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England

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Sexually transmitted infections and screening for chlamydia in England, 2019

The annual official statistics data release (data to end of December 2019)

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1. Key points

This report provides a descriptive analysis of data on sexually transmitted infections (STIs) and screening for chlamydia in England to the end of December 2019. PHE is undertaking further analyses of surveillance data received during 2020 to assess the impact of the COVID-19 response on HIV/STI service provision and epidemiology.

In 2019, there were 468,342 diagnoses of STIs made in England, a 5% increase since 2018.

There were 70,936 diagnoses of gonorrhoea reported in 2019, a 26% increase since 2018.

There were 7,982 diagnoses of syphilis reported in 2019, a 10% increase since 2018.

There were 5,311 diagnoses of *Mycoplasma genitalium* reported in 2019, a 196% increase since 2018; the increase reflects a rise in the availability of testing.

There were 149 diagnoses of first episode genital warts in 15 to 17 year old girls in 2019, a 23% decrease relative to 2018, and 90 diagnoses of first episode genital warts in same aged heterosexual boys, an 11% decrease relative to 2018; this is a continuation of the steep decline observed since 2014 and is largely due to the high coverage National HPV Vaccination Programme in schools.

The impact of STIs remains greatest in young heterosexuals 15 to 24 years; black ethnic minorities; and gay, bisexual and other men who have sex with men (MSM).

Between 2018 and 2019, the number of consultations at sexual health services (SHSs) increased by 7% (from 3,613,447 to 3,852,121); the rise was most apparent among internet service providers.

Through the National Chlamydia Screening Programme:

- 1,339,931 chlamydia tests were carried out among young people aged 15 to 24 years, a 2% increase since 2018 and a 13% decline from 2015
- there were 134,418 chlamydia diagnoses in this age group, an increase of 2% from 2018
- chlamydia testing continued to increase in internet testing services, with testing increasing by 22% between 2018 and 2019 and internet testing accounting for 20% of tests and 17% of chlamydia diagnoses in this age group in 2019

2. Key messages

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

Local services for the prevention, diagnosis, treatment, and care of STIs, supported by national partners, need to be made available to the general population as well as focus on groups with greater sexual health needs.

Prioritisation of STI testing should follow national guidance and take account of local context, including the impact of the COVID-19 response on routine sexual health service provision.

Local authorities should ensure continued access to chlamydia screening for 15 to 24 year olds through a range of settings including internet services; 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 relationships and sexual health will be enhanced by effective implementation of statutory, high-quality Relationships Education in primary schools and Relationships 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 against HPV (MSM and school-aged adolescents) and hepatitis A and hepatitis B (MSM and other groups with greater sexual health needs) will reduce the risk of infection with these viruses and should continue to be offered according to national guidelines.

PHE's [Syphilis Action Plan](#) includes 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 on change of sexual partner or annually, and
- gay, bisexual and other men who have sex with men should test annually for HIV and STIs and every three months if having condomless sex with new or casual partners

3. Overall trends in STI diagnoses and consultations at SHSs in England

In 2019, there were 468,342 new STI diagnoses made at sexual health services¹ (SHSs) in England. Of these, the most commonly diagnosed STIs were chlamydia (229,411; 49% of all new STI diagnoses), gonorrhoea (70,936; 15%), first episode genital warts (51,274; 11%), and first episode genital herpes (34,570; 7%).

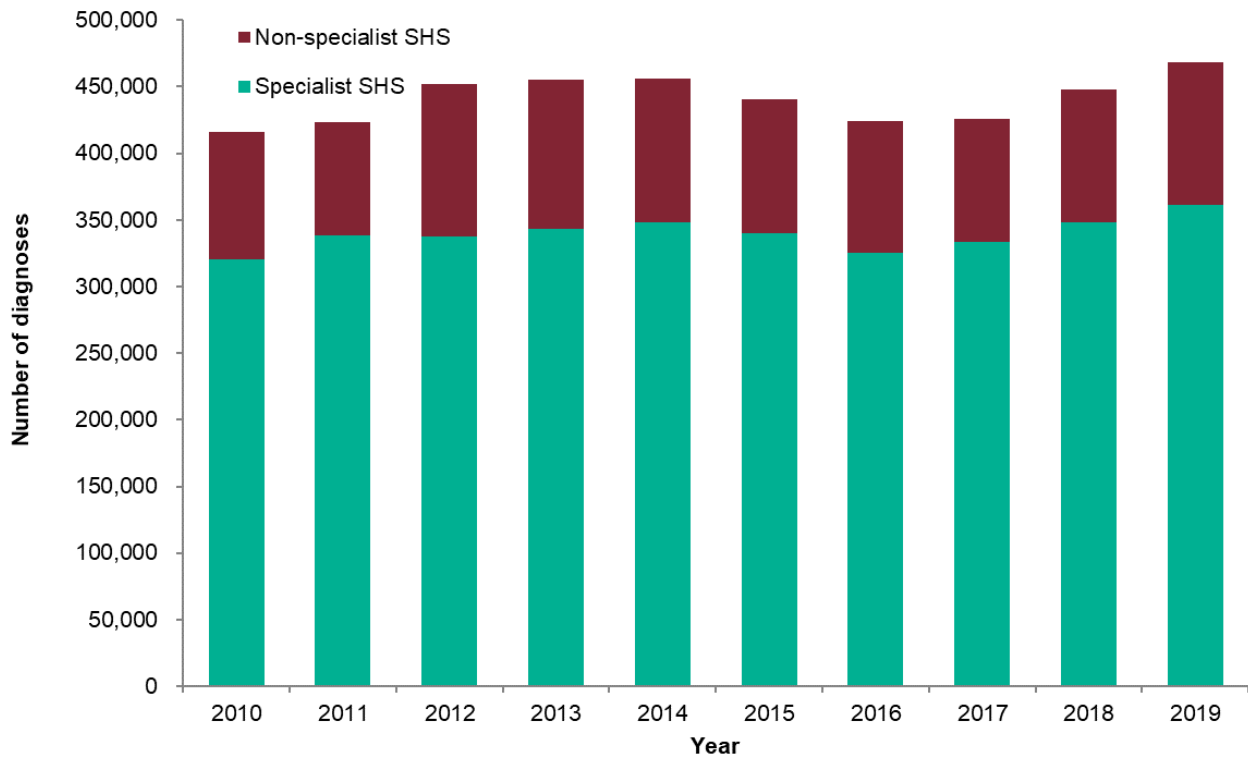
Compared to 2018 (figure 1), the total number of new STIs diagnosed in 2019 increased 5% (from 447,522 to 468,342). Trends in diagnoses of common STIs over the last decade are presented in Appendix figures 1 and 2.

The increase in the total number of new STIs was due to a large increase in gonorrhoea (26%; from 56,232 to 70,936) and more moderate increases in syphilis (primary, secondary and early latent stages: 10%; from 7,260 to 7,982) chlamydia (5%; from 218,881 to 229,411), and genital herpes (2%; from 33,734 to 34,570) diagnoses. Diagnoses of *Mycoplasma genitalium* have increased by 196% between 2018 and 2019 (from 1,795 to 5,311); this rise reflects an increase in the availability of testing following the publication of the first national guidelines for the diagnosis and management of *M. genitalium* in 2018 (1). In 2019, 181 SHSs reported an *M. genitalium* test or diagnosis compared to 107 in the previous year.

The number of gonorrhoea diagnoses in 2019 was the largest annual number reported since records began in 1918 and is a continuation of the increasing trend seen in recent years: since 2015, gonorrhoea diagnoses have risen by 71% (from 41,382 to 70,936). While the majority of gonorrhoea diagnoses were reported in gay, bisexual and other men who have sex with men (referred to collectively as 'MSM') over the same period, diagnoses have also increased notably in women and heterosexual men.

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, internet services, termination of pregnancy services, pharmacies, outreach and general practice, and other community-based settings. Further details on the levels of sexual healthcare provision are provided in the BASHH Standards for the Management of STIs (Appendix B): <https://www.bashh.org/about-bashh/publications/standards-for-the-management-of-stis/>

Figure 1. Number of new diagnoses of sexually transmitted infections made at sexual health services†, 2010 to 2019, England



† Data from routine specialist and non-specialist sexual health services' returns to the GUMCAD STI Surveillance System and also, for chlamydia only, routine non-specialist sexual health services' returns to the National Chlamydia Screening Programme (2010-2011) and the CTAD Chlamydia Surveillance System (2012-2019). Data on the overall annual number of STIs from 2012 onwards are not directly comparable to those from previous years due to improvements in the surveillance of STIs (see 'Updates to surveillance datasets' section of the Appendix for further details).

Between 2018 and 2019, there was a decrease in the number of diagnoses of first episode genital warts (11%; from 57,311 to 51,274). The sustained decrease in genital warts is largely due to the substantial declines in younger women, the majority of whom would have received the quadrivalent HPV vaccine when aged 12 or 13 years, and to the declines in similar-aged heterosexual young men that are likely attributable to substantial herd-protection.

The total number of consultations at SHSs in England (including face to face consultations at physical clinics and those delivered via the internet) increased by 7% between 2018 and 2019 (from 3,613,447 to 3,852,121), continuing the increasing trend over the past five years: between 2015 and 2019, there was a 23% increase in the number of consultations (from 3,143,144). Similarly, the total number of sexual health screens (tests for chlamydia, gonorrhoea, syphilis and HIV) increased over the same period (31%; from 1,657,425 in 2015 to 2,175,525 in 2019). The rise was most notable among internet service providers, which is line with the increasing trend observed since 2017 (see '[Sexual health service provision by physical and internet services](#)

section of the Appendix for further details). While there were increases in both consultations and testing nationally, there is some variability regionally. These regional variations in service provision can be explored using the STI testing rate indicator on PHE's [Sexual and Reproductive Health Profiles](#).

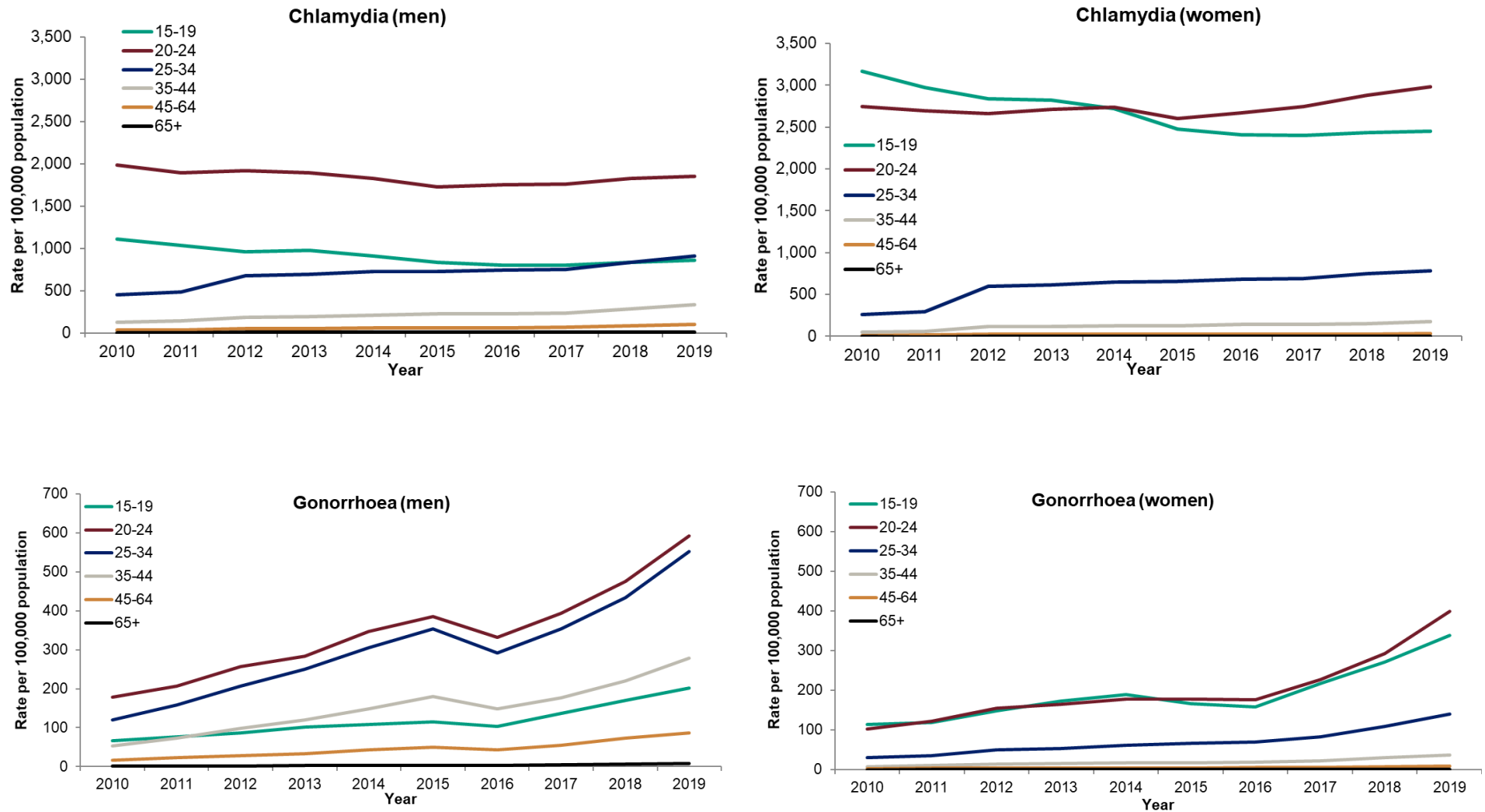
3.1. Trends in STIs by age group

Between 2018 and 2019 increases in gonorrhoea, chlamydia and syphilis were reported in all age groups of people aged 15 years and older, with the largest proportional increase in people aged 20 to 24 years for gonorrhoea (28%; from 13,623 to 17,443), people aged 35 to 44 years for chlamydia (17%; from 15,462 to 18,134) and people aged 65 years and older for syphilis (27%; from 115 to 146). Genital herpes diagnoses increased in people aged 20 to 24 years (2%; from 9,334 to 9,564), 25 to 34 years (4%; from 11,841 to 12,295), 35 to 44 years (5%; from 4,348 to 4,572) and 65 years and older (17%; from 344 to 402), but remained stable among 45 to 64 year olds (decreasing <1%; from 3,791 to 3,783). Lastly, genital warts diagnoses declined in all age groups of people between 15 and 64 years old, with the largest proportional decline in those aged 15 to 19 years (52%; from 4,565 to 2,184), but increased by 7% (from 505 to 542) in those aged 65 years and older. Due to small numbers, the increase in STI diagnoses among people aged 65 years and older should be interpreted with caution; population diagnosis rates of all these STIs remain highest in those aged 35 years and under (figure 2).

