia. Over the short term, gonorrhoea has increased by 47%, chlamydia by 29% and genital warts by 6%. Genital herpes has decreased by 20% from 2017 to 2018, and syphilis has remained the same. The recent plateau in syphilis diagnoses could be a sign of increased efforts to control the spread of this infection following the increases seen across the UK over 2015 and 2016, predominantly amongst this risk group (figure 9).

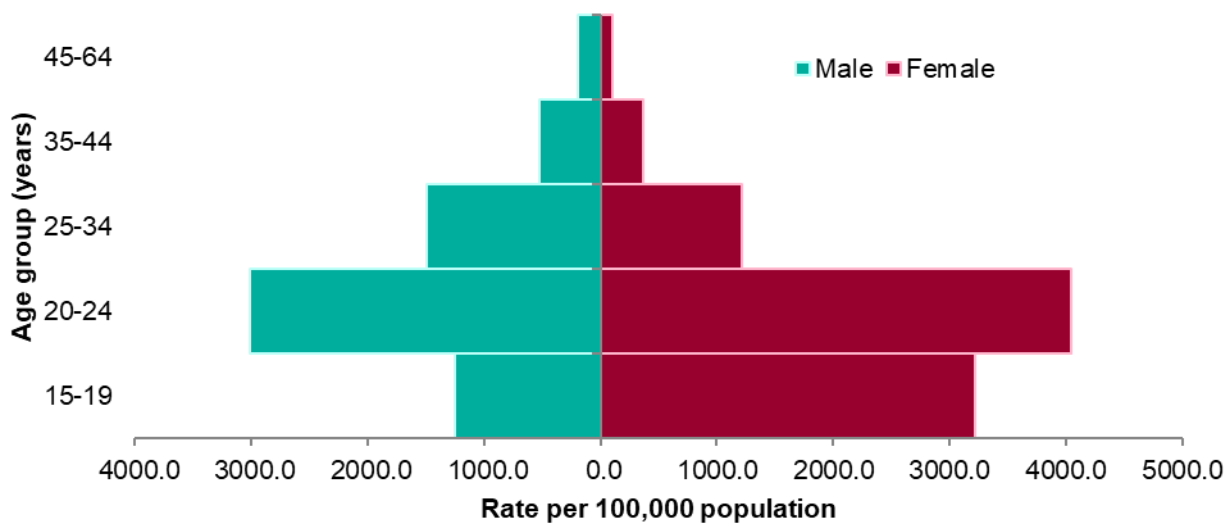
Table 2 shows that the highest proportion of new STIs occur amongst the White ethnic group representing 83% of new infections, with the smallest proportions being amongst

the Black Caribbean (3%) and Black African (4%) groups. However, Figure 7, showing the rate of infections within these ethnic groups, shows that Black ethnic groups, particularly the Black Caribbean ethnicity, are at greater risk than any other ethnic groups. Figure 8 is the proportion of new STIs by world region of birth, and it shows that 87% of those with new STI diagnoses were born in the UK, followed by 6% born within the EU.

Rates of gonorrhoea for the East Midlands have increased over 2017/18, and figure 5 looks at the trend of gonorrhoea by age group. The increase begun in 2016, particularly with the 15-19 age group, followed by the 20-24 age group in 2017. Rates of genital warts (figure 6) shows the continuous decline in diagnoses in 15-19 year olds since 2014 in both males and females. The decline is greater amongst females but also apparent amongst males of this age group and shows the positive affect of the HPV vaccine on this cohort since its introduction in 2008.

Figure 4: Rates of new STIs per 100,000 residents by age group* and gender in the East Midlands, 2018.

