Sexually transmitted infections and screening for chlamydia in England, 2020

The annual official statistics data release (data to end of December 2020)
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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 from January to December 2020. Since March 2020, as a response to Coronavirus Disease 2019 (COVID-19), the UK Government implemented strict non-pharmaceutical interventions (NPIs) in the form of national and regional lockdowns and social and physical distancing measures; these NPIs resulted in disruption to the delivery of sexual health services (SHSs). Overall, STI testing and diagnoses decreased across all infections in 2020 during the first year of the COVID pandemic. However, SHSs continued to diagnose hundreds of thousands of STIs after scaling up testing delivered by telephone and internet consultations during the periods of lockdown, as well as continuing face-to-face appointments for urgent or complex cases.

The key points of this report are as follows:

- in 2020, there was a total of 3,482,700 consultations at SHSs, a 10% decrease compared to 2019; however, the number of internet consultations doubled from 511,979 to 1,062,157 over the same period
- in 2020, there were 1,649,429 sexual health screens (tests for chlamydia, gonorrhoea, syphilis or human immunodeficiency virus [HIV]) delivered by SHSs, a 25% decrease compared to 2019
- in 2020, there were 317,901 diagnoses of new STIs among England residents, a 32% decrease compared to 2019
- there were 57,084 diagnoses of gonorrhoea reported in 2020, a 20% decrease compared to 2019
- there were 6,926 diagnoses of infectious syphilis reported in 2020, a 14% decrease compared to 2019
- there were 60 diagnoses of first episode genital warts in 15 to 17 year old girls in 2020, a 60% decrease compared to 2019, and 33 diagnoses of first episode genital warts in same aged heterosexual boys, a 63% decrease compared to 2019
- the impact of STIs remains greatest in young people aged 15 to 24 years; black ethnic minorities; and gay, bisexual and other men who have sex with men (MSM)
- through the National Chlamydia Screening Programme:
  - 954,636 chlamydia tests were carried out among young people aged 15 to 24 years in 2020, a 30% decrease compared to 2019
  - there were 93,545 chlamydia diagnoses in this age group in 2020, a decrease of 31% compared to 2019 but test positivity remained stable at 9.8%
  - the proportion of chlamydia tests delivered through internet services increased from 21% in 2019 to 40% in 2020; the proportion of diagnoses made through these services increased from 17% to 36% over the same period
2. Key STI prevention messages

It is important that health promotion and service access messages are sustained and reinforced. Key STI prevention messages are summarised below:

- using condoms consistently and correctly protects against HIV, other STIs such as chlamydia, gonorrhoea and syphilis, and unplanned pregnancy
- people at risk of HIV can also protect themselves by using HIV Pre-exposure Prophylaxis (PrEP), which is available from sexual health services
- people with HIV are unable to pass on the infection sexually if they are on treatment and have undetectable levels of the virus; this is known as 'Undetectable=Untransmittable' or 'U=U'
- vaccination against human papillomavirus (HPV) (for eligible MSM and those eligible as school-aged adolescents), hepatitis A and hepatitis B (for MSM and others with greater sexual health needs) will protect against disease caused by these viruses and prevent spread of these infections
- sexual health services offer free and confidential HIV and STI testing, condoms, PrEP, vaccination, and contraception advice
  - most services and local areas also provide the option of internet access to HIV and STI testing
  - further advice on HIV and STIs, including how to access sexual and reproductive health services, is available through Sexwise and the national sexual health helpline on 0300 123 7123 (9am to 8pm Monday to Friday, 11am to 4pm Saturday to Sunday)
- 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:
  - women aged under 25 years who are 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 for HIV and STIs annually or every 3 months if having condomless sex with new or casual partners
3. Overall trends in consultations, STI testing and diagnoses at SHSs among England residents

Since March 2020, in response to the Coronavirus Disease 2019 (COVID-19) pandemic, the UK Government implemented strict non-pharmaceutical interventions (NPIs) in the form of national and regional lockdowns, as well as social and physical distancing measures including an emphasis on staying at home. Sexual health services (SHSs*) in England had substantially reduced capacity to deliver face-to-face consultations, but underwent rapid reconfiguration to increase access to STI testing via telephone or internet consultations (1).