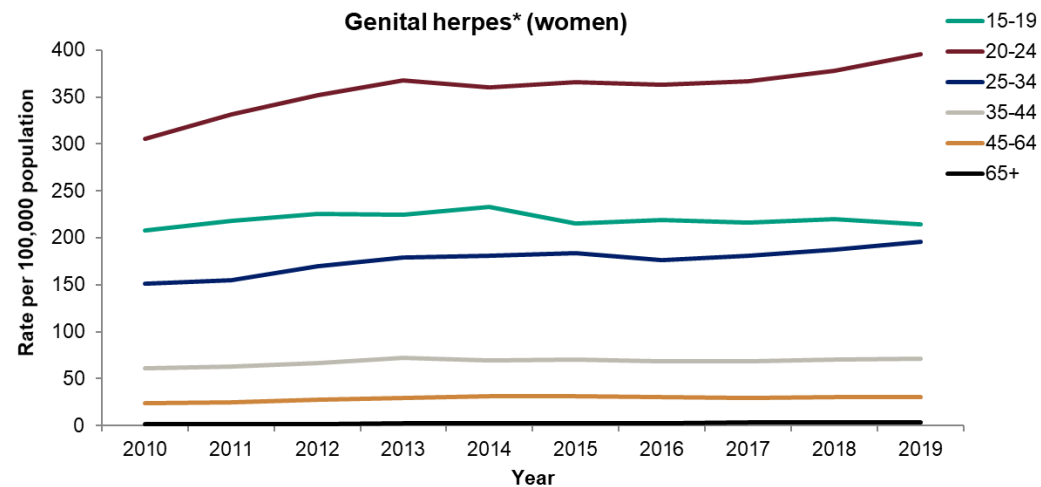
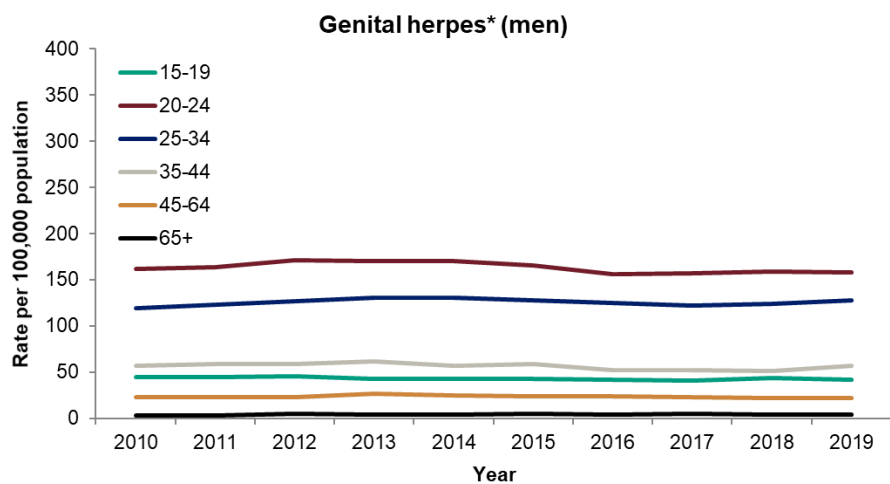
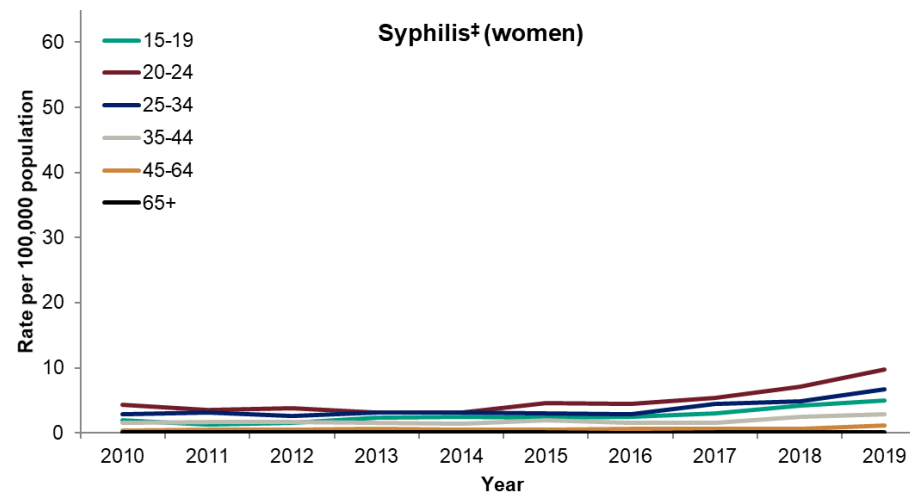
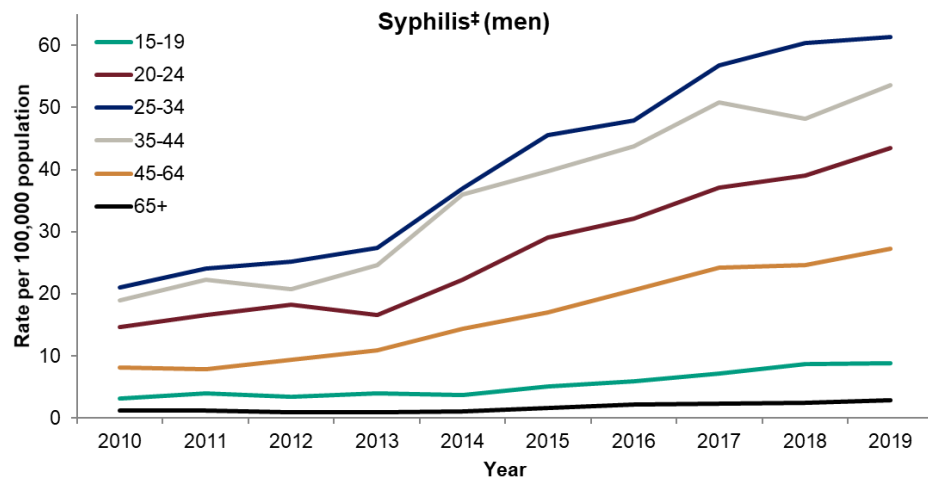
3.2. Trends in STIs by sexual orientation

Between 2018 and 2019 increases in gonorrhoea were reported in heterosexual women (26%; from 14,167 to 17,826), heterosexual men (17%; from 13,036 to 15,253), women who have sex with women (WSW; 68%; from 87 to 146), and MSM (26%; from 26,864 to 33,853). Syphilis diagnoses rose notably in heterosexual women (33%, from 448 to 597), heterosexual men (21%; from 841 to 1,016) and WSW (55%, from 11 to 17), and increased to a lesser extent in MSM (3%; from 5,684 to 5,875). Chlamydia diagnoses remained stable among heterosexual women (decreasing <1%; from 61,058 to 60,856) and decreased slightly among heterosexual men (2%; from 47,134 to 46,192), but increased sharply in WSW (79%; from 191 to 342) and, to a lesser extent, in MSM (21%; from 19,214 to 23,187). Similarly, genital herpes diagnoses increased slightly in heterosexual women (1%; from 20,661 to 20,942) and remained stable in heterosexual men (decreasing <1%; from 9,775 to 9,705), but increased in WSW (61%; from 117 to 188), and in MSM (10%; from 1,713 to 1,884). Lastly, there were declines in genital warts diagnoses in heterosexual women (13%; from 23,052 to 20,121) and heterosexual men (12%; from 28,883 to 25,284) with a smaller decline in MSM (4%; from 3,340 to 3,195), but diagnoses in WSW increased (23%; from 169 to 208). Due to small numbers, the increase in STI diagnoses among WSW should be interpreted with caution.

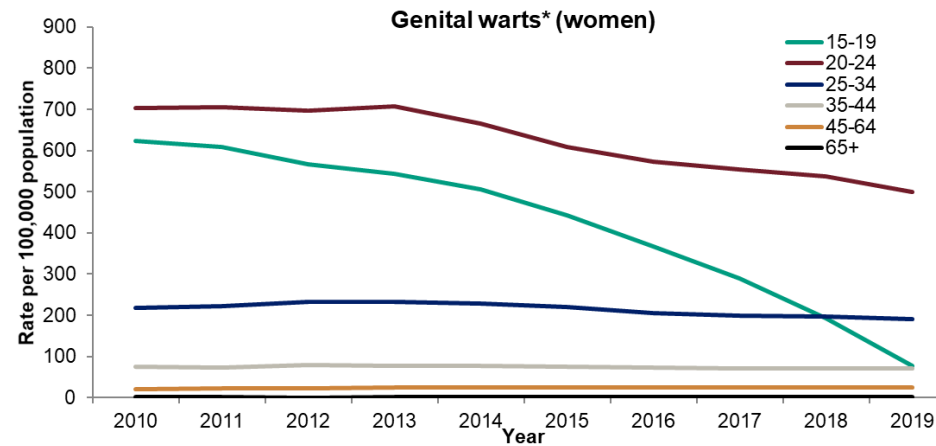
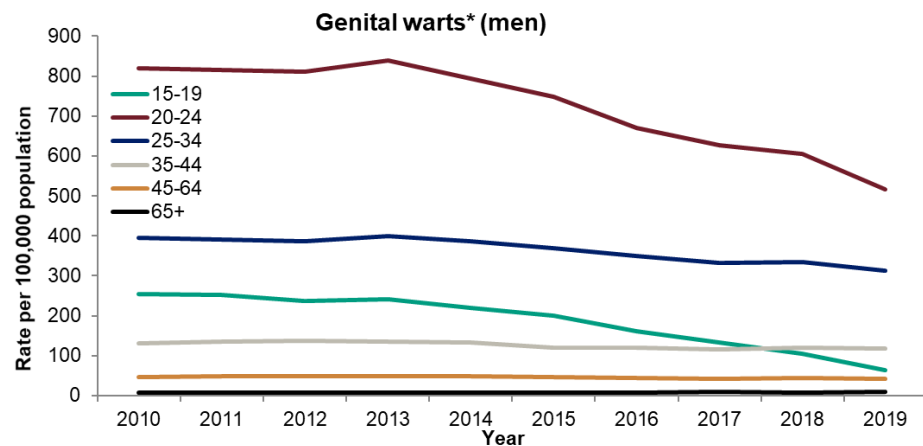
Figure 2. Rates of new sexually transmitted infection diagnoses made at sexual health services† by age-group and gender, 2010 to 2019, England



STIs and screening for chlamydia in England, 2019: annual official statistics, data to end of December 2019



STIs and screening for chlamydia in England, 2019: annual official statistics, data to end of December 2019



† Data from routine specialist and non-specialist sexual health services' returns to the GUMCAD STI Surveillance System and also, for chlamydia only, routine non-specialist sexual health services' returns to the National Chlamydia Screening Programme (2010-2011) and the CTAD Chlamydia Surveillance System (2012-2019).

‡Primary, secondary and early latent; *First episode

3.3. STI epidemiology in population sub-groups with greater sexual health needs

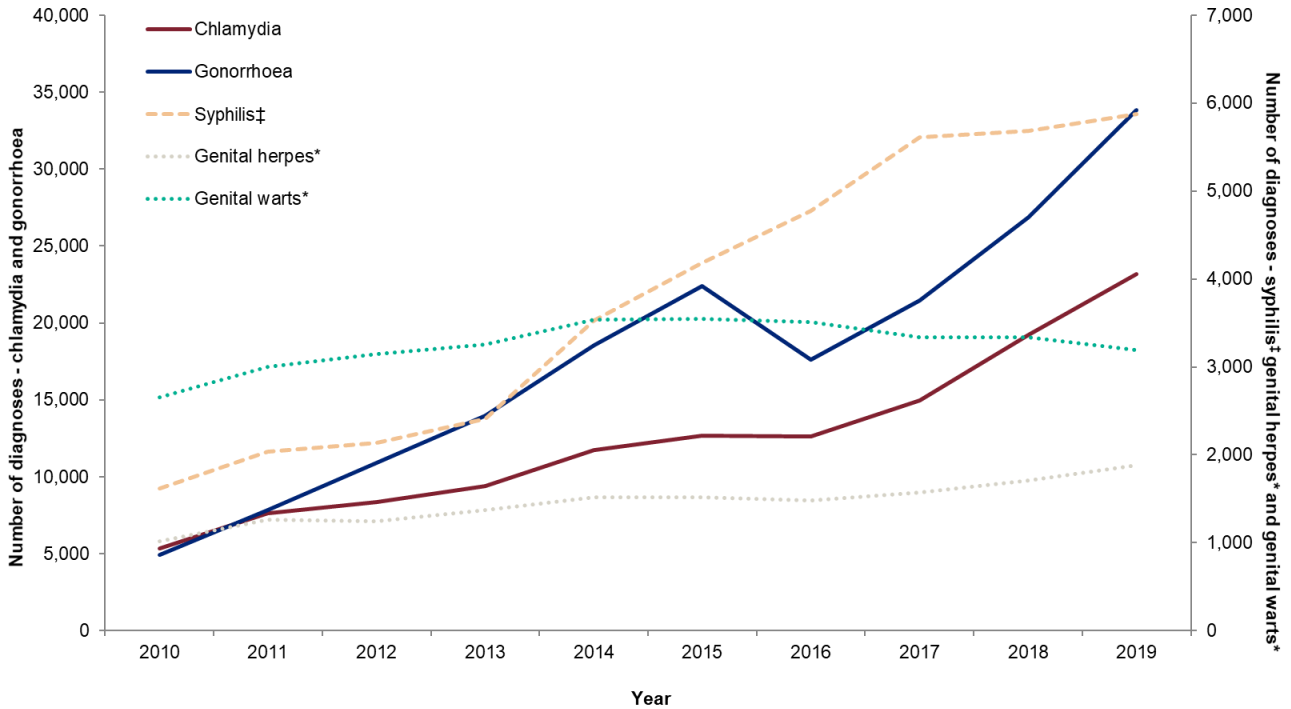
3.3.1. Gay, bisexual and other men who have sex with men

The population diagnosis rates of chlamydia, gonorrhoea and syphilis are greatest in HIV-diagnosed MSM (Appendix figure 3) compared to other men or women. Of the 77,371 new STI diagnoses in MSM in 2019, gonorrhoea (44%; 33,853) and chlamydia (30%; 23,187) were the most common. Between 2015 and 2019 (figure 3), there were large increases in diagnoses of chlamydia (83%; from 12,687 to 23,187), gonorrhoea (51%; from 22,413 to 33,853), and syphilis (40%; from 4,183 to 5,875). While bacterial STI testing among MSM attending SHSs increased over this time-period, the proportional rise in diagnoses of these STIs exceeded that of testing². This may be evidence of increased transmission of these STIs among MSM driven by behavioural changes including more partners and condomless anal intercourse, and, for some MSM, 'chemsex' and group sex facilitated by geosocial networking applications (2, 3).

For gonorrhoea and chlamydia, the increase is particularly marked for infections at extragenital anatomical sites (i.e. pharyngeal and rectal sites), possibly due to more screening (4, 5). Genital herpes diagnoses have also risen in MSM over the past five years, but to a lesser extent and the number of diagnoses remains relatively low (24%; from 1,514 in 2015 to 1,884 in 2019). In contrast, genital warts diagnoses declined by 10% (from 3,547 in 2015 to 3,195 in 2019), which may be associated with the implementation of HPV vaccination in a pilot among selected SHSs and HIV clinics between June 2016 to April 2018, and roll-out of the national programme later in 2018 (6, 7). There has also been a marked decrease in new HIV diagnoses in MSM (data not shown) likely due to the scale up of combination HIV prevention including but not limited to: expanded HIV testing, treatment as Prevention (TasP) (also referred to as Undetectable=Untransmittable ['U=U']), and the availability of HIV pre-exposure prophylaxis (PrEP) (8, 9).

