



Public Health
England

Protecting and improving the nation's health

HIV Testing in England: 2017 report

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One of 2 complementary reports about HIV in 2016ⁱ

ⁱ The 'Towards elimination of HIV transmission, AIDS and HIV-related deaths in the UK 2017 Report' can be found on the PHE webpages

List of abbreviations

A&E	Accident and Emergency
BA	Black African
BASHH	British Association for Sexual Health and HIV
BBV	Blood borne virus
BHIVA	British HIV Association
BIS	British Infection Society
COI	Cut off Index
ECDC	European Centre for Disease Prevention and Control
ETS	Enhanced tuberculosis surveillance
GP	General practice
GUM	Genitourinary medicine
HARS	HIV and AIDS Reporting System
HIV	Human immunodeficiency virus
HJIPS	Health and Justice Indicators of Performance
HCV	Hepatitis C virus
HBV	Hepatitis B virus
HBsAg	Hepatitis B surface antigen
HMPPS	HM Prison and Probation Service
IDPS	Infectious Diseases in Pregnancy Screening
IDU	Injecting drug use
IUSTI	International Union Against Sexually Transmitted Infections
JPAC	Joint UK Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee
LA	Local authority
MEDFASH	Medical Foundation for HIV and Sexual Health
MSM	Men who have sex with men
NAISM	National Antenatal Infections Screening Monitoring
NAT	National AIDS Trust
Natsal-3	National Survey of Sexual Attitudes and Lifestyles 3
NHSBT	National Health Service Blood and Transplant
NHSE	National Health Service England
NOMS	National Offender Management Service
NICE	National Institute for Health and Care Excellence
NSP	Needle and syringe programme
PHE	Public Health England
PHOF	Public Health Outcomes Framework
PN	Partner notification
POCT	Point of care test
PrEP	Pre-exposure prophylaxis
PWID	People who inject drugs

RCGP	Royal College of General Practitioners
SHS	Sexual health service
SSBBV	Sentinel Surveillance of Blood Borne Virus Testing
SSHA	Society of Sexual Health Advisors
SRH	Sexual and reproductive health
STI	Sexually transmitted infection
TB	Tuberculosis
TOP	Termination of pregnancy
UAM PWID	Unlinked Anonymous Monitoring Survey of People Who Inject Drugs
UK NSC	UK National Screening Committee
WHO	World Health Organization
WSW	Women who have sex with women

Terminology

- community tests - tests performed by community organisations, which can be of different test types (ie point of care test or dried blood spot)
- extremely high prevalence - local authorities with a diagnosed HIV prevalence of 5 or more per 1,000 people aged 15 to 59 yearsⁱ
- high prevalence - local authorities with a diagnosed HIV prevalence between 2 - 5 per 1,000 people aged 15 to 59 yearsⁱ
- low prevalence - local authorities with a diagnosed HIV prevalence less than 2 per 1,000 people aged 15 to 59 yearsⁱ
- non-specialist sexual health services - refers to sexual and reproductive health (SRH) services, young people's services, online sexual health services, pharmacies, outreach and other community based settings
- self-sampling kits/tests - the test involves the specimen collection being performed by the individual and the specimen is returned to the lab or clinic for processing
- self-testing kits/tests - the test is carried out by the individual and the result is interpreted by that individual
- specialist sexual health services - refers to genitourinary medicine (GUM) and integrated GUM/sexual and reproductive health (SRH)

ⁱ Diagnosed HIV prevalence bands can be found at [Sexual and Reproductive Health Profiles](#)

Key findings and recommendations

HIV testing enables people diagnosed with HIV infection to be offered prompt effective treatment which helps to reduce the risk of HIV transmission and deliver clinical benefit to the patient. HIV testing continues to increase in England, and over a million people were tested for HIV in sexual health services (SHS) in 2016. Recent falls in HIV diagnoses^[1] and test positivity mean that commissioners, policy makers and providers should now review HIV testing activities to maximise their impact.