Overall, there was a decrease in consultations delivered by SHSs in 2020 compared to 2019 (10%; from 3,853,387 to 3,482,700). Of all consultations in 2020, 62% (2,151,145) were delivered face-to-face, 30% (1,062,157) via the internet and 8% (269,398) via telephone. Compared to 2019, face-to-face consultations in 2020 reduced by 35% (from 3,288,261 to 2,151,145); however, there was a two-fold and five-fold increase in internet (from 511,979 to 1,062,157) and telephone (from 53,147 to 269,398) consultations, respectively. The number of internet consultations is likely to be underreported as it only includes consultations provided by standalone internet SHSs.

The number of sexual health screens (tests for chlamydia, gonorrhoea, syphilis or HIV) in 2020 decreased by 25% (from 2,190,227 to 1,649,429) compared to 2019. This reduction in testing contributed to a decrease in STI diagnoses: compared to 2019, the total number of new STIs diagnosed at SHSs and community-based settings* in 2020 decreased by 32% (from 467,096 to 317,901) (Figure 1). Similarly to the distribution of STIs diagnosed in 2019, the most commonly diagnosed STIs in 2020 were chlamydia (161,672; 51% of all new STI diagnoses), gonorrhoea (57,084; 18%), first episode genital warts (27,473; 9%), and first episode genital herpes (20,530; 6%).

Between 2019 and 2020, larger decreases in diagnoses were observed for STIs that are usually diagnosed clinically at a face-to-face consultation, such as first episode genital warts (46%, from 50,700 to 27,473) and first episode genital herpes (40%; from 34,279 to 20,530). The larger fall in genital warts likely reflects the expected continuing decline in diagnoses since 2009 due to HPV vaccination. Decreases in diagnoses of chlamydia (29%; from 229,213 to 161,672) and gonorrhoea (20%; from 70,922 to 57,084) were less pronounced, and diagnoses of infectious syphilis (primary, secondary and early latent stages) fell to a lesser extent (14%; from 8,011 to 6,926) as these 3 infections could be diagnosed using self-sampling kits via internet consultations. Trends in diagnoses of gonorrhoea, herpes, syphilis and warts diagnoses since 2011 are presented in Appendix Figure 1; these show a sharp decline in 2020 following stable and decreasing trends in herpes and warts diagnoses, while gonorrhoea and syphilis diagnoses only fell to levels observed a few years prior.
* 'Sexual health services' (SHSs) refer to services offering specialist (level 3) STI-related care such as genitourinary medicine (GUM) and integrated GUM and sexual and reproductive health (SRH) services. They also include other services offering non-specialist (level 1 or level 2) STI-related care and community-based settings such as young people’s services, internet services, termination of pregnancy services, pharmacies, outreach, and general practice. Further details on the levels of sexual healthcare provision are provided in the BASHH Standards for the Management of STIs (Appendix B).

Figure 1: Number of new sexually transmitted infection (STI) diagnoses and sexual health screens among England residents accessing sexual health services, 2011 to 2020, England

Data from sexual health services' and community-based settings' routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems. Sexual health screens include tests for chlamydia, gonorrhoea, syphilis or HIV. *STI surveillance was expanded in 2012 and again in 2015 – therefore data from previous years are not directly comparable (see ‘Updates to surveillance datasets’ section of the Appendix for further details).