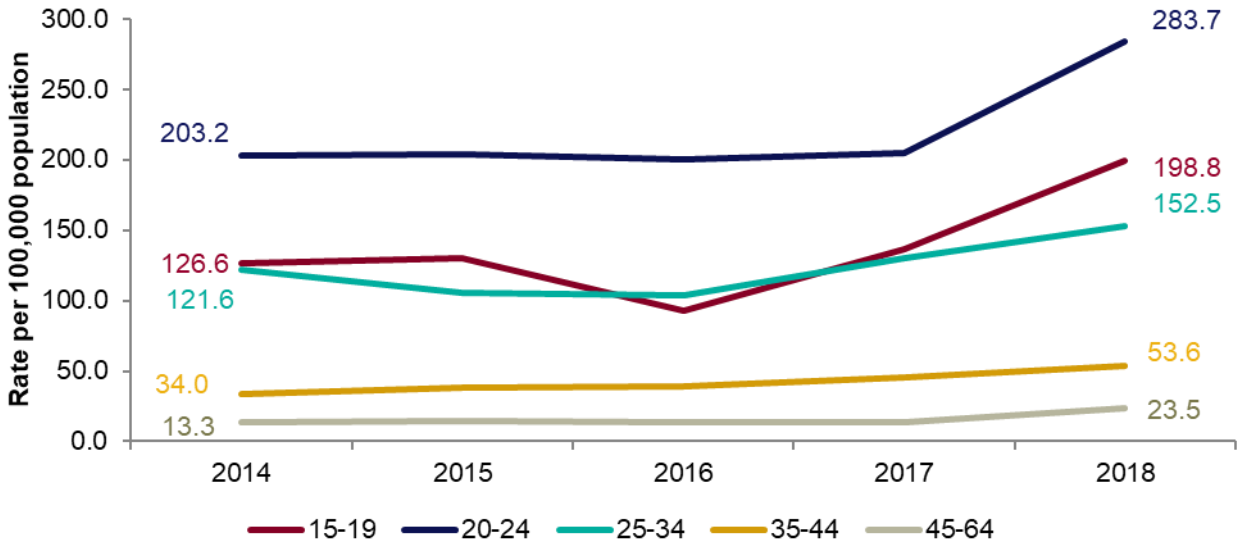
Data sources: GUMCAD, CTAD



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

Figure 5: Rates of gonorrhoea per 100,000 residents by age group* in the East Midlands, 2014-2018

Data source: GUMCAD



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

Figure 6: Rates of genital warts per 100,000 residents aged 15-19 years by gender in the East Midlands, 2018.

Data source: GUMCAD

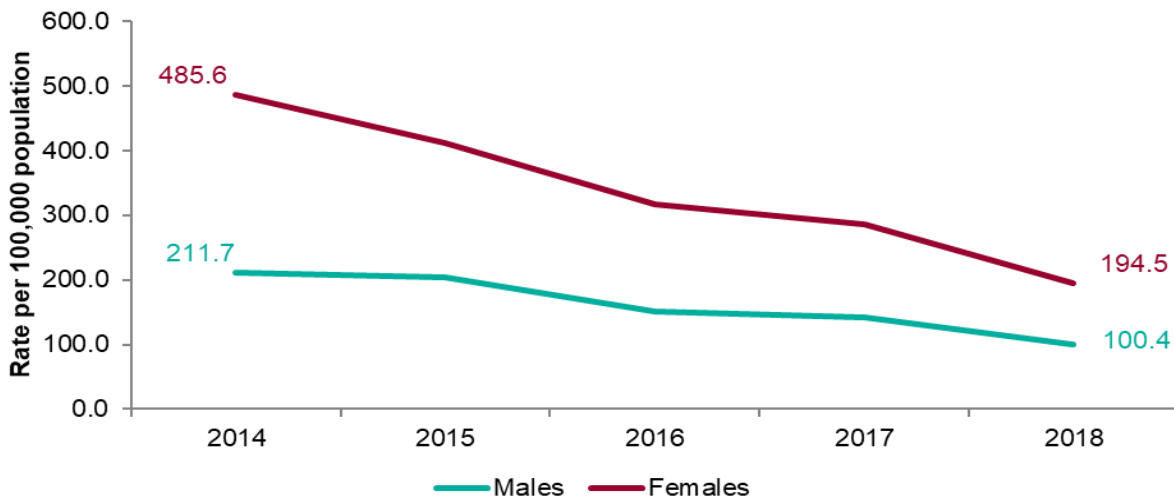


Figure 7: Rates of new STIs by ethnicity per 100,000 residents in the East Midlands, 2018
 Data sources: GUMCAD, CTAD