² Please see Table 4 of the [STI annual data tables](#) for further information on STI testing by sexual orientation

Figure 3. Number of new diagnoses of selected sexually transmitted infections in gay, bisexual and other men who have sex with men attending sexual health services†, 2010 to 2019, England



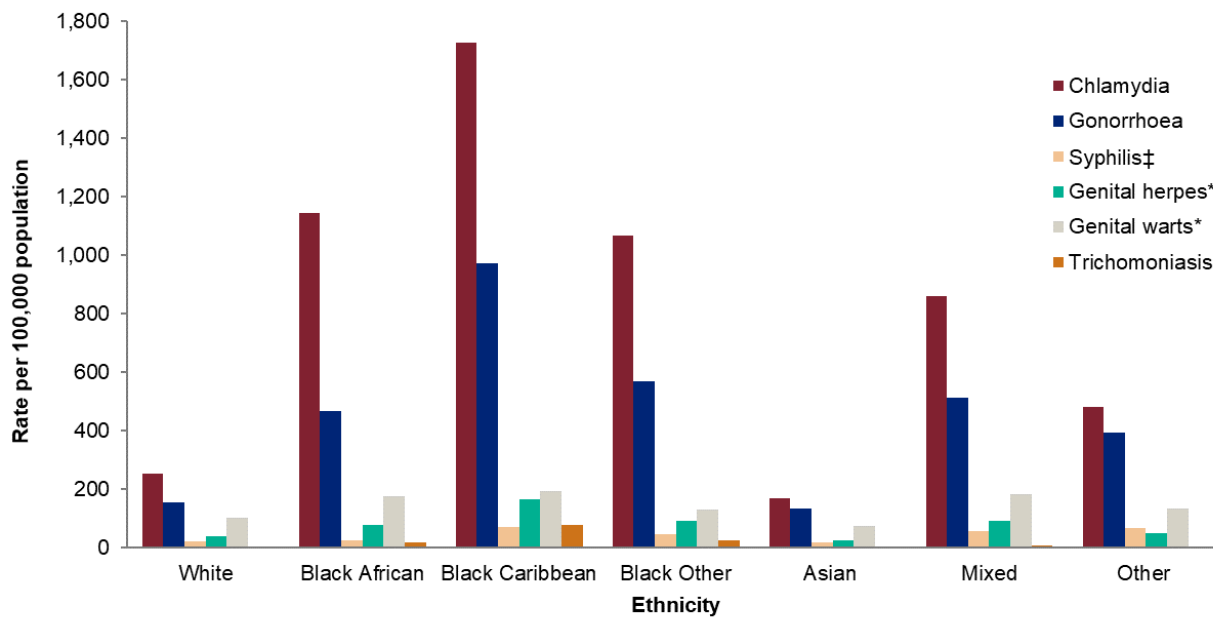
† Data from routine specialist and non-specialist sexual health services' returns to the GUMCAD STI Surveillance System.
‡Primary, secondary and early latent; *First episode.

3.3.2. Black minority ethnicities

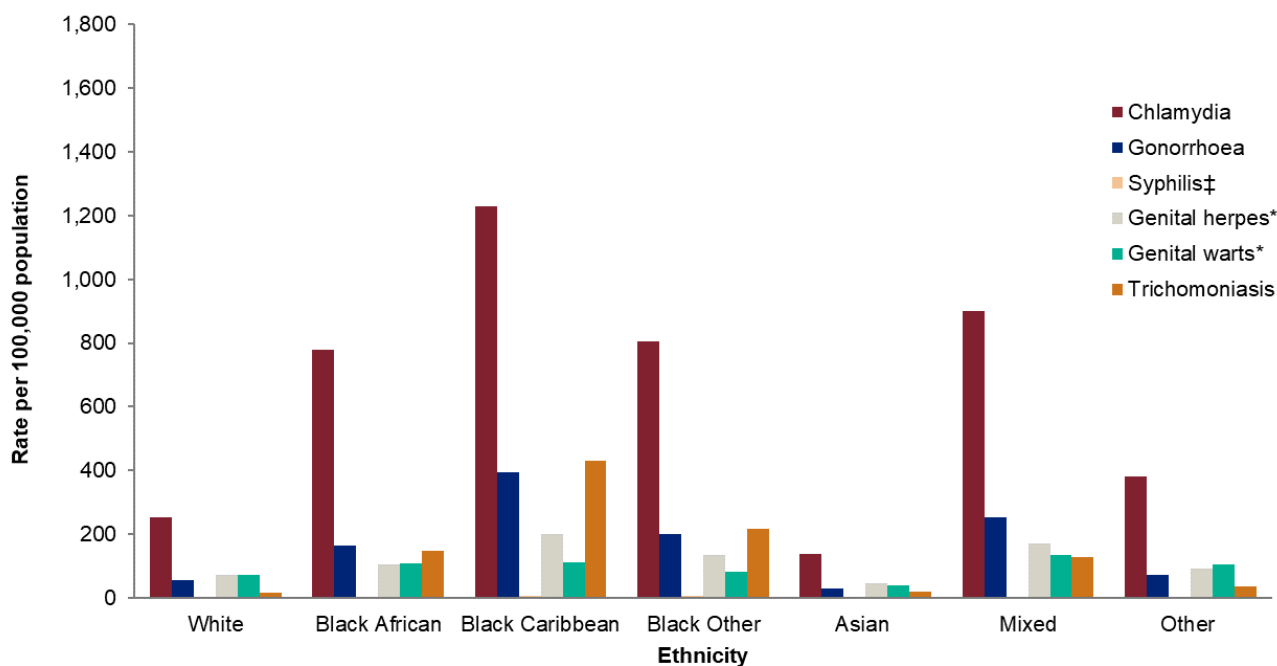
The highest population rates of STI diagnoses by ethnicity are among people of Black ethnicity (figure 4), but this varies considerably among Black Minority Ethnic (BME) groups. People of Black Caribbean and Black non-Caribbean/non-African ethnicity (hereafter: 'any other Black background') have the highest diagnosis rates of many STIs of all ethnic groups, while Black Africans have relatively lower rates (10). Data from a national probability sample indicate that men of Black Caribbean or any other Black background are most likely to report higher numbers of recent sexual partners and concurrent partnerships, which may be maintaining high levels of bacterial STIs in these communities (11). Between 2018 and 2019, STI diagnosis rates remained highest among people of Black Caribbean ethnicity and rose by 9% (from 19,009 to 20,645), however, the largest proportional increase in all new STI diagnoses was in people of Asian ethnicity (16%; from 15,168 to 17,522), primarily for gonorrhoea (36%; from 2,313 to 3,136) and chlamydia (27%; from 4,983 to 6,347).

Figure 4. Rates of selected sexually transmitted infection (STI) diagnoses made at sexual health services† by ethnicity and STI, 2019, England

a) Men



b) Women



† Data from routine specialist and non-specialist sexual health services' returns to the GUMCAD STI Surveillance System

‡Primary, secondary and early latent; *First episode

3.3.3. Young people

Young people experience the highest diagnosis rates of the most common STIs (figure 2) and this is likely due to higher rates of partner change among 16 to 24 year old people (12). Young women are more likely to be diagnosed with an STI than their male counterparts likely due to a higher chlamydia testing coverage of women through the National Chlamydia Screening Programme (NCSP), which targets this age group, as well as disassortative sexual mixing by age and gender (13, 14). Between 2018 and 2019, there were large increases in diagnoses of gonorrhoea (26%; from 20,429 to 25,766) and syphilis (13%; from 1,030 to 1,166), however, syphilis is still rarely diagnosed in young people. The increase in gonorrhoea and syphilis was reported in both young women and young men: in young women, diagnoses of gonorrhoea increased by 31% (from 9,075 to 11,843) and diagnoses of syphilis increased by 31% (from 183 to 240). In young men, gonorrhoea diagnoses increased by 22% (from 11,281 to 13,809) and diagnoses of syphilis by 9% (from 845 to 920).

Among 15 to 24 year olds, there has been a decline in the rate of first episode genital warts diagnoses (figure 2). In 2019, the rate of genital warts diagnoses among girls aged 15 to 17 years attending SHSs, most of whom would have been offered the quadrivalent HPV vaccine (protecting against HPV types 16,18, 6 and 11) when aged 12 to 13 years old, was 91% lower compared to 2015 (16.9 vs 193.5 per 100,000 population). A decline of 81% (10.0 vs 53.3 per 100,000 population) was seen in same aged heterosexual boys over the same period, suggesting substantial herd protection.

4. National Chlamydia Screening Programme

4.1. National trends

The National Chlamydia Screening Programme (NCSP) provides opportunistic screening to sexually active young people aged 15 to 24 years with the aim of reducing the prevalence of associated sequelae and increasing the detection of chlamydia infection. As chlamydia is a largely asymptomatic infection, increases in the number of infections diagnosed and treated is an indication of improved chlamydia control. In 2019, over 1.3 million chlamydia tests were carried out in England among young people aged 15 to 24 years. Assuming one test per person, an estimated 20% of young people (29% of young women and 11% of young men) were tested for chlamydia. A total of 134,418 chlamydia diagnoses were made among this age group, equivalent to a detection rate of 2,043 per 100,000 population aged 15 to 24; this is the first year since 2014 that the detection rate has exceeded 2,000. PHE recommends that local authorities should be working towards achieving a detection rate of at least 2,300 per 100,000 population aged 15 to 24.

While the number of chlamydia tests carried out through the NCSP in 2019 was 2% higher than in 2018, there has been a 13% drop in the number of tests over the last five years (from 1,546,180 in 2015 to 1,339,913 in 2019). Between 2018 and 2019 the proportion of tests that were positive remained constant (10%) following a sustained increase from 8% in 2015.

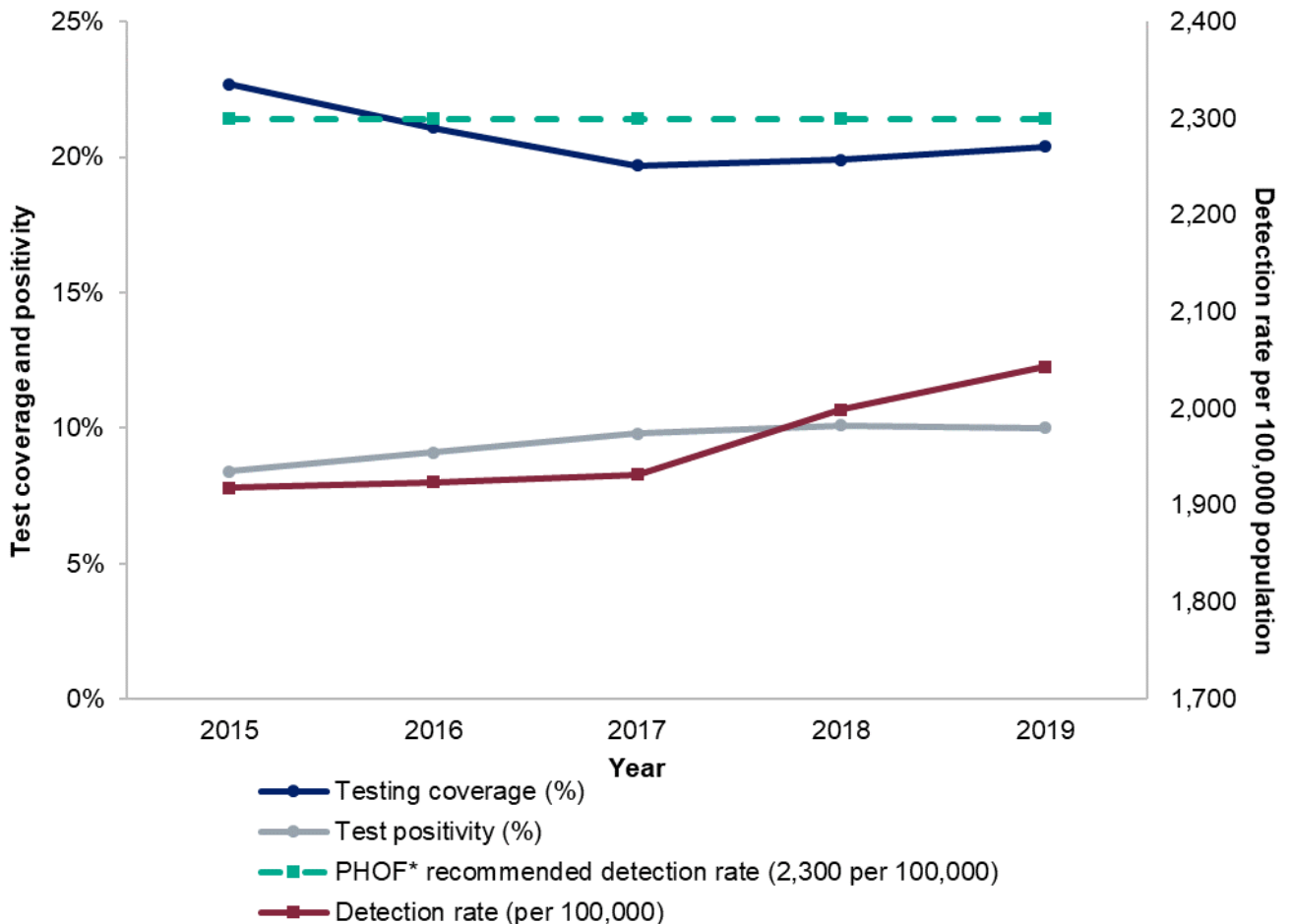
The number of diagnoses made between 2015 and 2019 has increased by 3%, with 2% more diagnoses made in 2019 than in 2018 (134,418 vs 132,136) (Table 1). There has also been a gradual increase (7%) in the chlamydia detection rate over this time-period (1,918 in 2015 to 2,043 per 100,000 in 2019) (Table 1, Figure 5).