The scale up of remote testing via internet consultations in 2020 coincided with the first national lockdown from late March to June 2020. For example, the proportion of gonorrhoea tests delivered via internet consultations peaked in April (69%; 41,836 out of 60,563) and May (69%; 51,159 out of 78,319) before gradually decreasing by December (53%; 61,922 out of 117,442) (Figure 2). There were similar trends in chlamydia and syphilis tests delivered via internet consultations during 2020 (Appendix Figure 3).
3.1 STI epidemiology in population sub-groups with greater sexual health needs

3.1.1 Gay, bisexual and other men who have sex with men

In 2020, diagnoses of STIs among MSM decreased across all infections compared to 2019, ranging from a 13% decrease in infectious syphilis (from 5,961 to 5,194) to a larger decrease in first episode genital warts (48%; 3,198 to 1,677) diagnoses. However, this decrease reflects a reduction in testing over this period and diagnoses remain high in comparison with recent years for gonorrhoea, chlamydia and infectious syphilis (Figure 3).

The large decline in genital warts diagnoses 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 the roll-out of the national programme later in 2018 (2–4), though it is also likely explained by the reduction in face-to-face consultations in 2020. In keeping with the trend in recent years, diagnosis rates of chlamydia, gonorrhoea and syphilis were highest in HIV-diagnosed MSM compared to other men or women (Appendix Figure 2).
3.1.2 Black ethnic groups

The population rates of STI diagnoses remained highest among people of Black ethnicity (Figure 4) in 2020, but this varied considerably among Black ethnic groups. In 2020, people of Black Caribbean ethnicity had the highest diagnosis rates of gonorrhoea and trichomoniasis, while people of Black African ethnicity had relatively lower rates of these STIs. Data from a national probability sample indicate that men of Black Caribbean ethnicity were most likely to report higher numbers of recent sexual partners, which may be maintaining high levels of bacterial STIs, particularly chlamydia and gonorrhoea, in these communities (5).
Sexually transmitted infections and screening for chlamydia in England, 2020

Figure 4. Rates of selected sexually transmitted infection (STI) diagnoses among England residents accessing sexual health services by ethnicity and STI, 2020, England

(a) Male

(b) Female

Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System. ‡Primary, secondary and early latent; *First episode.
The ethnic categories above are as specified in the NHS Data Dictionary. Data are presented by disaggregated ethnic groups among people of Black ethnicity to highlight the variability in rates among the ethnic group experiencing the highest rates of the most commonly diagnosed STIs. People of Asian, Mixed, Other and White ethnicity are presented as aggregated ethnic groups for comparison.

3.1.3 Young people aged 15 to 24 years

In general, young people experience the highest diagnosis rates of the most common STIs and this is likely due to higher rates of partner change among 16 to 24 year olds (6). 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 15 to 24 year olds, as well as disassortative sexual mixing by age and gender (7, 8). Compared to 2019, the number of new STI diagnoses in 2020 among young people aged 15 to 24 years decreased by 34% (from 218,815 to 144,834). Similar to decreases seen among people of all ages, there were large decreases in diagnoses of first episode genital warts (51%; from 19,692 to 9,613), first episode genital herpes (40%; from 13,321 to 7,940) and trichomoniasis (40%; from 3,083 to 1,849); but decreases in diagnoses of gonorrhoea (25%; from 25,675 to 19,262) and chlamydia (31%; from 134,879 to 92,790) were less pronounced. However, a much larger decrease was observed for infectious syphilis among young people (23%, from 1,171 to 905) compared to people of all ages (14%, 8,011 to 6,926). It is not yet clear the extent to which these decreases relate to a fall in the incidence of these infections and how much can be explained by a reduction in testing availability.