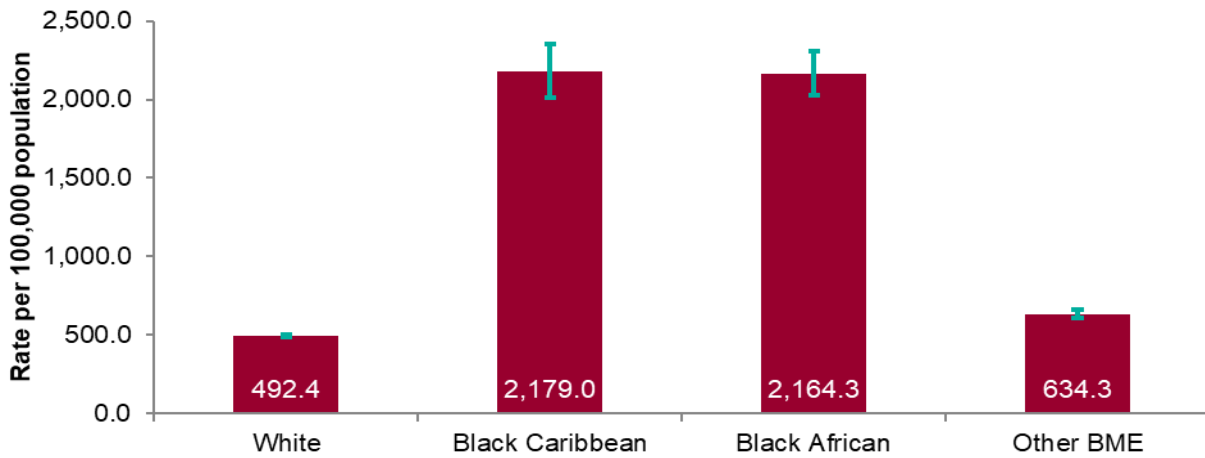
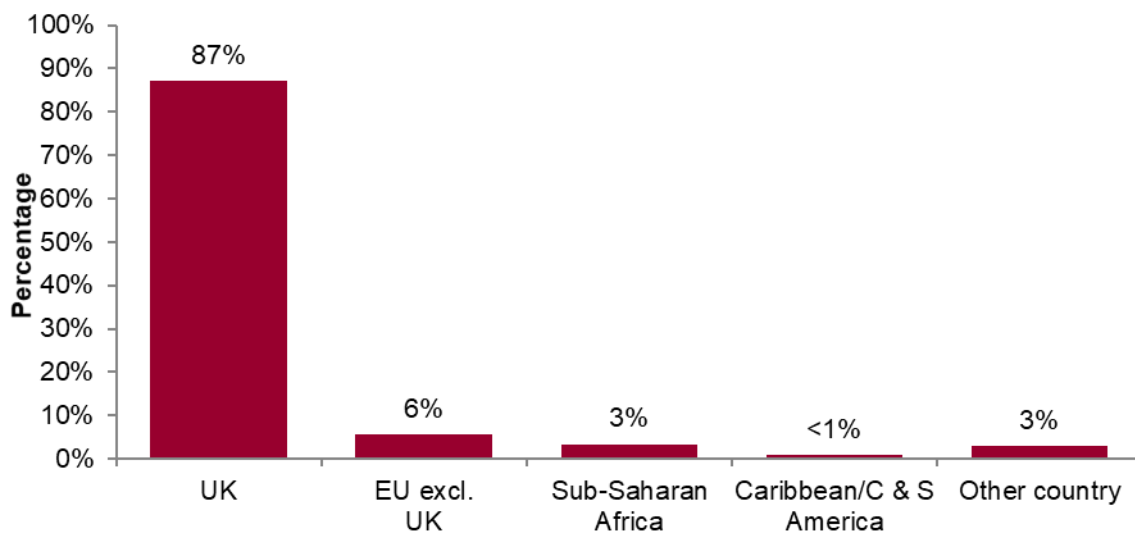


Table 2: Proportion of East Midlands residents diagnosed with a new STI by ethnicity: 2018 Data sources: GUMCAD, CTAD

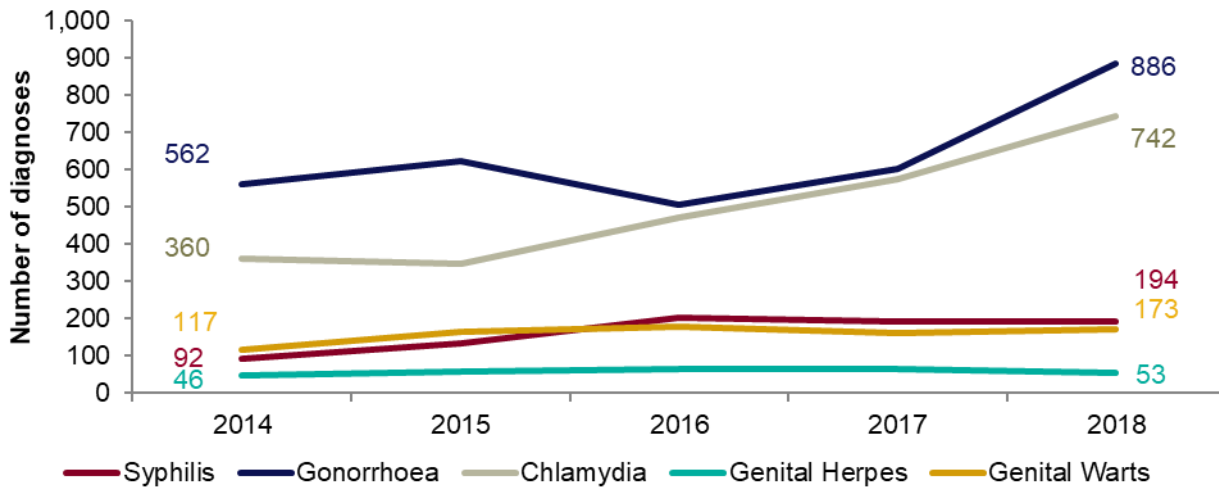
Ethnic group	Number	Percentage excluding unknown
White	19,926	83%
Black Caribbean	630	3%
Black African	904	4%
Other BME	2,640	11%
Unknown	6,087	