This second HIV testing report for England includes the following new analyses:

- repeat HIV testing among gay and bisexual men and other men who have sex with menⁱⁱ, including those at high risk of infection, and among black African men and women
- a survey of HIV testing in community settings, including over 20,000 HIV tests
- estimates of the proportion of gay and bisexual men and black African men and women who are tested for HIV, using combined testing data from community settings, the national HIV self-sampling service and SHS
- the 'number of individuals needed to be tested to identify one HIV diagnosis' to compare testing in different settings

Gay and bisexual men testing for HIV

HIV testing among gay and bisexual men has increased steadily over the last 5 years, and 104,478 gay and bisexual men were tested in SHS in 2016. HIV test positivity rates among gay and bisexual men have fallen during this time, with a 29% drop in the last year (from 1.7% to 1.2%). Testing in SHS identified 1,292 new HIV diagnoses among gay and bisexual men in 2016. This represented just over half (54%) of all new diagnoses in this group^[2].

Over a quarter (28%) of gay and bisexual men testing for HIV had at least one test at that service during the previous year, and 8% had tested two or more times. However, most (77%) gay and bisexual men diagnosed with HIV at a SHS had not had a test in the previous year at that clinic. While these data do not account for people testing at different SHS, it indicates that the recommendations for annual testing among gay and bisexual men at high HIV risk are currently not well implemented.

ⁱⁱ Gay, bisexual and other men who have sex with men will hereafter be referred to as gay and bisexual men; gay and bisexual men were previously referred to as men who have sex with men (MSM).

Gay and bisexual men with anogenital bacterial STIs have an increased risk of HIV acquisition. Nearly half (48%) of these men diagnosed with an anogenital bacterial STI at a SHS in 2015 re-attended during the following year. At the subsequent attendance, 95% of these men were tested for HIV, identifying 300 HIV infections; an overall positivity of 2.8%. While these data do not include people who re-attended at a different SHS, it indicates that the recommendations for quarterly testing among these gay and bisexual men with a higher HIV risk are currently not fully implemented.

Black African men and women testing for HIV

Black African men and women have an increased risk of HIV acquisition, particularly those born in countries with a high HIV prevalence, 1.0% of whom tested positive in 2016. While test positivity rates among all black African men and women have fallen to 0.7%, they still account for 14% of HIV diagnoses made in SHS. 69% of black African men and women attending SHS are tested for HIV, and increasing numbers of black African men and women are declining HIV tests when offered.

In 2016, only 13% of black African men and women having an HIV test had tested during the previous year. While this data does not include people who re-attended at different SHS, it indicates that the recommendations for repeat testing among black African men and women are currently not well implemented.

HIV testing and HIV partner notification

HIV partner notification has the highest positivity rates of all HIV testing activities (3.9%). The number of people known to have tested at a SHS as a result of partner notification remains low (2,211). In 2016, HIV partner notification identified 72 people with HIV infection, of whom 42 were gay and bisexual men and 30 were heterosexual men and women.

'Other' groups testing for HIV

Most (87%) people attending SHS are not gay or bisexual men or black African men or black African women or born in a high prevalence country. While only 60% of these 898,786 'other attendees' are tested for HIV, they still account for 29% of all HIV diagnoses made in SHS. The number of other attendees who decline an HIV test has increased each year, and 27% (339,570) declined a test in 2016.

HIV testing in general practice and secondary care

In 2016, HIV test positivity rates in general practice in high (0.5%) and extremely high (0.4%) diagnosed HIV prevalence areas, and those tested in A&E and other secondary care settings (0.6%), now exceed those seen in SHS. HIV testing rates in general

practice have increased by 17% between 2014 and 2016. In extremely high prevalence areas, 101 per 10,000 of the general practice population were tested for HIV in 2016 (positivity of 0.4%). In high prevalence areas, 44 per 10,000 of the general practice population were tested, 0.5% of whom were positive. These data are based on laboratory tests, and exclude point of care tests.

HIV testing in community and home settings

All parts of the country provide access to alternative HIV testing options such as HIV self-sampling services (22,085 tests returned in 2016), or community HIV testing activities (20,134 tests in 2016). The reactivity rates achieved through these approaches (0.7% high reactive in the self-sampling service and 0.6% total reactivity in community testing services) are comparable with the test positivity rates seen in SHS. The relatively small scale of these services means that their overall impact on diagnosing HIV infection is low. A further 26,723 self-testing kits were obtained in 2016.