In 2020, the rate of first episode 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 95% lower compared to 2016 (6.6 vs 129.7 per 100,000 population). A decline of 89% (3.5 vs 32.5 per 100,000 population) was seen in heterosexual boys of the same age over the same period, suggesting substantial herd protection. A more modest, but still substantial decline of 58% (39.3 vs 94.1 per 100,000 population) was seen in MSM of the same age, though numbers of diagnoses among young MSM remain small.
4. National Chlamydia Screening Programme

4.1 National trends

The National Chlamydia Screening Programme (NCSP) promotes opportunistic screening to sexually active young people aged under 25 years. In June 2021, changes to the programme were announced with a focus on reducing reproductive harm of untreated infection through opportunistic screening offered to young women aged under 25 years. This report relates to 2020 when the NCSP offered screening to all young people under 25 years. As chlamydia is a largely asymptomatic infection, increases in the number of infections detected and treated is an indication of improved chlamydia control. In 2020, over 950,000 chlamydia tests were carried out in England among young people aged 15 to 24 years. An estimated 15% of young people (22% of young women and 8% of young men) were tested for chlamydia. A total of 93,545 chlamydia diagnoses were made among this age group, equivalent to a detection rate of 1,420 per 100,000 population aged 15 to 24; this is the first time since 2012 that the detection rate has been below 1,900. The decrease in the detection rate reflects the reduction in chlamydia testing across England as a result of COVID-19 restrictions.

The number of chlamydia tests carried out through the NCSP in 2020 (954,636) was 29.6% lower than in 2019 (1,355,485). There was a 30.9% decline in the number of diagnoses made in 2020 compared to 2019 (93,545 vs 135,361) (Table 1). The detection rate has decreased by 31.0% in 2020 (1,420 per 100,000) compared to 2019 (2,058 per 100,000) (Table 1, Figure 5).

Despite the decrease in testing in 2020, test positivity remained stable at 9.8% in 2020 compared to 2019 (Table 1). This suggests that there was continued transmission of chlamydia within this age group despite the lockdowns and other NPIs introduced to control COVID-19 in 2020.

Table 1. Chlamydia tests, diagnoses, testing coverage and test positivity† among 15 to 24 year olds by gender, 2019 to 2020, England

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>388,180</td>
<td>260,235</td>
<td>46,698</td>
<td>31,338</td>
<td>11.5%</td>
<td>7.7%</td>
<td>12.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Female</td>
<td>954,684</td>
<td>685,437</td>
<td>87,257</td>
<td>60,855</td>
<td>29.9%</td>
<td>21.5%</td>
<td>9.1%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Total</td>
<td>1,355,485</td>
<td>954,636</td>
<td>135,361</td>
<td>93,545</td>
<td>20.6%</td>
<td>14.5%</td>
<td>10.0%</td>
<td>9.8%</td>
</tr>
</tbody>
</table>

† Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.
4.2 Characteristics of people screened for chlamydia

The number of chlamydia tests and diagnoses was higher among young women compared to young men, with tests among women accounting for 71.8% of all tests and 65.1% of all diagnoses in 2020. Positivity among women was lower than among men (8.9% vs. 12.0%) (Table 1).

By ethnicity, the majority of testing occurs among those of White ethnicity, accounting for 57.5% (549,348 tests) of all tests in 2020. Diagnoses are also highest among those of White ethnicity, with 54,992 diagnoses in 2020, accounting for 58.8% of diagnoses. The distribution of tests and diagnoses is influenced by the underlying population distribution of young people by ethnicity (rates have not been calculated due to a lack of population data by ethnicity, age and gender). However, positivity is highest among those of Black ethnicity (13.8%; 8,991 out of 65,223)
followed by those of Mixed ethnicity (11.8%; 5,302 out of 22,947) compared to those of White ethnicity (10.0%; 54,992 out of 549,348) (Figure 6).

**Figure 6. Chlamydia tests and test positivity†† among 15 to 24 year olds by ethnicity**, 2016 to 2020, England

(a) **Number of tests**

![Graph showing number of tests by ethnicity and year]

(b) **Test positivity**

![Graph showing test positivity by ethnicity and year]

† Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.
* The distribution of tests and diagnoses is influenced by the underlying population distribution of young people by ethnicity (rates have not been presented due to a lack of population data by ethnicity, age and gender).