Figure 8: Proportions of East Midlands residents diagnosed with a new STI 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*: East Midlands 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*: East Midlands residents. Data sources: GUMCAD data only

Diagnoses	2018	% change 2014-2018	% change 2017-2018
New STIs	2,314	56%	24%
Syphilis	194	111%	0%
Gonorrhoea	886	58%	47%
Chlamydia	742	106%	29%
Genital Herpes	53	15%	-20%
Genital Warts	173	48%	6%

Please see notes for Figure 9 (including asterisk).

2.3 Geography

The highest rate of infections occurred in Nottingham, for data both including and excluding chlamydia for 15 to 24 year olds. Nottingham’s rate including chlamydia data is both significantly higher than any of other localities within the East Midlands, as well

as the England and East Midlands overall rate (figure 10a). Where the chlamydia figures are removed, Figure 10b, the rates by upper tier local authorities are much closer together; the order of Derbyshire, Leicestershire, Leicestershire and Rutland differ from that of figure 10a.

Lincolnshire has the highest chlamydia detection rate at 2,247 per 100,000. This is followed by Rutland and Derby, both of which are higher than 2,000 per 100,000 (figure 11). It is worth noting changes in services and reporting of chlamydia data may have affected the figures across the East Midlands, however, PHE East Midlands is working with local colleagues to ensure data quality improves and the Public Health indicators are more robust.

The highest rates of gonorrhoea remain in the main cities within the East Midlands (figure 12); Derby, Nottingham and Leicester, however Nottingham’s rate is significantly higher than all other East Midlands UTLAs.

Figure 13 shows the areas with the highest rate of all new STIs, which follows a similar trend to that of the gonorrhoea rates as it is the 3 urban cities with the highest rates.