Table 1. Chlamydia tests, diagnoses, testing coverage and test positivity† among 15 to 24 year olds by gender, 2018 to 2019, England

Gender	Tests		Diagnoses		Coverage		Positivity	
	2018	2019	2018	2019	2018	2019	2018	2019
Men	376,903	384,463	45,915	46,523	11.1%	11.0%	12.2%	12.1%
Women	925,975	945,499	85,207	86,805	28.8%	29.0%	9.2%	9.2%
Total	1,311,946	1,339,931	132,136	134,418	19.9%	20.4%	10.1%	10.0%

† Data from specialist and non-specialist SHSs

Figure 5. Chlamydia testing coverage, detection rates and test positivity† among 15 to 24 year olds, 2015 to 2019, England



†Data from specialist and non-specialist SHSs

*Public Health Outcomes Framework

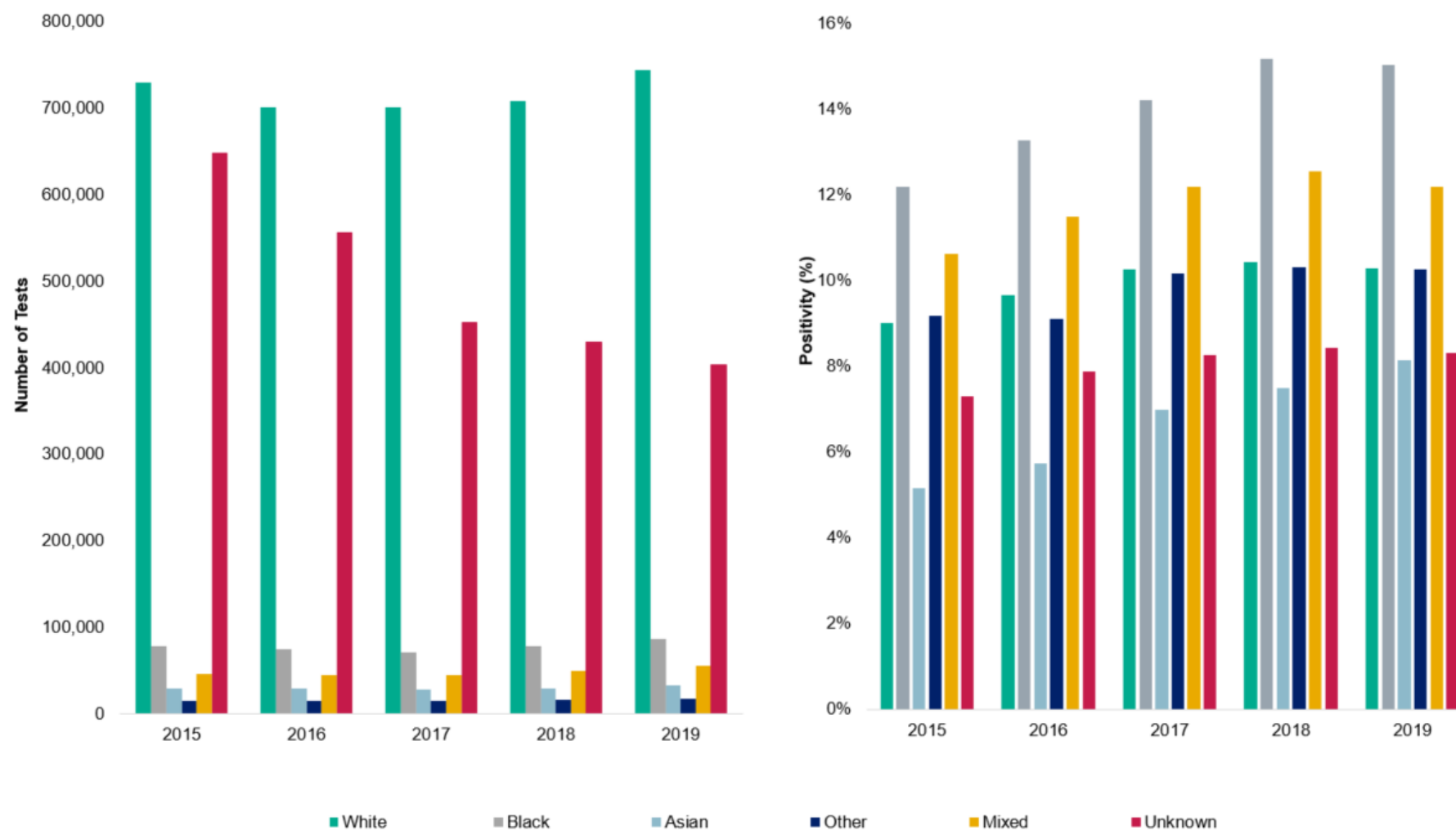
4.2. Characteristics of people screened for chlamydia

The number of chlamydia tests and diagnoses is higher among young women compared to young men, with tests among women accounting for 71% of all tests and 65% of all diagnoses in both 2019 and 2018. However, positivity among women is lower than among men (9% vs. 12%) (Table 1).

By ethnicity, testing is highest among those of White ethnicity, accounting for 56% (744,152 tests) of all tests in 2019. Between 2015 and 2019 there has been an increase in testing among all ethnic groups with the largest increase seen among those of Mixed (21% increase, 46,014 to 55,801) and Other ethnicity (16% increase, 15,008 to 17,345). Between 2018 and 2019 there was large increase in testing among those of Asian (14% increase, 28,919 to 32,819) and Mixed ethnicity (13% increase, 49,235 to 55,801).

Diagnoses are also highest among those of White ethnicity, with 76,546 diagnoses in 2019, accounting for 57% of diagnoses, whereas positivity is highest among those of Black ethnicity (15%; 11,839 diagnoses) followed by those of Mixed ethnicity (12%; 6,804 diagnoses) compared to those of White ethnicity (10%) (Figure 6).

Figure 6. Chlamydia tests and test positivity† among 15 to 24 year olds by ethnicity, 2015 to 2019, England



† Data from specialist and non-specialist SHSs

Chlamydia testing and diagnoses differ by level of socioeconomic deprivation. Deprivation is measured using the index of multiple deprivation (IMD), a residential area-level measure of socioeconomic status. The 1st (Q1) quintile represents the most deprived 20% of the population and the 5th (Q5) quintile the least deprived 20%. In 2019 testing in young men and women was highest among those living in the most deprived IMD quintiles, IMD Q1 and Q2, with 207,924 and 209,116 tests respectively in women and 78,075 and 84,673 tests respectively in men (Table 2). Between 2018 and 2019, among women, the greatest increase in testing has been seen in quintiles 2 (5% increase) and 3 (4% increase) and among men, in the most deprived quintile, Q1 (5% increase) and Q3 (4% increase) (Table 2).

In both men and women, diagnoses were highest in the most deprived quintile, Q1 (22,20 for women and 11,476 for men) with the number of annual diagnoses descending with increasing IMD quintile (Table 2).

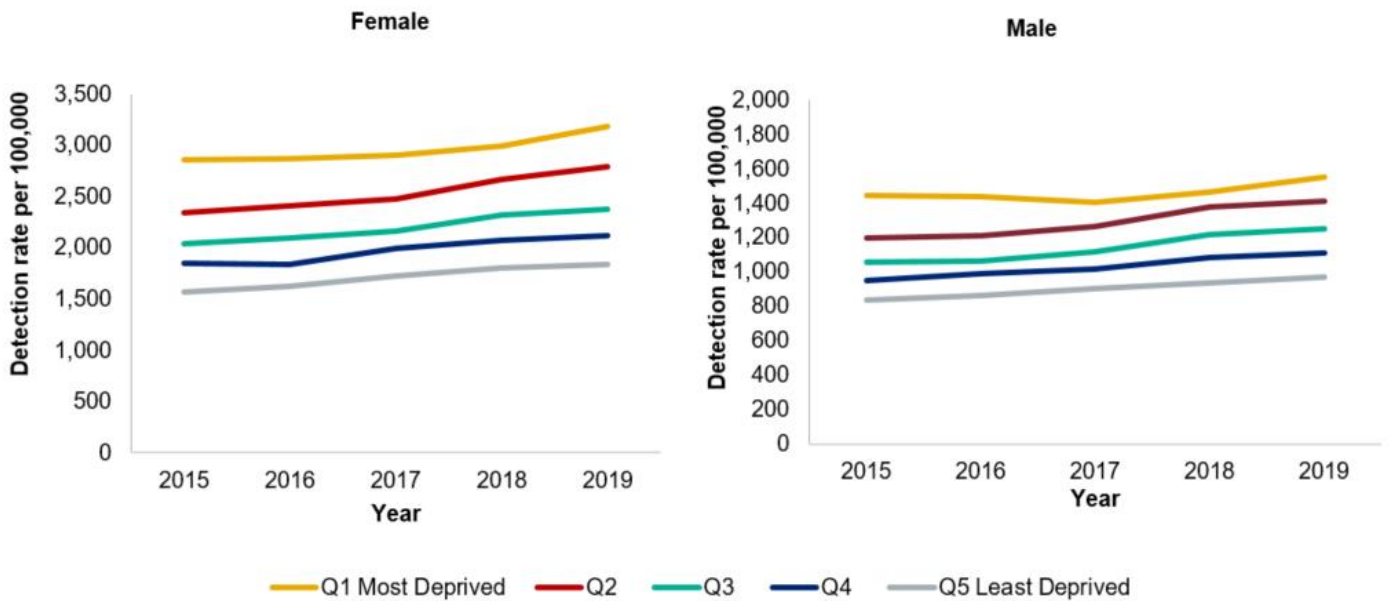
Table 2. Chlamydia tests and diagnoses[†] among 15 to 24 year olds by gender and IMD quintile, 2018 to 2019, England

Gender	IMD quintile	Tests			Diagnoses		
		2018	2019	% change 2018 - 2019	2018	2019	% change 2018 - 2019
Women	Q1 Most Deprived	201,999	207,924	2.8	21,598	22,920	5.8
	Q2	200,291	209,116	4.2	19,201	20,106	4.5
	Q3	170,378	178,889	4.8	15,016	15,344	2.1
	Q4	144,690	150,271	3.7	12,013	12,223	1.7
	Q5 Least Deprived	126,863	131,101	3.2	9,919	10,134	2.1
Men	Q1 Most Deprived	74,430	78,075	4.7	10,814	11,476	5.8
	Q2	81,591	84,673	3.6	10,341	10,612	2.6
	Q3	69,213	72,419	4.4	8,238	8,475	2.8
	Q4	61,975	63,730	2.8	6,771	6,911	2
	Q5 Least Deprived	54,053	55,956	3.4	5,569	5,765	3.4

[†]Data from specialist and non-specialist SHSs

The chlamydia detection rate differs by IMD quintile for both males and females aged 15 to 24 (Figure 7). Chlamydia detection rates were highest among those living in the most deprived areas in England (3,183 per 100,000 for women aged 15 to 24 and 1,553 per 100,000 for men aged 15 to 24) in 2019 and were lowest among those living in the least deprived area in England (1,842 per 100,000 for women and 970 per 100,000 for men in 2019). From 2018-2019 the detection rate has increased slightly across all quintiles with the greatest increase in quintiles 1 and 2 in women (Q1= 6% increase, Q2=5% increase) and quintiles 1 and 5 in men (Q1= 6% increase, Q5=3% increase).

Figure 7. Chlamydia detection rates† among 15 to 24 year olds by gender and IMD quintile, 2015 to 2019, England



†Data from specialist and non-specialist SHSs

Notes:

- mid-year population denominators were obtained from the Office for National Statistics and English indices of deprivation (2015 and 2019) were obtained from the Ministry of Housing, Communities & Local Government – these data between 2016 and 2019 were matched to 2019 Index of Multiple Deprivation (IMD) quintiles, and the data from 2015 were matched to 2015 Index of Multiple Deprivation quintiles
- different scales are used on the y-axes of each graph above

4.3. Testing service type

Despite changes to sexual health service provision in England and a scale up of internet services, specialist SHSs remain the largest service provider for chlamydia testing and carried out 44% of chlamydia tests in young people in 2019 (see Box A for further information on testing service types). The number of tests conducted by specialist SHSs has remained stable from 2015 to 2019, decreasing by less than 1% (585,696 in 2015, 580,713 in 2019), whereas the number of tests in non-specialist services has decreased by 27% (960,484 in 2015, 759,218 in 2019) (Figure 8).

Between 2018 and 2019, the number of tests conducted by specialist SHSs remained stable (increasing <1% from 580,361 to 580,713). However, tests from services reporting as sexual and reproductive health services (SRH), GPs and pharmacies fell between 2018 and 2019 (SRH=1% decline, GP=6% decline, Pharmacy= 7% decline) (Table 3, Figure 9). Additionally, after a continued drop in tests from 2016 to 2018, the number of tests carried out in termination of pregnancy services increased by 13% from 2018 to 2019 (Table 3), although tests in this setting still only contribute a small proportion (2%) to overall testing.

Box A: Notes about testing service type terminology

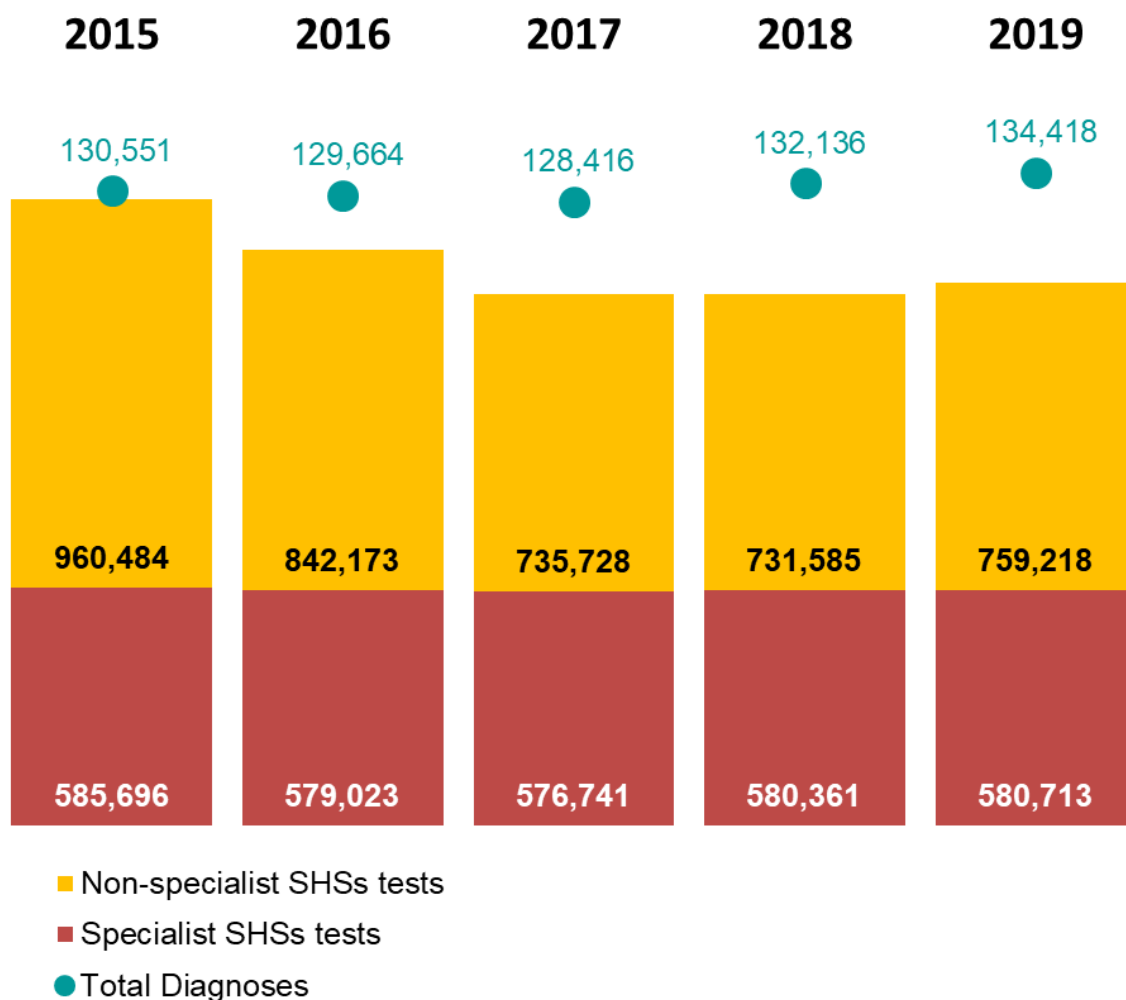
Throughout the National Chlamydia Screening Programme (NCSP) section of the report we refer to a number of different ‘testing service types’ where chlamydia testing as part of the NCSP is carried out. There are eight categories of testing service type: specialist sexual health services (SHS), GPs, sexual and reproductive health (SRH), Internet, Termination of Pregnancy (ToP), Pharmacy, other and unknown.

Service type	
Specialist sexual health services (SHS)	Specialist SHSs
GP	Non-specialist SHSs
Sexual and reproductive health	
Internet	
Termination of Pregnancy (ToP)	
Pharmacy	
Other	
Unknown	

The term ‘specialist sexual health services’ refers to services offering level 3 GUM services, many of which will also offer contraceptive services. The term ‘sexual and reproductive health services (SRH)’ refers to contraceptive services, many of which also offer a level 2 GUM service. Services reporting both ‘specialist sexual health services’ and ‘SRH’ services will offer a range of reproductive health services. In this context, the term ‘specialist’ refers to the level of GUM care provided; it does not indicate anything about the level of reproductive care offered in that service.

Testing service type ‘Internet’ includes all tests from self-sampling kits sourced from online sexual health services. Testing service type ‘Other’ includes testing in outreach settings, prisons, education settings and other settings that do not fall into one of the other categories. ‘Unknown’ refers to a testing service type where no information is provided that allows us to attribute it to one of the other service types.