** The ethnic categories above are as specified in the NHS Data Dictionary.

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 first (Q1) quintile represents the most deprived 20% of the population and the fifth (Q5) quintile the least deprived 20%. The chlamydia detection rate differs by IMD quintile for both males and females. In 2020, chlamydia detection rates were highest among those living in Q1 (most deprived quintile) in England (2,239 per 100,000 for women aged and 1,057 per 100,000 for men). Rates were lowest among those living in Q5 (least deprived quintile) in England (1,291 per 100,000 for women and 661 per 100,000 for men). The detection rate decreased across all quintiles for both men and women in 2020 (Figure 7).

Figure 7. Chlamydia detection rates†* among 15 to 24 year olds by gender and IMD quintile, 2019 to 2020, England

(a) Male
† Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.
* NCSP data presented by IMD quintile is based on the location of residence of the person tested.
4.3 Testing service type

The number of tests conducted by SHSs was 52.4% lower in 2020 (307,834) compared to 2019 (646,722). There was an 8.7% decline in the tests from community-based services between 2020 (646,802) and 2019 (708,763) (Figure 8, Table 2) (see the Data Sources section of the Appendix for further information on the different types of testing services).

**Figure 8. Chlamydia tests from sexual health service and community-based testing† and total diagnoses among 15 to 24 year-olds, 2016 to 2020, England**

† Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.
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Table 2. Chlamydia tests, diagnoses, and test positivity† among 15 to 24 year olds by test setting, 2019 to 2020, England

<table>
<thead>
<tr>
<th>Test setting</th>
<th>Tests</th>
<th>Diagnoses</th>
<th>Tests positivity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2019</td>
<td>% of total</td>
<td>2020</td>
</tr>
<tr>
<td>SHSs – specialist STI-related care</td>
<td>580,537</td>
<td>42.8%</td>
<td>284,206</td>
</tr>
<tr>
<td>SHSs – non-specialist STI-related care</td>
<td>66,185</td>
<td>4.9%</td>
<td>23,628</td>
</tr>
<tr>
<td>GP</td>
<td>218,644</td>
<td>16.1%</td>
<td>134,944</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>11,716</td>
<td>0.9%</td>
<td>7,255</td>
</tr>
<tr>
<td>ToP</td>
<td>21,153</td>
<td>1.6%</td>
<td>8,589</td>
</tr>
<tr>
<td>Internet</td>
<td>284,050</td>
<td>21.0%</td>
<td>381,744</td>
</tr>
<tr>
<td>Unknown</td>
<td>19,818</td>
<td>1.5%</td>
<td>13,549</td>
</tr>
<tr>
<td>Other</td>
<td>153,382</td>
<td>11.3%</td>
<td>100,721</td>
</tr>
<tr>
<td>Total</td>
<td>1,355,485</td>
<td>100%</td>
<td>954,636</td>
</tr>
</tbody>
</table>

† Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.

While testing has declined in other testing services, tests from internet services have increased by 34.4% in 2020 (Table 2). This large increase in internet testing reflects the scale up of internet sexual healthcare provision across England in 2020. While increases in the number of internet tests were seen in all PHE Centre areas in 2020, the proportion increase was largest in those
residing in the North East (94.8% increase; 5,494 more tests), the West Midlands (84.4% increase; 14,299 tests) and the East Midlands (50.4% increase, 12,564 more tests) (Figure 9).

Figure 9. Chlamydia tests† from internet services among 15 to 24 year olds by PHE Centre area of residence*, 2016 to 2020, England

† Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.