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

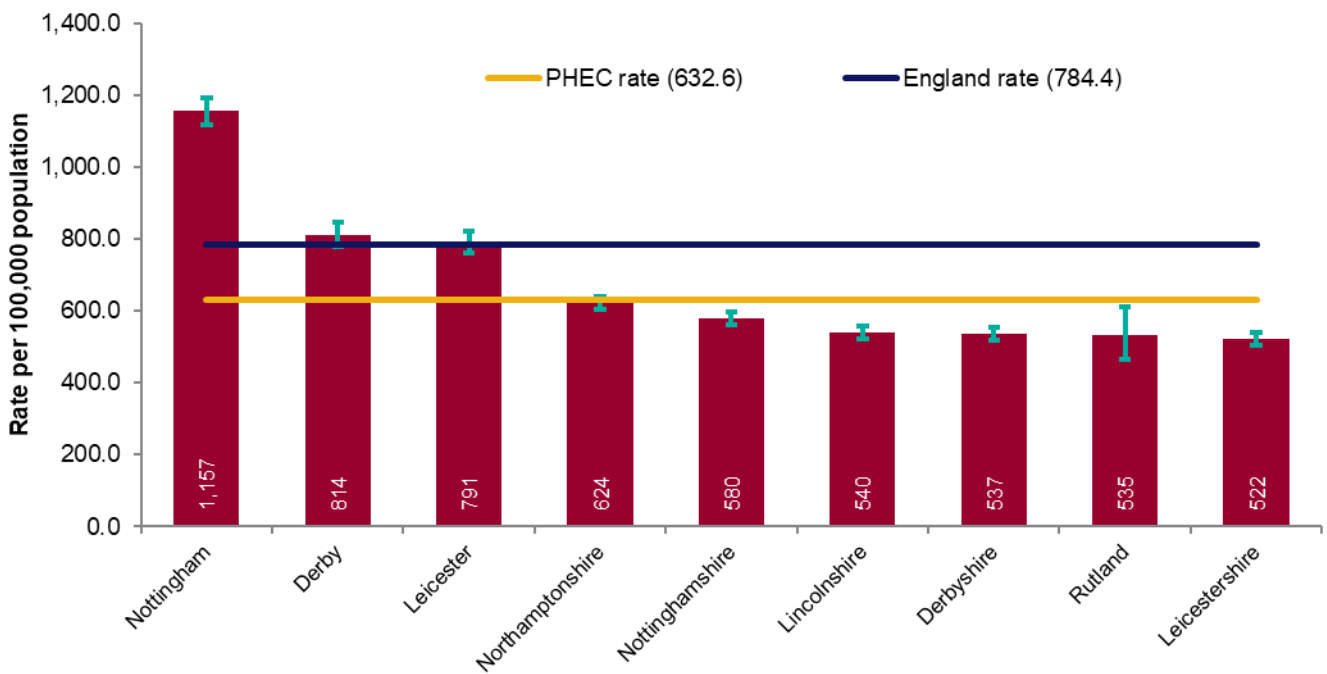


Figure 10b: Rate of new STI diagnoses (excluding chlamydia diagnoses in persons aged 15-24 years) per 100,000 population aged 15-64 years among East Midlands residents by upper tier local authority of residence: 2018. Data sources: GUMCAD, CTAD

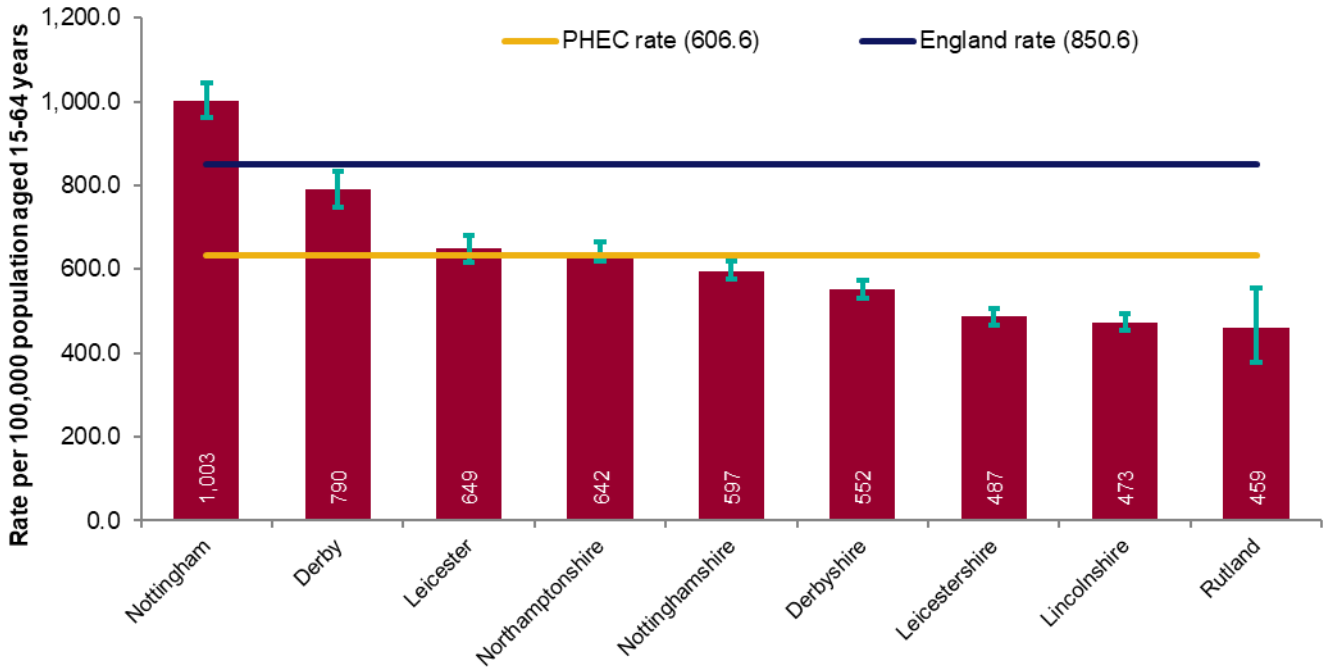


Figure 11: Chlamydia detection rate per 100,000 population aged 15-24 years in East Midlands residents by upper tier local authority of residence: 2018. Data sources: GUMCAD, CTAD