HIV testing in clinical indicator conditions

HIV testing is carried out among people who attend with HIV clinical indicator conditions. 93% of people notified with TB in 2016 were tested for HIV, and 3.8% of TB cases were co-infected with HIV. Between 2010 and 2014 less than half of people diagnosed with hepatitis B and hepatitis C were tested for HIV within 6 months of their diagnoses. Among those tested, 2.4% of those with hepatitis B, and 1.9% of those with hepatitis C tested positive for HIV.

HIV testing in other settings and risk groups

In 2016, 77% of people who inject drugs (PWID) reported ever testing for HIV. There were many missed opportunities for testing as 82% (396/481) of those who reported never testing for HIV had attended a clinical service in the previous year.

Blood borne virus testing is being implemented in prisons. Data for the 2016/17 financial year indicate that 37,474 HIV tests were carried out in English prisons, representing 17.5% of all new prison reception and transfers. A total of 942 HIV infections were reported, representing 2.5% positivity.

High levels of HIV testing coverage are achieved in antenatal services and all blood, tissue and organ donations are tested for HIV.

Recommendations

1. Sexual health services should consider how they can ensure that:

- all gay and bisexual men are offered and recommended regular (ie annual) HIV tests
- all gay and bisexual men at high risk of HIV acquisition (eg a recent anogenital STI diagnosis), are offered and recommended frequent (ie every 3 months) HIV tests
- all black African men and women are offered and recommended regular HIV tests
- HIV partner notification improves for heterosexuals and gay and bisexual men
- all other attendees are offered and recommended to have HIV tests

2. General practices and secondary care in high and extremely high prevalence areas should consider how they can ensure that they offer and recommend HIV testing to patients in line with NICE recommendations.

3. Commissioners should consider how they can ensure that people at higher risk of HIV acquisition have access to a range of testing options including community testing and self-sampling.

4. Providers of health services to patients with hepatitis B and C, TB and people who inject drugs should consider how they can ensure that all patients are offered and recommended to have HIV tests.

5. Providers of HIV testing in prisons should consider how they can ensure that HIV testing is implemented and monitored effectively.

6. Antenatal service providers and blood, tissue and organ donation services should continue to maintain current high levels of HIV testing.

Key PHE recommendations regarding HIV testing

How to get an HIV test:

- go to an STI clinic or a community testing site (www.aidsmap.com/hiv-test-finder)
- ask your GP for an HIV test
- request a self-sampling kit online (www.freetesting.hiv) or obtain a self-testing kit

Everybody who is offered an HIV test by their healthcare professional is advised to accept the test so that if an HIV diagnosis is made, effective treatment can be started.

Gay, bisexual and other men who have sex with men are advised to test for HIV and other STIs at least annually and every three months if having sex without condoms with new or casual partners.

Black African men and women are advised to have an HIV test and a regular HIV and STI screen if having sex without condoms with new or casual partners.

1. Introduction

HIV testing remains an essential component in tackling the HIV epidemic. The Joint United Nations Programme on HIV/AIDS (The UNAIDS) 90:90:90 ambition sets out a global target for 90% of people living with HIV to have their status known, 90% of those diagnosed to receive treatment and 90% of those treated to be virally suppressed ^[3]. In 2016, 88% (credible interval 82%-93%) of people living with HIV in England were estimated to be aware of their HIV infection ^[2]. Achieving the target of diagnosing 90% of people living with HIV requires a comprehensive HIV testing programme tailored to the needs of its target population.

HIV testing is pivotal in reducing HIV transmission as it decreases the number of people living with HIV who are unaware of their infection. If undiagnosed, these individuals could unknowingly put their sexual partners at risk of acquiring HIV. Once diagnosed, people can begin treatment and achieve untransmissible levels of virus ^[4, 5]. The combination of condom use, prompt treatment after diagnosis (treatment as prevention) and pre-exposure prophylaxis (PrEP), can reduce HIV transmission.