* NCSP data presented by PHE Centre area is based on the location of residence of the person tested.
4.4 Geographic variations

Chlamydia testing coverage, detection rate and test positivity varied by PHE Centre area of residence*. In 2020:

- chlamydia testing coverage among young people ranged from 10.6% in West Midlands to 19.3% in London (Figure 10)
- test positivity ranged from 7.9% in the South West to 11.2% in the North East and West Midlands (Figure 10)
- the detection rate per 100,000 population aged 15 to 24 ranged from 1,187 in the West Midlands to 1,819 in London

Differences in detection rate could be due to a combination of differences in overall chlamydia testing coverage, variations in the settings used to offer chlamydia testing, the underlying prevalence of infection, and variations in level of disruption to the screening programme during 2020 due to COVID-19 restrictions. Data on chlamydia detection rates at upper-tier local authorities (UTLAs) level are available on PHE’s Sexual and Reproductive Health Profiles.

*NCSP data presented by PHE Centre area is based on the location of residence of the person tested.
Figure 10. Chlamydia testing coverage and test positivity† among 15 to 24 year olds by PHE Centre* area, 2016 to 2020, England

† Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.
* NCSP data presented by PHE Centre area is based on the location of residence of the person tested.
5. Conclusions

The number of STI diagnoses in England decreased by 32% between 2019 and 2020; this coincided with a 25% decrease in sexual health screens over the same period caused by the disruption in service provision during the COVID pandemic. However, SHSs diagnosed and reported over 300,000 STIs after scaling up testing using self-sampling kits accessed via telephone and internet consultations during the national and regional lockdowns, as well as continuing face-to-face appointments for urgent or complex cases. Given the shift to more remote consultations, the largest proportional decrease in STIs in 2020 was observed in the infections usually diagnosed clinically at face-to-face consultations (genital herpes and warts) rather than by laboratory tests (chlamydia, gonorrhoea, and syphilis). The reduction in STI diagnoses between 2019 and 2020 is likely due to a combination of reduced testing due to SHS service disruption and changes in behaviour, but the large number of diagnoses in 2020 is clear evidence of sustained STI transmission; this is supported by evidence from community surveys which suggest that, although fewer people reported meeting new sex partners during 2020 compared to previous years, a substantial proportion still had ongoing risk for STIs (for example, condomless sex with new sex partners) during 2020 (9–12).

Despite the overall decrease in STI diagnoses, STIs continued to disproportionately impact young people aged 15 to 24 years, people of Black Caribbean ethnicity, and MSM. Effective implementation of Relationships Education in primary schools, as well as Relationships, Sex and Health Education (RSHE) in all secondary schools from September 2020 will equip young people with the information and skills to look after their sexual health (13–15). As an effective method to reduce the risk of acquiring STIs, condoms can be distributed through a range of 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 (16).

The early diagnosis and treatment of STIs is a key intervention for their prevention and control, and to reduce the harms of untreated infection. The NCSP promotes screening for chlamydia, the most commonly diagnosed bacterial STI, in sexually active young women on change of partner or annually; this reflects a change in focus in June 2021 to reducing the reproductive harm of untreated chlamydia infection. This report relates to data until December 2020, during which time the NCSP provided opportunistic screening to all young people aged 15 to 24. Between 2019 and 2020 there was a 30% decrease in number of chlamydia tests and a 31% decrease in diagnoses. However, chlamydia positivity remained stable at 9.8% despite the NPIs introduced to control COVID-19; this suggests that there was ongoing transmission of chlamydia among young people during 2020. 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, though increased use of internet services in 2020 may also be due to the disruption of service provision by SHSs. To ensure chlamydia screening is delivered as effectively and efficiently as possible, PHE supports local areas through the chlamydia care pathway (CCP) workshops (17). 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 (providing direct protection against HPV6 and HPV11 as well as HPV16 and HPV18 since 2012) that has achieved high coverage in girls and has also benefited heterosexual boys via herd protection. The extension of the programme to include boys in 2019 will provide direct protection in future. In addition to the programme for adolescents, the national HPV vaccination programme for MSM aged up to and including 45 years attending specialist SHSs and HIV clinics started across England in April 2018 following a two-year pilot and is expected to result in a reduction in genital warts diagnoses and, subsequently, in HPV-related cancers amongst MSM. Declines in genital warts diagnoses between 2019 and 2020 are more substantial than expected across all groups and this is likely an effect of the decrease in face-to-face consultations and social distancing measures during the COVID-19 pandemic. Further analyses of these data will assess the magnitude of the effects of the COVID-19 impact on services on declines in genital warts diagnoses.