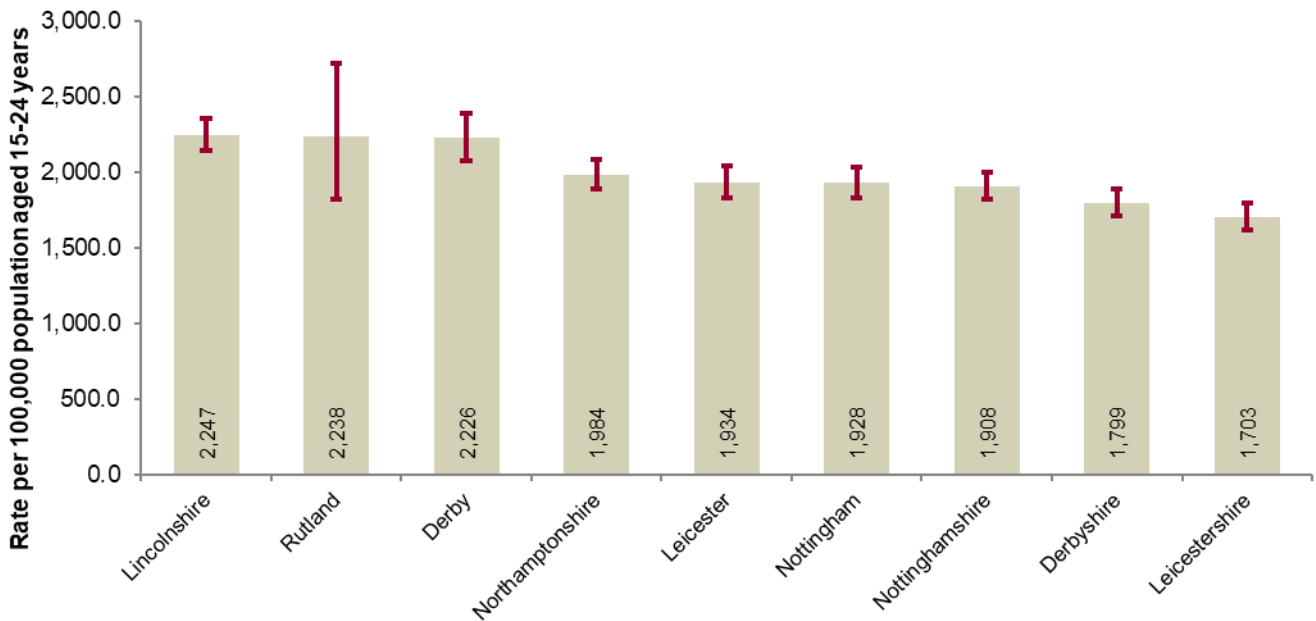


Figure 12: Rate of gonorrhoea diagnoses per 100,000 population in East Midlands residents by upper tier local authority of residence: 2018. Data source: GUMCAD