Figure 8. Chlamydia tests from specialist and non-specialist sexual health services† and total diagnoses among 15 to 24 year olds, 2015 to 2019, England



† Data from specialist and non-specialist SHSs

Table 3. Chlamydia tests, diagnoses, and test positivity[†] among 15 to 24 year olds by test setting, 2018 to 2019, England

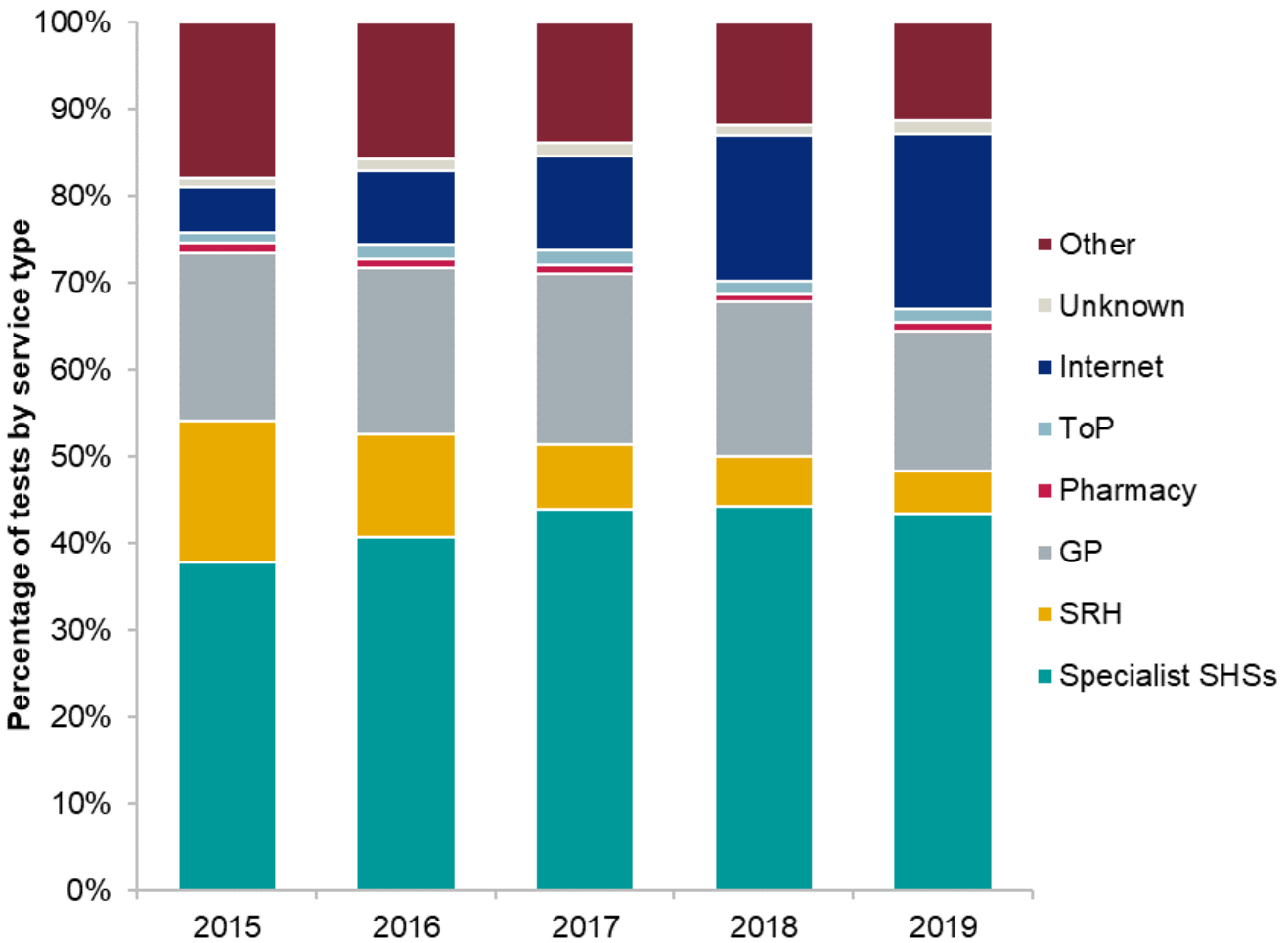
Test setting	Tests					Diagnoses					Tests positivity (%)	
	2018		2019		% change 2018 - 2019	2018		2019		% change 2018 - 2019	2018	2019
	Number	% of total	Number	% of total		Number	% of total	Number	% of total			
Specialist SHSs	580,361	44.2%	580,713	43.3%	0.1%	72,527	54.9%	73,889	55.0%	1.9%	12.5%	12.7%
SRH	76,810	5.9%	65,854	4.9%	-14.3%	9,101	6.9%	7,861	5.8%	-13.6%	11.8%	11.9%
GP	232,376	17.7%	217,762	16.3%	-6.3%	15,670	11.9%	13,863	10.3%	-11.5%	6.7%	6.4%
Pharmacy	12,431	0.9%	11,598	0.9%	-6.7%	1,331	1.0%	1,295	1.0%	-2.7%	10.7%	11.2%
ToP	18,633	1.4%	20,985	1.6%	12.6%	1,229	0.9%	1,558	1.2%	26.8%	6.6%	7.4%
Internet	221,315	16.9%	270,500	20.2%	22.2%	19,208	14.5%	22,819	17.0%	18.8%	8.7%	8.4%
Unknown	13,983	1.1%	19,738	1.5%	41.2%	861	0.7%	1,250	0.9%	45.2%	6.2%	6.3%
Other	156,037	11.9%	152,781	11.4%	-2.1%	12,209	9.2%	11,883	8.8%	-2.7%	7.8%	7.8%
Total	1,311,946	100%	1,339,931	100%	2.1%	132,136	100%	134,418	100%	1.7%	10.1%	10.0%

[†] Data from specialist and non-specialist SHSs

Notes:

- GP: General Practice
- SHS: Sexual Health Service
- SRH: Sexual and Reproductive Health services
- ToP: Termination of Pregnancy

Figure 9. Proportion of Chlamydia tests† among 15 to 24 year olds by test setting, 2015 to 2019, England



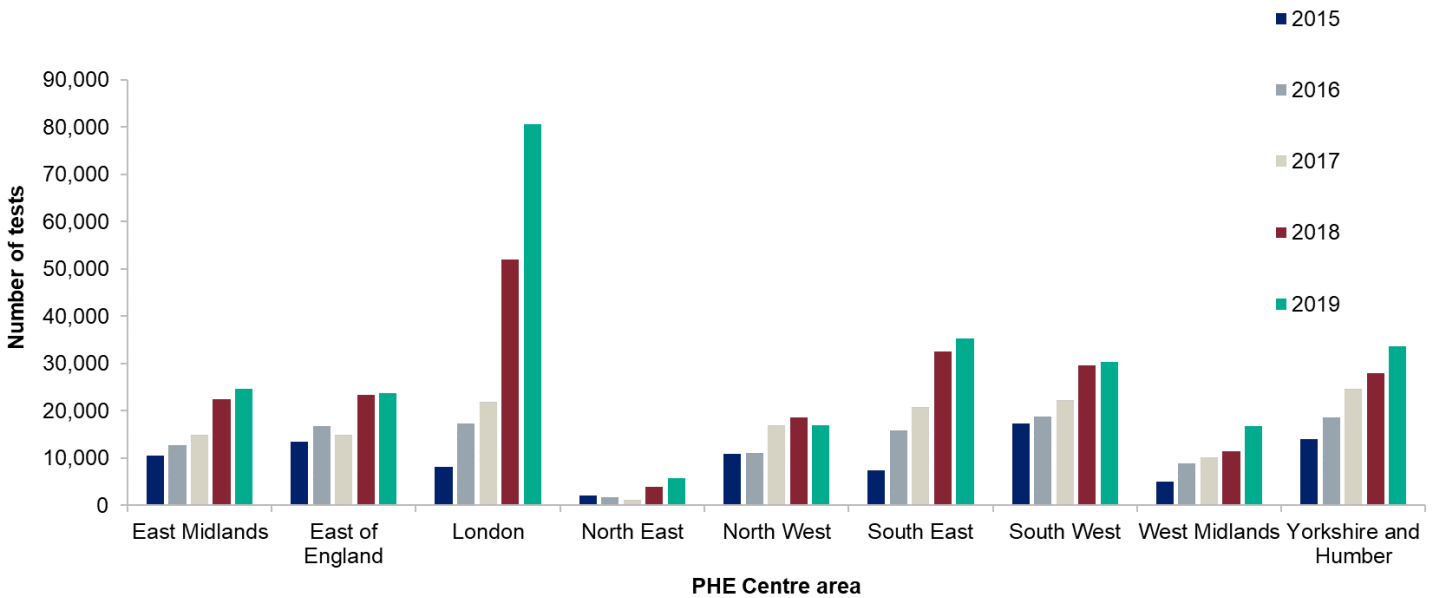
† Data from specialist and non-specialist SHSs

Notes:

- GP: General Practice
- SHS: Sexual Health Service
- SRH: Sexual and Reproductive Health services
- ToP: Termination of Pregnancy

Internet tests increased by 22% between 2018 and 2019 (Table 3). In 2019, 20% of chlamydia tests in 15 to 24 year olds were internet tests, compared with 17% in 2018 (270,500 in 2019 vs 221,315 in 2018). While increases in the number of annual internet tests were seen in all regions between 2018 and 2019, the increase was largest in those residing in London (55% increase; 28,496 more tests), the North East (46% increase; 1,815 more tests), and the West Midlands (46% increase; 5,289 tests) (Figure 10).

Figure 10. Chlamydia tests[†] from internet services among 15 to 24 year olds by PHE Centre area of residence, 2015 to 2019, England



[†]Data from specialist and non-specialist SHSs

4.4. Geographic variations

Chlamydia testing coverage, detection rate and test positivity varied by PHE Centre³ area of residence⁴. In 2019:

- chlamydia testing coverage among young people ranged from 15% in West Midlands to 29% in London (Figure 11)
- test positivity ranged from 9.0% in the South West to 11.0% in West Midlands (Figure 11)
- the detection rate per 100,000 population aged 15 to 24 ranged from 1,698 in the West Midlands to 2,816 in London

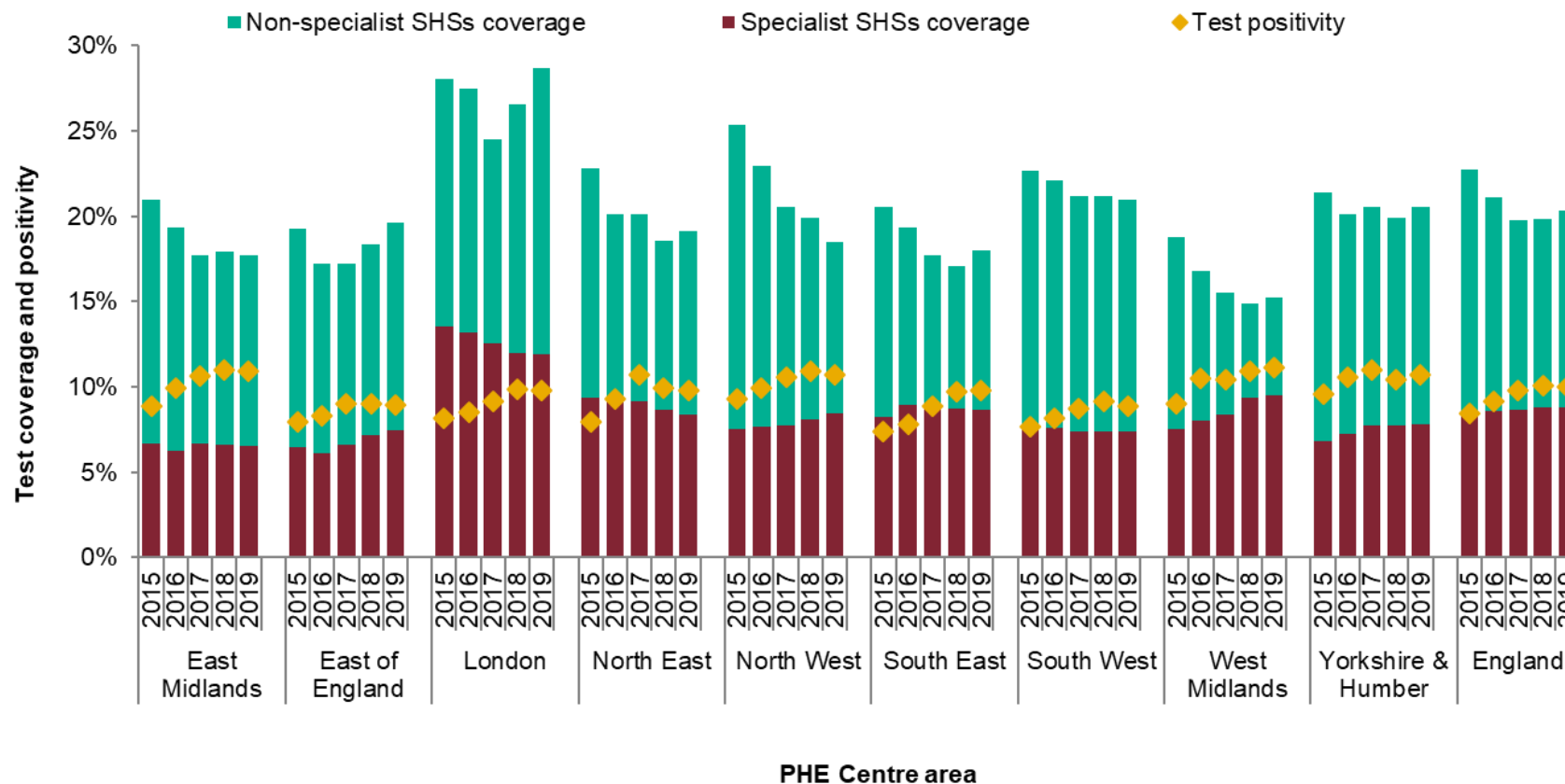
Chlamydia detection rates exhibit considerable geographic variation by upper tier local authority (UTLA) (Figures 13, 14 and 15). The median UTLA detection rate was 1,910 per 100,000 population aged 15 to 24 years (interquartile range: 1,617 to 2,349). Differences in detection rate could be due to a combination of differences in overall chlamydia testing coverage (Figures 11, 12 and 14), variations in the settings used to offer chlamydia testing, and the underlying prevalence of infection.

³ Data represent PHE Centre areas as of December 2019 and do not reflect the current structure of PHE Regions, which came into place in April 2020

⁴ NCSP data presented by PHE Centre is based on patient resident location.

Overall, 27% of UTLAs achieved a detection rate of at least 2,300 in 2019, an increase from 25% in 2018. The percentage of UTLAs meeting the recommendation of a detection rate of at least 2,300 per 100,000 population aged 15 to 24 varies by PHE Centre area, from 0% (West Midlands) to 58% (London) (Figure 15). PHE continues to work towards improving chlamydia control with local areas that are not reaching the recommended 2,300 diagnoses per 100,000 population (15).