Several HIV prevention activities can also have an impact on STI control and promote safer sexual behaviours. On behalf of PHE, HIV Prevention England (HPE) delivers an HIV prevention programme aimed at MSM, people of Black African ethnicity 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, have translated the findings of research conducted through the National Institute for Health Research (NIHR) Health Protection Research Unit in blood-borne and sexually transmitted infections into health promotion resources aimed at public health practitioners and commissioners to reduce the incidence of bacterial STIs in MSM and people of black Caribbean ethnicity. The annual PHE sexual health, reproductive health and HIV Innovation Fund also awards funds to local and national voluntary sector-led projects which seek to reduce STI transmission.

In order to supplement sexual health service provision during 2020, PHE, in collaboration with HPE and the Terrence Higgins Trust, utilised the National HIV and Syphilis Self-Sampling Service to provide 10,000 free tests for HIV and syphilis across England to support the 56 Dean Street ‘Break the Chain’ Campaign. PHE also rapidly established a national e-Sexual and Reproductive Health 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 and STI self-sampling, routine chlamydia treatment, condom provision and contraception.

Inequalities in SHS access during 2020 are being investigated further to assess the impact of the shift in service provision to internet consultations, and particularly to understand the scale of digital exclusion, which may unequally affect some of communities with greater sexual health
needs. PHE is supporting the Department of Health and Social Care in the development of a new Sexual and Reproductive Health Strategy, due for publication by the end of 2021, which will include a focus on reducing STIs and addressing inequalities.
References

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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), genitourinary medicine (GUM) services and, integrated GUM and SRH services.

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 to GUMCAD

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 SHSs, which include:

- GUM services
- integrated GUM and SRH services
- SRH services
- young people’s services
- internet services
- termination of pregnancy services
- pharmacies
- outreach and general practice
- other community-based settings

Details on the levels of sexual health service provision are provided in Appendix B of the BASHH Standards for the Management of STIs.
Reporting services to CTAD

Testing service types terminology
There are 8 categories of ‘testing service type’ shown in the table below:

<table>
<thead>
<tr>
<th>Service type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sexual health services (specialist STI-related care) (SHS)</td>
<td>Services offering level 3 sexual health services and reporting to GUMCAD as L3 (may also offer contraception services such as integrated services)</td>
</tr>
<tr>
<td>2. Sexual health services (non-specialist STI-related care)</td>
<td>Sexual health services</td>
</tr>
<tr>
<td>3. GP</td>
<td>GP</td>
</tr>
<tr>
<td>4. Internet</td>
<td>Community-based testing</td>
</tr>
<tr>
<td>5. Termination of Pregnancy (ToP)</td>
<td>Services offering contraception (may also offer level 2 GUM sexual health services such as integrated services). May report to GUMCAD as L2 services.</td>
</tr>
<tr>
<td>6. Pharmacy</td>
<td>Sexual health services</td>
</tr>
<tr>
<td>7. Other</td>
<td>Other</td>
</tr>
<tr>
<td>8. Unknown</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

The term ‘Sexual health services (specialist STI-related care)’ refers to services offering level 3 GUM services, many of which will also offer contraceptive services. The term ‘Sexual health services (non-specialist STI-related care)’ refers to contraceptive services, many of which also offer a level 2 GUM service. Services reporting both sexual health 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.

We also present data split by sexual health services and community-based testing as defined in the table above.

Testing service type ‘Internet’ includes all tests from self-sampling kits sourced from online sexual health services.

Testing service type ‘Other’ will include 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.
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 STI-related care 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 community-based testing services.