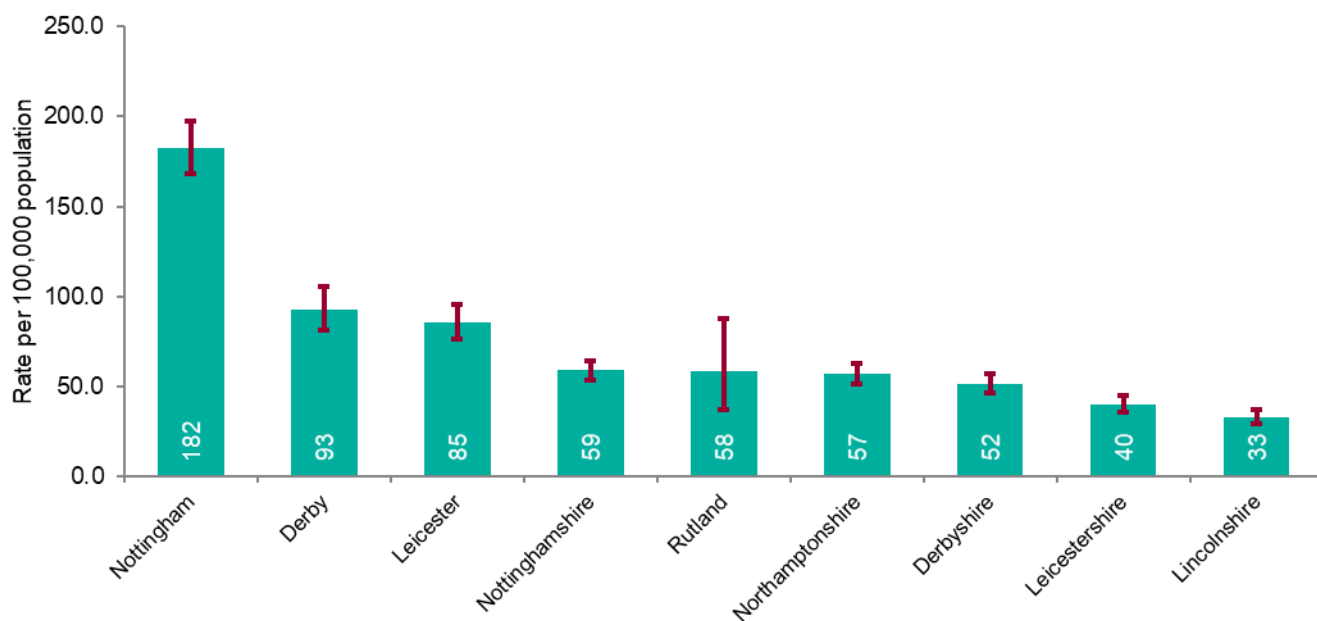
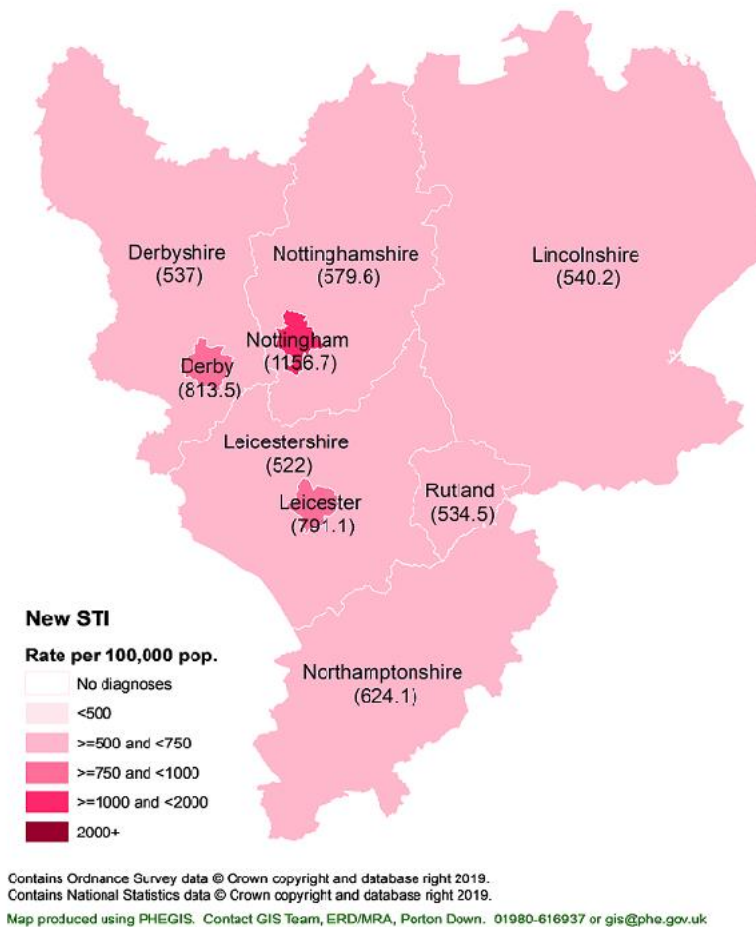


Figure 13: Map of new STI rates per 100,000 residents by upper tier local authority in the East Midlands: 2018. Data sources: GUMCAD, CTAD



2.4 Testing and services

The STI testing rate in the East Midlands is below that for England and has stayed quite static since 2014, however it does follow an upward trend similar to that of England (figure 14). The positivity rate for STI testing also follows an increasing trend for both England and the East Midlands, and the East Midlands trend follows more closely that of England overall (figure 15).

The greatest proportion of STI diagnoses made across England has been within specialist services, greater than 70% in all PHE Centres (table 4). For the East Midlands 12% of gonorrhoea diagnoses are made outside level 3 services, along with 7% of warts, 5% of herpes and 1% of syphilis, this percentage could be larger if data quality from GP practices was improved (table 5).