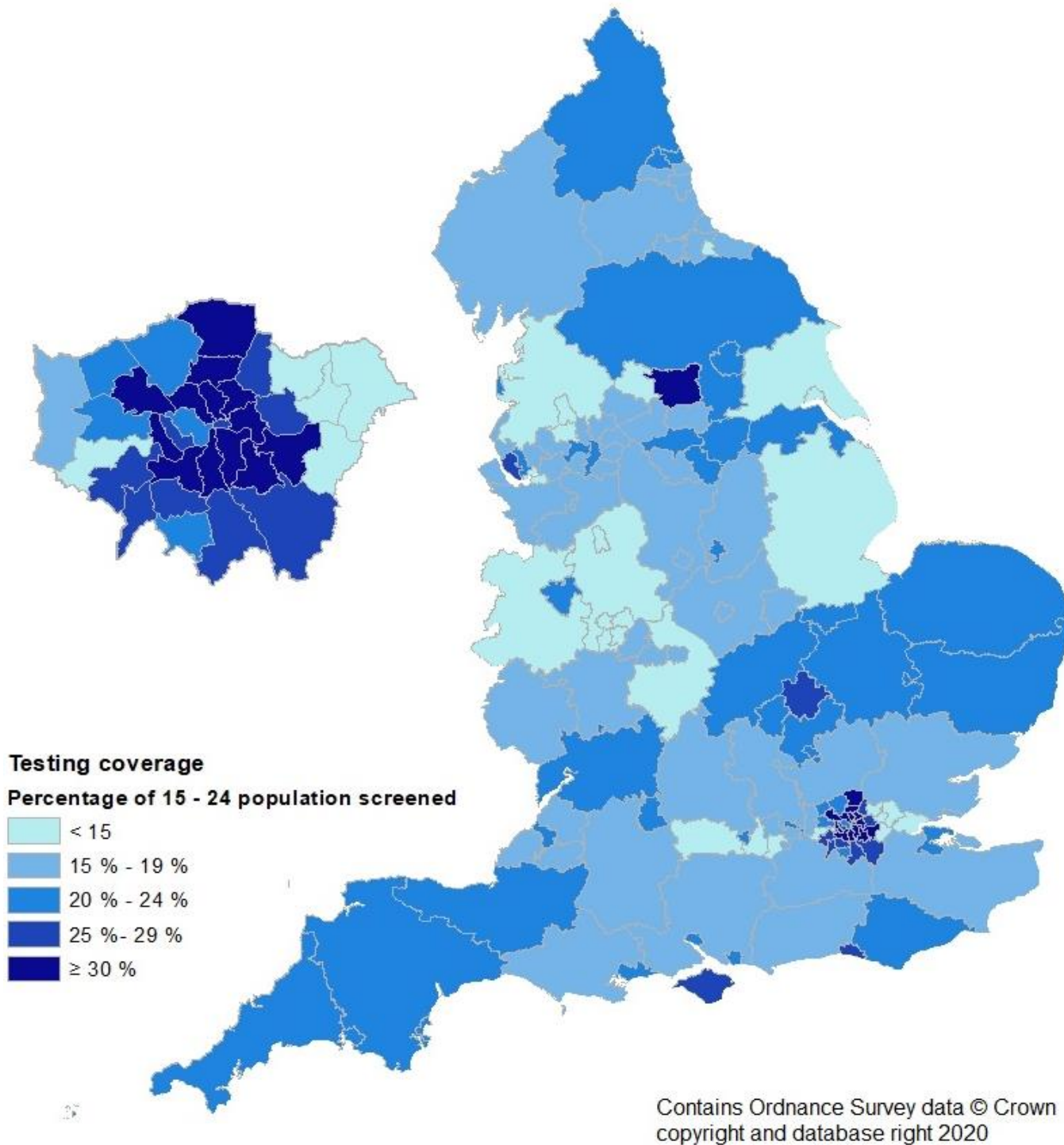
Figure 11. Chlamydia testing coverage and test positivity† among 15 to 24 year olds by PHE Centre⁵ area, 2015 to 2019, England



† Data from specialist and non-specialist SHSs

⁵ NCSP data presented by PHE Centre is based on patient resident location.

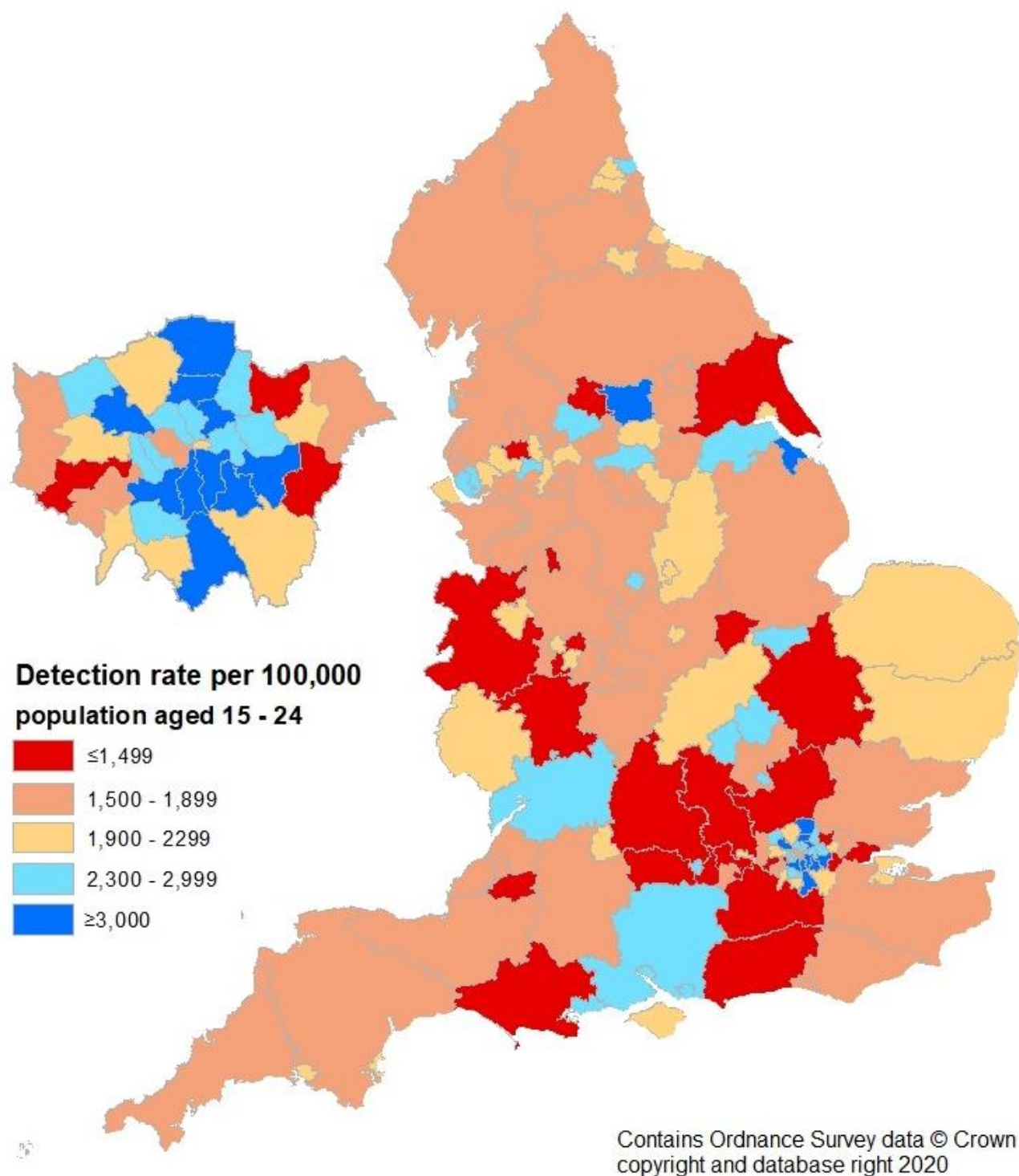
Figure 12. Chlamydia testing coverage† among 15 to 24 year olds by UTLA of residence⁶, 2019, England and London PHE Centre areas



†Data from specialist and non-specialist SHSs

⁶ NCSP data presented by UTLA is based on patient resident location.

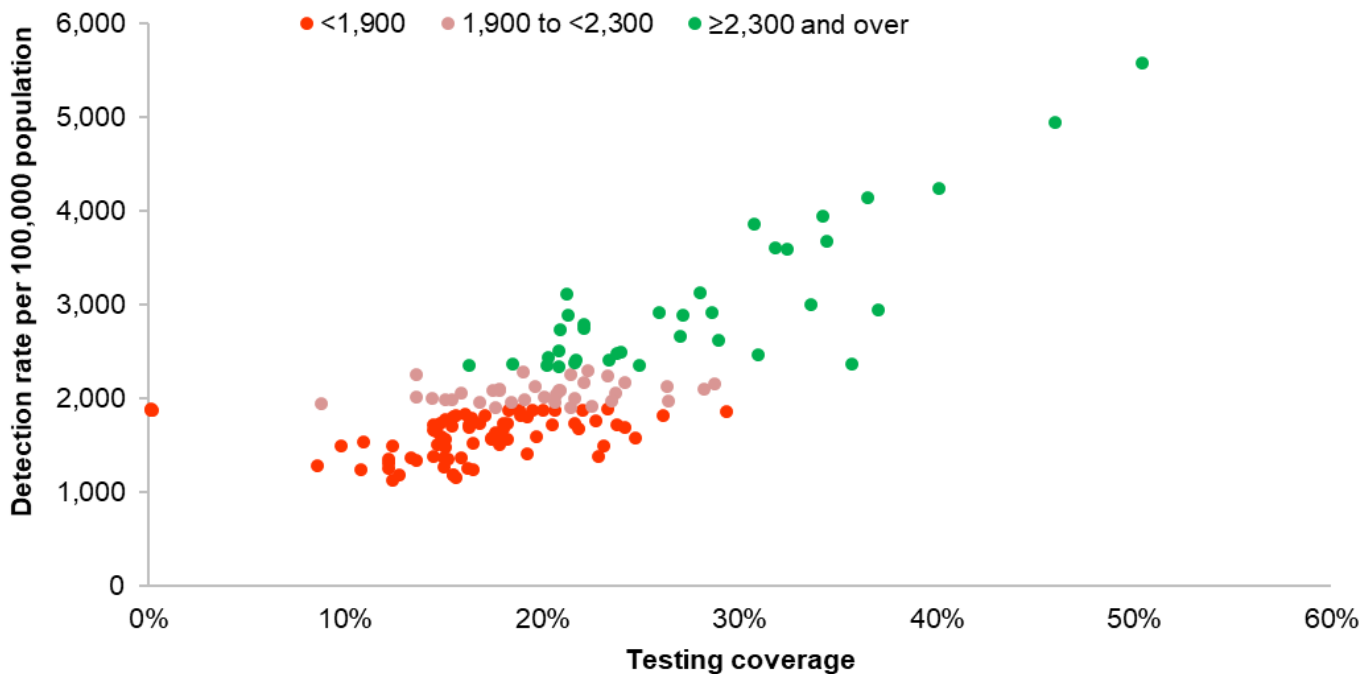
Figure 13. Chlamydia detection rates[†] among 15 to 24 year olds by UTLA⁷ of residence, 2019, England and London PHE Centre areas



[†]Data from specialist and non-specialist SHSs

⁷ NCSP data presented by UTLA is based on patient resident location.

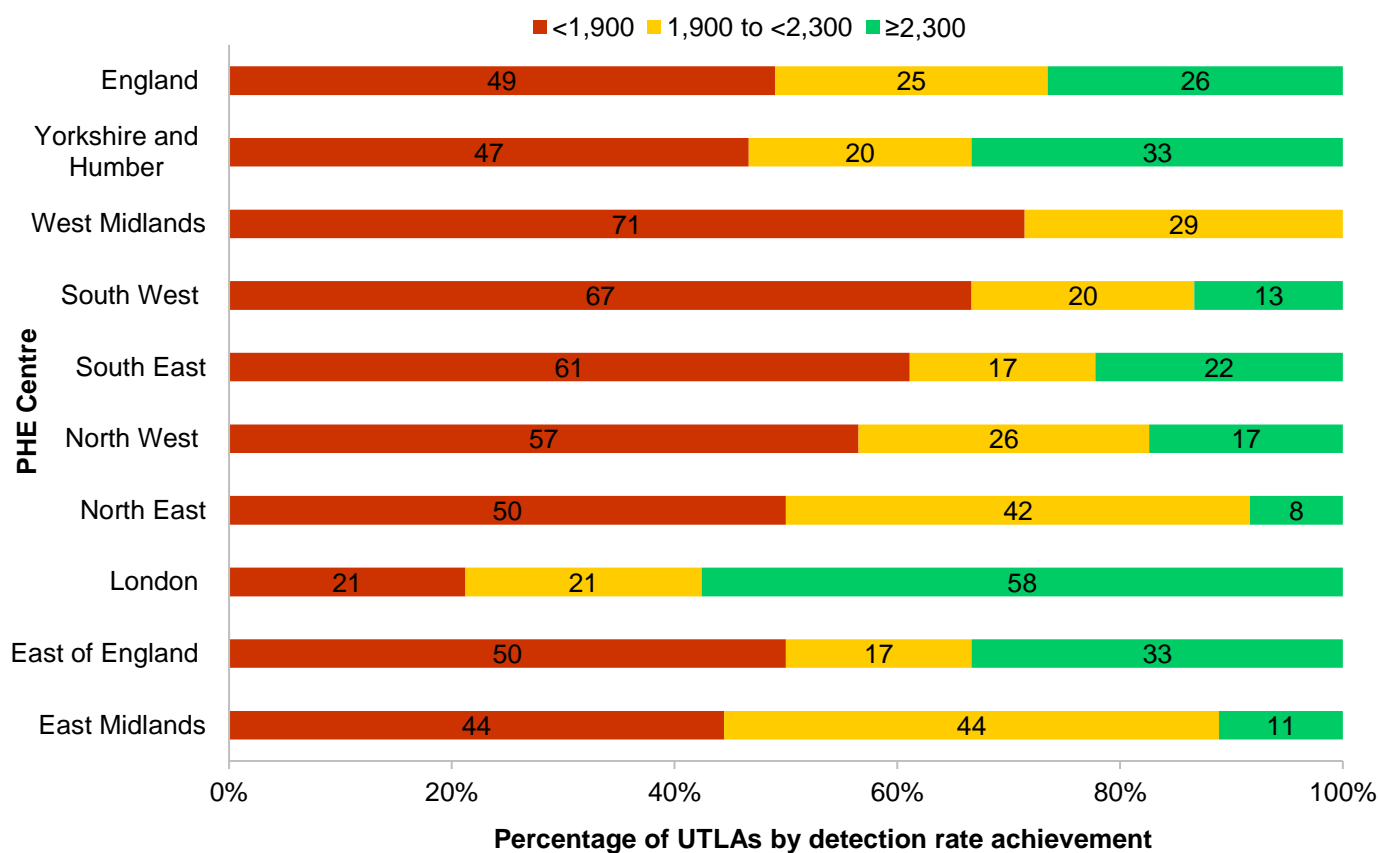
Figure 14. Chlamydia detection rate and testing coverage† among 15 to 24 year olds by UTLA⁸ of residence, 2019, England



†Data from specialist and non-specialist SHSs

⁸ NCSP data presented by UTLA is based on patient resident location.

Figure 15. Variation in UTLA⁹ achievement of the chlamydia detection rate[†] among 15 to 24 year olds by PHE Centre area and England, 2019



[†]Data from specialist and non-specialist SHSs

⁹ NCSP data presented by UTLA is based on patient resident location.