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 and epididymitis
- scabies
- *Shigella flexneri*
- *Shigella sonnei*
- *Shigella* spp (unspecified)
- infectious syphilis (primary, secondary and early latent stages)
Sexually transmitted infections and screening for chlamydia in England, 2020

- Trichomoniasis
- 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 2020 were taken from the 2020 ONS population estimate which was released on 25 June 2021. 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.

Categorisation of online or internet services in the report

Data regarding the provision of internet consultations is for services registered with GUMCAD as an online service (Clinic Type 03). PHE is improving the monitoring of online service provision by providing the option for terrestrial SHSs to report internet consultations, in addition to face-to-face and teleconsultations. This option is included in the April 2019 GUMCAD specification documents.

Data regarding the provision of internet services is for services registered with CTAD as an internet service (Testing Service Type 06).

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:
Chlamydia test and diagnosis data from community-based testing premises between 2004 and 2011 (from NCSP and NNNG services) only include those aged 15 to 24 years whereas the CTAD Chlamydia Surveillance System includes all age groups. Therefore, chlamydia data in community-based testing premises 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 STI-related care SHSs. Most STI diagnoses are made in specialist STI-related care SHSs, but this expansion resulted in an increase in reported diagnoses of some STIs between 2012 and 2014.

**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.

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

Interactive tables, charts, and maps showing local-area STI data are available on the Sexual and Reproductive Health Profiles.


Further information on the GUMCAD and CTAD surveillance systems.

Further information on the Gonococcal Resistance to Antimicrobials Surveillance Programme (GRASP).

Further information on trends in HIV diagnoses in the UK.

For the latest LGV surveillance data for the UK.

For the latest LGV surveillance data for the UK.
Additional analyses

Appendix Figure 1. New diagnoses of syphilis (primary, secondary and early latent), gonorrhoea, genital herpes (first episode) and genital warts (first episode) among England residents accessing sexual health services† by gender, 2011 to 2020, England

(a) Syphilis‡

Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System.
‡Primary, secondary and early latent.
Sexually transmitted infections and screening for chlamydia in England, 2020

(b) Gonorrhoea

Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System.

(c) Genital herpes*

Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System.

*First episode.
Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System.
* First episode.
Appendix Figure 2. Population diagnosis rates of chlamydia, gonorrhoea, and infectious syphilis (primary, secondary and early latent) among England residents accessing sexual health services by sexual orientation and among gay, bisexual and other men who have sex with men (MSM) by HIV status, 2016 to 2020, England

(a) Chlamydia

Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System.

(b) Gonorrhoea

Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System.
Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System. ‡Primary, secondary and early latent.
Appendix Figure 3: Number of tests and diagnoses for infectious syphilis (primary, secondary and early latent) and chlamydia among England residents attending sexual health services in England from January 2019 to December 2020

(a) Syphilis‡

Data from routine sexual health services’ returns to the GUMCAD STI Surveillance System. ‡Primary, secondary and early latent.
Data from sexual health services and 'community-based' settings routine returns to the GUMCAD STI and CTAD Chlamydia surveillance systems.
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Contributors

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Public Health England exists to protect and improve the nation’s health and wellbeing, and reduce health inequalities. We do this through world-leading science, research, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and a distinct delivery organisation with operational autonomy. We provide government, local government, the NHS, Parliament, industry and the public with evidence-based professional, scientific and delivery expertise and support.

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000

www.gov.uk/phe
Twitter: @PHE_uk
www.facebook.com/PublicHealthEngland

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Prepared by: Natasha Ratna, Tamilore Sonubi, Megan Glancy, Suzy Sun, Ana Harb, Marta Checchi, Hannah Milbourn, Jon Dunn, Katy Sinka, Kate Folkard, Hamish Mohammed

For queries relating to this report or the GUMCAD STI Surveillance System, please contact: gumcad@phe.gov.uk or, for queries relating to the CTAD Chlamydia Surveillance System, please contact ctad@phe.gov.uk.

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