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

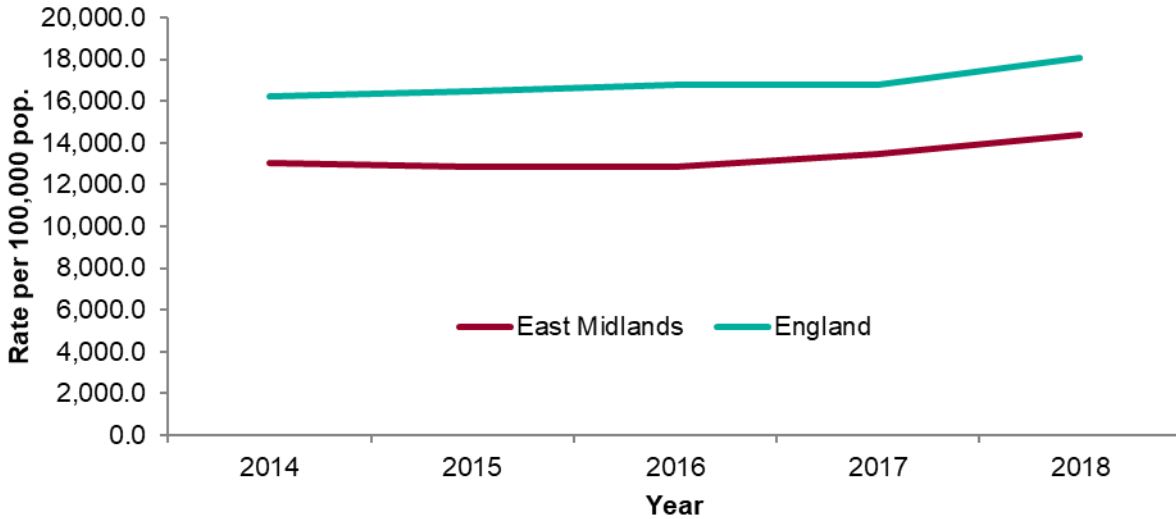
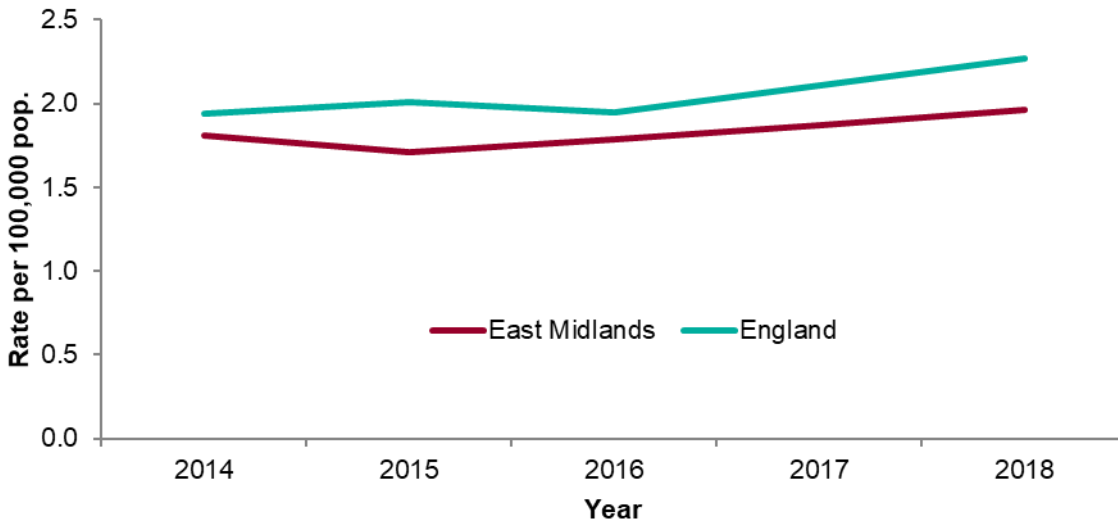


Figure 15: STI testing positivity rate* (excluding chlamydia in under 25 year olds) in East Midlands residents: 2014-2018 Data sources: GUMCAD, CTAD



* 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 East Midlands by STI, data source and data subset: 2018 Data sources: GUMCAD, CTAD

5 main STIs	GUMCAD		CTAD**	Total
	Specialist SHSs	Non-specialist SHSs*		
Syphilis	277	3		280
Gonorrhoea	2,674	327		3,001
Chlamydia	9,222	467	7,258	16,947
Genital Herpes	2,220	106		2,326
Genital Warts	3,913	280		4,193

* 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

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.

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 & 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

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

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

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 PHE. The Field Service also leads and coordinates the Global Health work of PHE's National Infection Service working with the Global Public Health Team and will lead and coordinate the national aspects of PHE's port health functions.

You can contact your local FS team at FES.EM@phe.gov.uk

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

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