5. Conclusions

The number of STI diagnoses increased by 5% between 2018 and 2019; this was mostly due to a marked rise in gonorrhoea diagnoses in MSM and heterosexuals. The rise in gonorrhoea is concerning as the effectiveness of first-line treatment for gonorrhoea continues to be threatened by the development of antimicrobial resistance. Ceftriaxone monotherapy is currently recommended as first-line therapy; while no isolates submitted to PHE by sentinel SHSs participating in the Gonococcal Resistance to Antimicrobials Surveillance Programme were resistant to ceftriaxone in 2018¹⁰, the proportion with decreased susceptibility to ceftriaxone rose to 25% that year from 17% in 2017 (16). PHE actively monitors, and acts on, the spread of antibiotic resistance in gonorrhoea and potential treatment failures and has introduced enhanced surveillance at SHSs to identify and manage ceftriaxone resistant strains promptly.

The impact of STIs remains greatest in young heterosexuals aged 15 to 24 years, black ethnic minorities, and MSM, and PHE is supporting a number of initiatives to address this inequality in poor sexual health. Effective implementation of Relationships Education in primary schools, as well as Relationships and Sex Education (RSE) in all secondary schools from September 2020 will equip young people with the information and skills to look after their sexual health (17-19). Condoms, an effective method to reduce the risk of acquiring STIs, can be distributed through local services: 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 (20).

Since 2017, there have been notable changes in sexual health service provision in England that affect trends in consultations, tests and diagnoses; the total number of consultations and sexual health screens (tests for chlamydia, gonorrhoea, syphilis and HIV) reported by internet services has increased substantially. This trend is likely to continue as internet services are increasingly becoming the first point of access to SHSs. Internet services have the potential to increase access to STI testing, but care is required to ensure that SHSs remain widely accessible to all those with greater sexual health needs (21, 22).

The early diagnosis and treatment of STIs is a key intervention for their prevention and control. The NCSP promotes testing for chlamydia, the most commonly diagnosed bacterial STI, in sexually active young people annually or on change of partner. Between 2018 and 2019 there has been a 2% increase in number of chlamydia

¹⁰ Based on the most up to date data available at the time of writing this report.

tests and a 2% increase in diagnoses. 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 internet services suggests 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 from offer of chlamydia testing, uptake, diagnosis, treatment, partner notification and retesting.

The continued reduction in genital warts is an expected outcome of the [National HPV Vaccination Programme](#) that has achieved high coverage in girls and has used a vaccine against HPV6/11 as well as HPV16/18 since 2012. Our data clearly show that heterosexual boys are benefiting through herd protection. The extension of the programme to include boys will provide direct protection in future. In addition to the programme for adolescents, the [national HPV vaccination programme for MSM <45 years of age attending specialist SHSs and HIV clinics](#) started across England in April 2018 following a two-year pilot (June 2016 to end March 2018) in 42 specialist SHSs and HIV clinics (6, 7). Vaccination of MSM against HPV is expected to result in a reduction in genital warts diagnoses and, subsequently, in HPV-related cancers.

Several HIV prevention activities can also have an impact on STI control and promote safer sexual behaviours. [HIV Prevention England \(HPE\)](#) has been contracted to deliver, on behalf of PHE, an HIV prevention programme aimed at MSM, black Africans and other groups in whom there is a higher or emerging burden of infection. This programme promotes, among other behaviours, condom use and awareness of STIs in the context of HIV acquisition and transmission. To inform the public health messaging of HPE's interventions, PHE, in collaboration with academic partners, will translate the findings of research conducted through the [National Institute for Health Research Health Protection Research Unit on blood-borne and sexually transmitted infections](#) into health promotion messages aimed at reducing the incidence of bacterial STIs in MSM and people of black Caribbean ethnicity. Lastly, PHE published a [Syphilis Action Plan in 2019](#), with recommendations for PHE and partner organisations, to address the continued increase in syphilis diagnoses in England.

As a response to COVID-19, in March 2020 the UK Government took steps to reduce transmission of SARS-CoV-2 through social distancing measures. This led to the reduction or reconfiguration of services providing face to face consultations. As a result of this, the Association of Directors of Public Health has published recommendations on the prioritisation of sexual and reproductive health services (23). The British Association for Sexual Health and HIV has conducted surveys of staff at SHSs to understand the extent to which sexual health provision has been affected (24). Furthermore, PHE, working with HPE and the Terrence Higgins Trust, utilised the National HIV Self

Sampling Service to provide 10,000 free tests for HIV and syphilis across England to support the 56 Dean Street 'Breaking the Chain' Campaign. PHE has also rapidly established a national Framework for online STI, HIV and contraception services in August 2020; the purpose of this Framework is to provide another option for local authority commissioners to rapidly provide an internet service for HIV/STI self-sampling, condom provision and contraception. PHE is undertaking analyses of surveillance data reported during 2020 to understand the impact of service disruption due to the COVID-19 pandemic response on the provision of HIV/STI services and the effect that social distancing measures may have had on the epidemiology of STIs. Provisional findings will be published within the coming months.

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Appendix

Sexually transmitted infection (STI) testing in England

Sexual health services (SHSs) offer free, open-access HIV and STI testing, diagnosis and management services. The National Chlamydia Screening Programme (NCSP) offers opportunistic screening of sexually active young people aged 15 to 24 years and is mainly delivered through primary care (general practices and pharmacies), sexual and reproductive health (SRH) services (including termination of pregnancy services) and specialist SHSs.

The term 'test' is used to signify both asymptomatic screens and symptomatic tests.

Local areas should work towards a chlamydia detection rate of at least 2,300 per 100,000 population among 15 to 24 year olds, the recommended level for this Public Health Outcomes Framework (PHOF) indicator. Data from CTAD and GUMCAD (details below) are used by the NCSP to monitor progress towards the recommended PHOF indicator level.

Data sources – reporting services

This report presents data on the recent trends and epidemiology of STIs in England. It was compiled using data on STI tests and diagnoses made in specialist and non-specialist SHSs, defined as:

- specialist (level 3) services – genitourinary medicine (GUM) services and integrated GUM/SRH services
- non-specialist (level 1 and 2) services – SRH services, young people's services, internet services, termination of pregnancy services, pharmacies, outreach and general practice, and other community-based settings

Details on the levels of sexual health service provision are provided in Appendix B of the [Standards for the Management of STIs](#) (British Association for Sexual Health and HIV)

Data sources – surveillance systems

Data on STI tests and diagnoses are submitted by SHSs to the GUMCAD STI Surveillance System. Data on chlamydia tests and diagnoses are submitted by laboratories to the CTAD Chlamydia Surveillance System. Both of these surveillance systems are managed by Public Health England and, in combination, provide a comprehensive picture of STI trends in England. These systems are detailed below.

STI surveillance: The GUMCAD STI Surveillance System was established in 2008 as an electronic surveillance system to collect disaggregated, patient-level data on STI tests and diagnoses from specialist SHSs. From 2012, GUMCAD was expanded to also include reporting from all commissioned non-specialist SHSs.

Chlamydia surveillance: Before 2012, chlamydia diagnosis data were sourced from the NCSP core data return and the non-NCSP non-GUM aggregate data return. In 2012 the CTAD Chlamydia Surveillance System was established as a universal disaggregate dataset that collects chlamydia data from all laboratories commissioned by LAs or the NHS to carry out chlamydia testing. This report includes the chlamydia data from tests and diagnoses occurring in non-specialist (level 1 & 2) SHSs.

Data definitions and population data

Trends in 'New STIs' are discussed in this report. 'New STIs' include the following: chancroid, chlamydia, donovanosis, gonorrhoea, genital herpes (first episode), HIV, lymphogranuloma venereum, molluscum contagiosum, *Mycoplasma genitalium*, non-specific genital infection, pediculosis pubis, pelvic inflammatory disease & epididymitis, scabies, *Shigella flexneri*, *Shigella sonnei*, *Shigella* spp (unspecified), syphilis (primary, secondary & early latent stages), trichomoniasis, and genital warts (first episode).

Male gender includes transgender (trans) men; Female gender includes transgender (trans) women. The GUMCAD STI Surveillance System is being updated to include more detailed information on gender identity, including those who identify as non-binary (not exclusively male or female). In this report, data reported with an 'unknown' gender and/or sexual risk by sexual health services may be included in the test or diagnosis total.

Men reported with an unknown sexual orientation have been excluded from the heterosexual and MSM analyses. Women reported with an unknown sexual orientation have also been excluded from heterosexual analyses. Similarly, attendances reported with an unknown ethnicity have been excluded from the ethnicity analysis.

Rates have been calculated using ONS population estimates generated annually based upon the 2011 census. The population data for 2019 were taken from the 2019 ONS population estimate which was released on 6th May 2020. Population estimates by sexual orientation are available for 2018 only. Ethnicity-specific population data are the latest available, derived from mid-2011 ONS experimental data.

Missing data

CTAD: Leeds general infirmary laboratory did not submit data for quarter 3 (July to September) 2016. This will affect the data for the areas where this laboratory is commissioned for chlamydia testing.

Updates to surveillance datasets

Changes in surveillance have occurred that may affect STI trends over time. These changes are described below.

Chlamydia test and diagnosis data from non-specialist SHSs before 2012 (from NCSP & NNNG services) only include those aged 15 to 24 years whereas the CTAD Chlamydia Surveillance System includes all age-groups. Therefore, chlamydia data in non-specialist SHSs from 2012 onwards are not directly comparable to data from previous years.

From 2012, all chlamydia cases presenting to specialist SHSs that were previously diagnosed at other services are no longer included in the chlamydia diagnosis totals, in order to prevent double counting of diagnoses. As a result of this, the recommended level for the PHOF indicator chlamydia detection rate was revised down from 2,400 to 2,300 per 100,000 population in 15 to 24 year olds.

The 'New STI diagnoses' group was expanded in 2015 to include STI diagnoses that were not previously reported via GUMCAD (*Shigella* spp and *Mycoplasma genitalium* infections). Therefore, data from 2015 are not directly comparable to data from previous years.

GUMCAD reporting was expanded in 2012 to include non-specialist SHSs. Most STI diagnoses are made in specialist SHSs, but this expansion resulted in an increase in reported diagnoses of some STIs between 2012 and 2014.

Sexual health service provision by physical and internet services

Sexual health services may be provided via face-to-face, telephone or internet consultations. Since 2017, there have been notable changes in sexual health service provision in England that affect trends in consultations, tests and diagnoses.

Between 2018 and 2019, the total number of consultations at SHSs located in England increased by 7% (from 3,613,447 to 3,852,121). This varied considerably by service type: the total number of consultations reported by specialist SHSs increased by 2% (from 2,961,979 to 3,021,945), whereas the total number of consultations reported by non-specialist SHSs (excluding internet services) decreased by 10% (from 390,760 to

350,064) and the number of consultations reported by internet services increased by 84% (from 260,708 to 480,112). The rise in consultations reported by internet services is in line with the increasing trend observed since 2017.

Between 2018 and 2019, the total number of sexual health screens (test for chlamydia, gonorrhoea, syphilis and HIV) increased by 10% (from 1,976,164 to 2,175,525). The increase was most prominent in internet services where the number of sexual health screens increased by 69% (from 248,184 to 419,046). By contrast, the number of sexual screens increased by 2% (from 1,628,493 to 1,666,272) in specialist SHSs and decreased by 9% in non-specialist SHSs (from 99,487 to 90,207).

In 2019, internet services accounted for 19% of all sexual health screens reported in England, compared to 13% in 2018 and 4% in 2017.

There were 33,482 chlamydia diagnoses reported by internet services in 2019, an increase of 27% since 2018.

There were 5,701 gonorrhoea diagnoses reported by internet services in 2019, an increase of 106% since 2018.

Resources on the PHE website

Further STI data are available on the PHE STI annual data tables web page in the form of tables, an infographic, and a slide set:

<https://www.gov.uk/government/statistics/sexually-transmitted-infections-stis-annual-data-tables>

Further data on chlamydia tests and diagnoses in 15 to 24 year olds are available on the PHE NCSP annual data tables web page:

<https://www.gov.uk/government/statistics/national-chlamydia-screening-programme-ncsp-data-tables>

Interactive tables, charts, and maps showing local-area STI data are available on the Sexual and Reproductive Health Profiles: <http://fingertips.phe.org.uk/profile/sexualhealth>

Further information on the GUMCAD and CTAD surveillance systems is available at

<https://www.gov.uk/guidance/gumcad-sti-surveillance-system> and

<https://www.gov.uk/guidance/ctad-chlamydia-surveillance-system>, respectively

Further information on the Gonococcal Resistance to Antimicrobials Surveillance Programme is available at <https://www.gov.uk/government/publications/gonococcal-resistance-to-antimicrobials-surveillance-programme-grasp-report>

Further information on trends in HIV diagnoses in the UK is available at:

www.gov.uk/government/statistics/hiv-annual-data-tables, and

<https://www.gov.uk/government/statistics/hiv-in-the-united-kingdom>

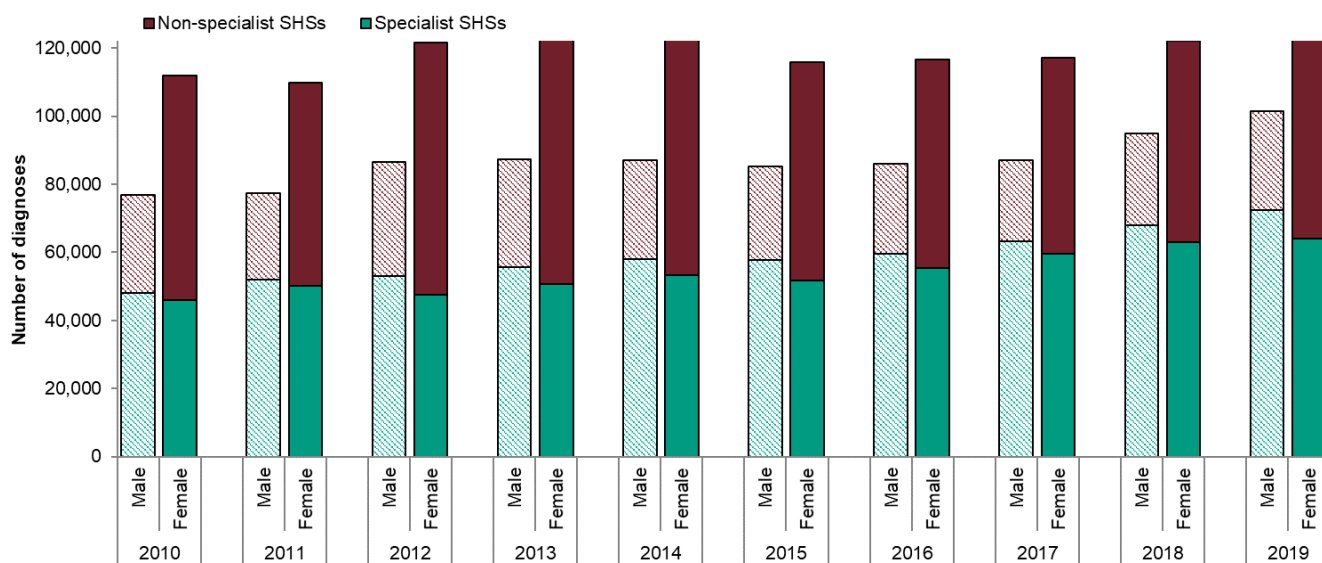
The latest LGV surveillance data for the UK are available on the following web page:

www.gov.uk/government/collections/lymphogranuloma-venereum-lgv-guidance-data-and-analysis

The latest guidance and data on *Shigella* spp are available at:

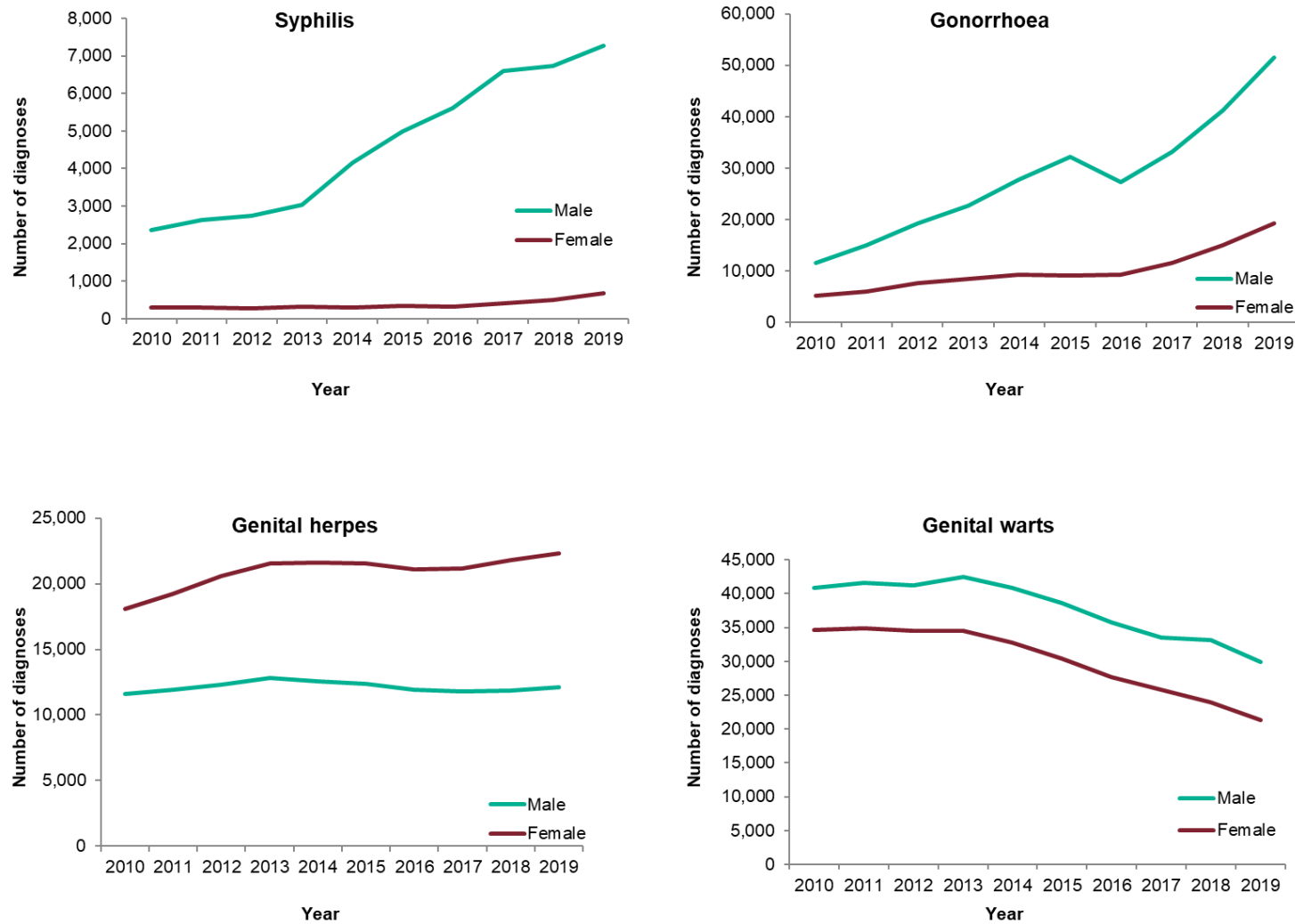
<https://www.gov.uk/government/collections/shigella-guidance-data-and-analysis>

Appendix Figure 1. New diagnoses of chlamydia at sexual health services† by gender and service type, 2010 to 2019, England



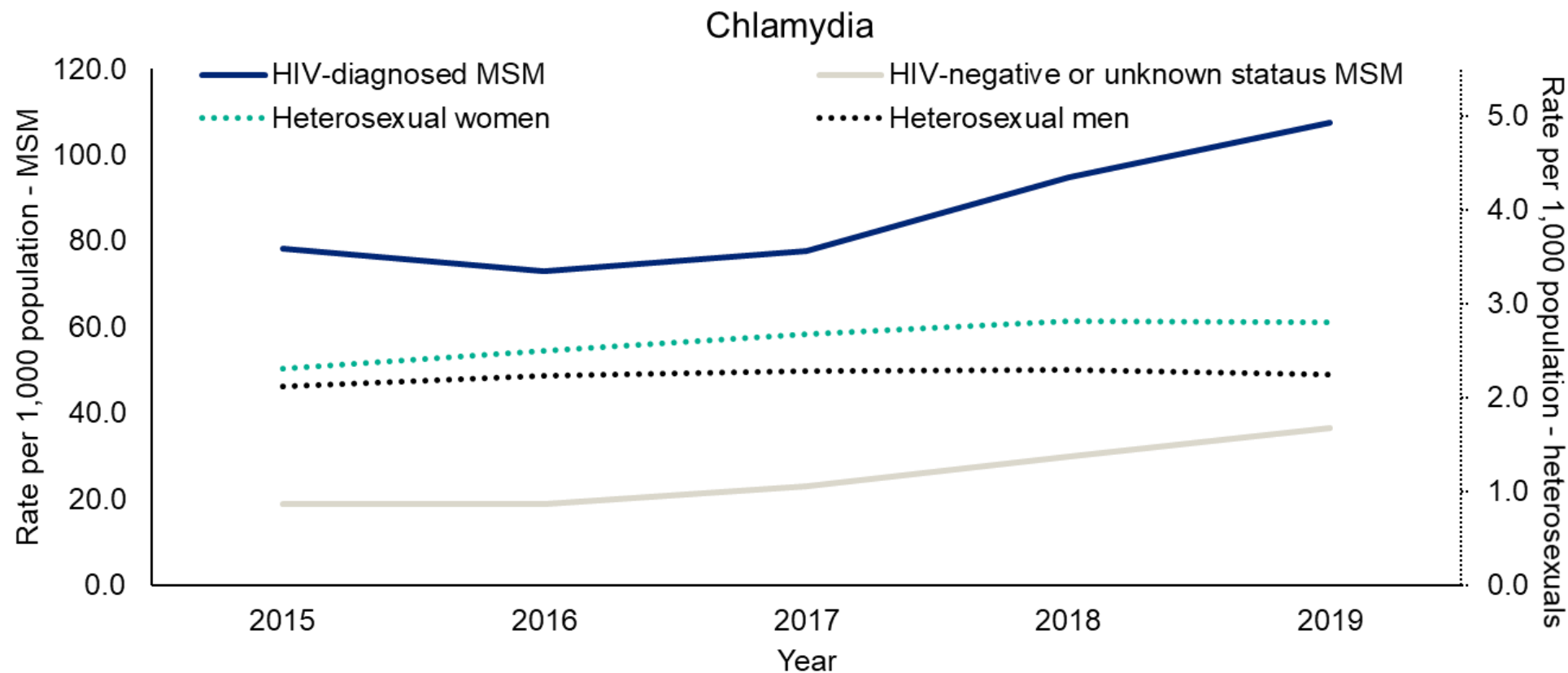
† Data from routine specialist sexual health services' returns to the GUMCAD STI Surveillance System and routine non-specialist sexual health services' returns to the CTAD Chlamydia Surveillance System.

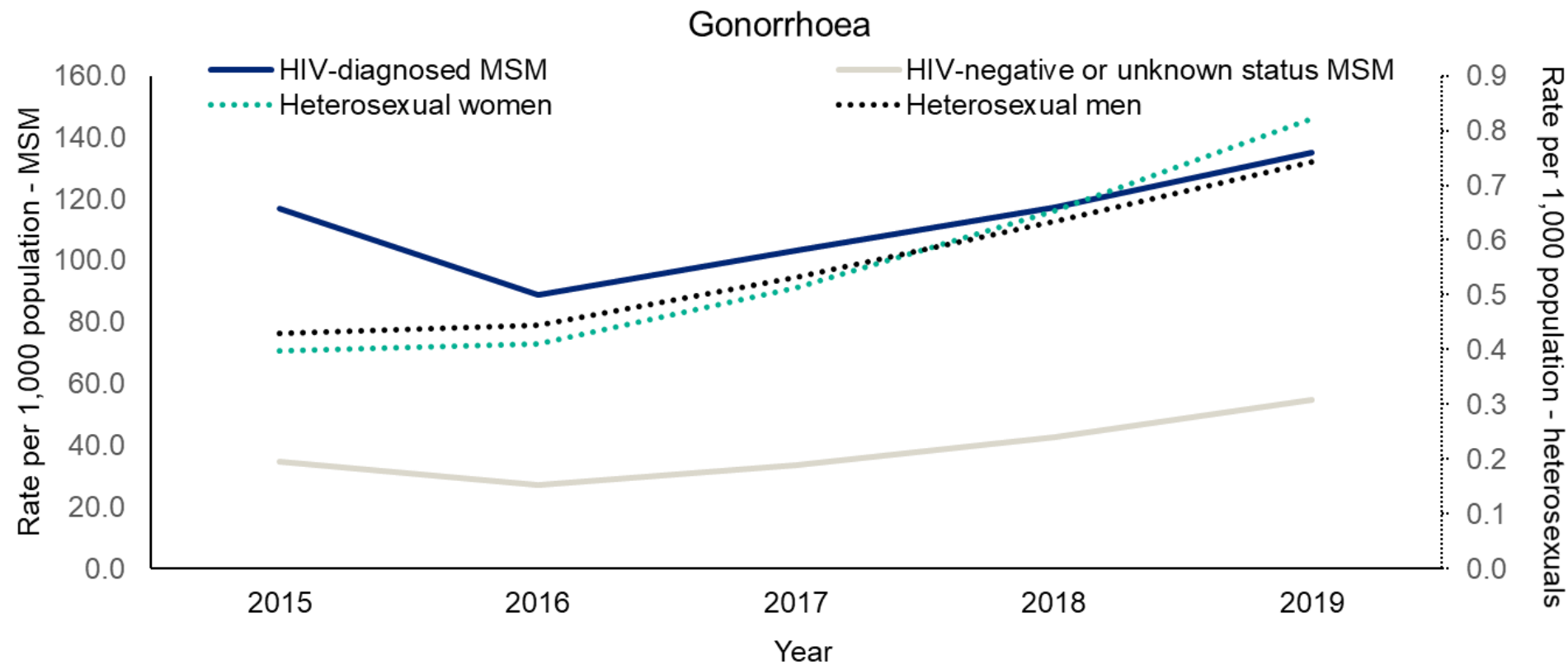
Appendix Figure 2. New diagnoses of syphilis (primary, secondary and early latent), gonorrhoea, genital herpes (first episode) and genital warts (first episode) at sexual health services† by gender, 2010 to 2019, England

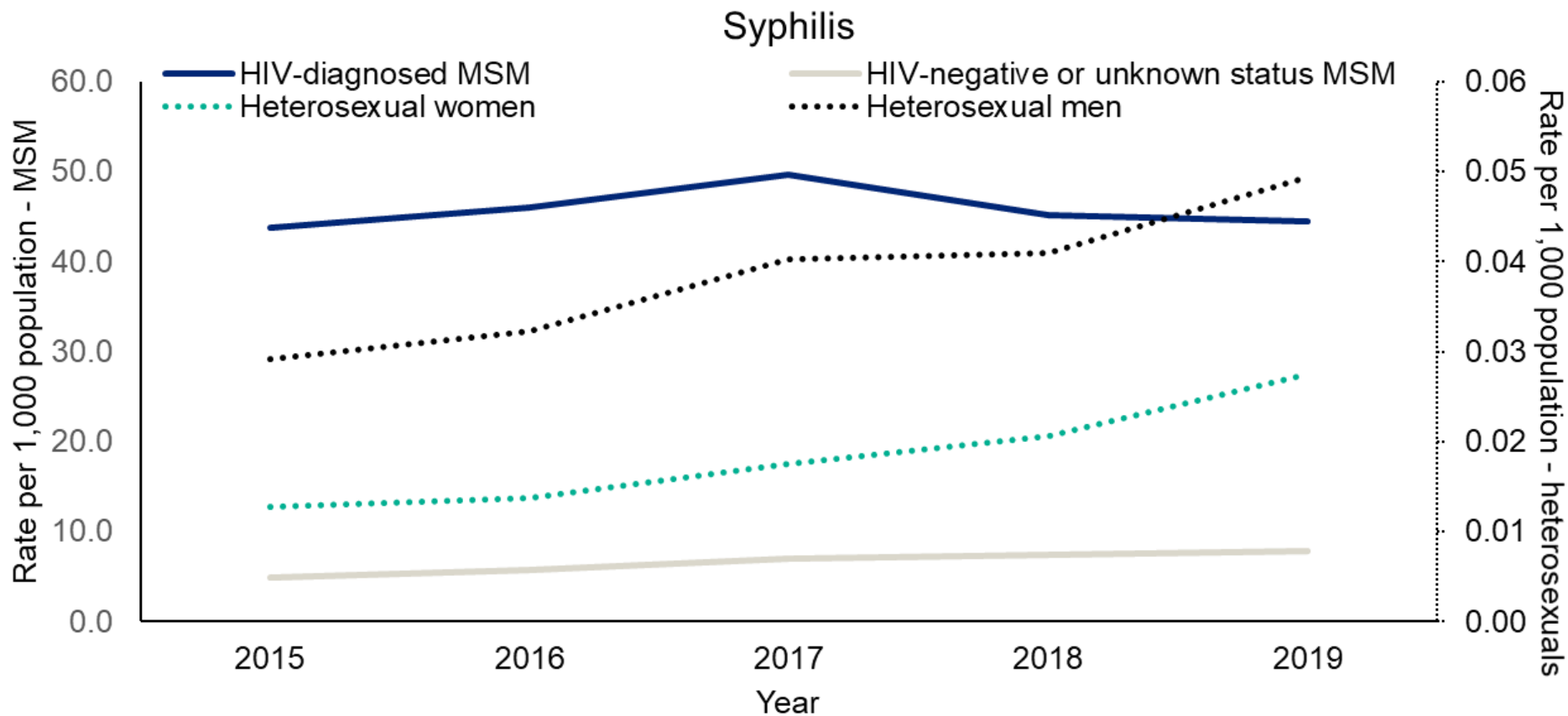


†Data from routine specialist and non-specialist sexual health services' returns to the GUMCAD STI Surveillance System.

Appendix Figure 3. Population diagnosis rates of chlamydia, gonorrhoea, and (primary, secondary and early latent) syphilis at sexual health services[†] by sexual orientation and, among gay, bisexual and other men who have sex with men (MSM) by HIV-status, 2015 to 2019, England







†Data from routine specialist and non-specialist sexual health services' returns to the GUMCAD STI Surveillance System.

Rates by sexual orientation have been calculated using 2018 Office for National Statistics population estimates for all years. Rates of STI diagnoses in women who have sex with women are excluded due to small numbers. The total number of HIV-diagnosed MSM in England was estimated using the HIV annual data tables. Data for 2018 were used as an estimate for 2019 (number of MSM seen for HIV care who are resident in England from 'Key populations HIV data tables': <https://www.gov.uk/government/statistics/hiv-annual-data-tables>).