Regular HIV testing facilitates the diagnosis of people at an early stage of infection, who can expect a near-normal life expectancy ^[2]. However, in 2016 in England, there are still a significant proportion (42%) of adults newly diagnosed as living with HIV, who were diagnosed late (defined as CD4 count <350 cells within 91 days of diagnosis) ^[6]. The only way of reducing the number and proportion of late HIV diagnoses is to ensure that HIV testing is offered to those not currently reached by existing testing services. An audit of those with advanced HIV at diagnosis (CD4 count <200) by the British HIV Association (BHIVA) found that 46% of diagnoses could have been diagnosed sooner, with the majority of missed opportunities were when clinicians did not offer an HIV test opposed to an individual declining the offer of a test .

The National Survey of Sexual Attitudes and Lifestyles 3 (Natsal-3) found that increased HIV testing was associated with increased risk perception. However, 86% of those with high risk perception had not tested recently and a large proportion who had tested recently did not report unsafe sex or a high risk perception ^[7, 8]. In the UK, gay, bisexual and other men who have sex with menⁱⁱⁱ and black African men and women are two populations groups who should be encouraged to regularly test for HIV ^[9]. The London Gay Men's sexual health survey, carried out between 2000 and 2013, provides strong evidence of the dramatic change in the HIV testing behaviour among gay and bisexual

ⁱⁱⁱ Gay, bisexual and other men who have sex with men will hereafter be referred to as gay and bisexual men; gay and bisexual men were previously referred to as men who have sex with men (MSM).

men in which the percentage of respondents who reported that they had either ever tested or tested in the last year for HIV had increased from 63% to 91% and from 26% to 60% respectively ^[10].

The African Health and Sex Survey in 2013-2014 found that among survey participants 35% had never had an HIV test and of those whose last HIV test was negative, 61% had tested in the last year ^[11].

While over a million people were tested for HIV in sexual health services (SHS), expanding HIV testing into a wider number of clinical and community settings has been recommended ^[12-14]. There are continued concerns over poor implementation and lack of commissioning in some settings ^[15-18]. The National AIDS Trust (NAT) found that in England, expenditure on HIV prevention decreased by 11% between 2015/16 and 2016/17, and that 27% of local authorities did not commission any primary HIV prevention or testing ^[19]. This highlights the importance of effective monitoring of the HIV testing carried out in settings outside of SHS.

Reducing HIV incidence and undiagnosed infection in high-risk populations are key aims of PHE's Health Promotion for Sexual and Reproductive Health and HIV: Strategic Action Plan 2016-19 ^[20]. Monitoring HIV testing activity is essential as the epidemiology of the infection in England changes, to maximise the effectiveness of different testing strategies.

2. HIV testing policy

Current HIV testing policy aims to encourage the offer and uptake of testing in a range of clinical and community settings and risk groups. National policy is based on UK testing guidelines developed in 2008 by the British Association for Sexual Health and HIV (BASHH), BHIVA and the British Infection Society (BIS) ^[12]. These guidelines advocate routine testing in certain settings, among patients with specific diagnoses or risk factors, and according to guidance on organ and blood donation. In 2011, National Institute for Health and Care Excellence (NICE) issued guidance on increasing uptake of HIV testing in black African men and women and also for men who have sex with men. This guidance endorsed and built upon the recommendations made in the 2008 guidelines by BASHH, BHIVA and BIS. In 2016, NICE issued updated HIV testing guidance which incorporates tailored recommendations according to the diagnosed HIV prevalence bands.

Additional recommendations for testing certain risk groups, including those with clinical indicator conditions, have been published by the European Centre for Disease Prevention and Control (ECDC) and the World Health Organisation (WHO) ^[21, 22]. Guidelines have widely supported the use of self-sampling kits for many years and their use has been widely accepted ^[9, 23]. Following repeal of the UK ban on the sale of self-testing kits in April 2014, guidelines have supported the availability and use of validated self-tests where appropriate support and care is available ^[14, 23].

A comprehensive list of the HIV testing legislation and guidelines are found in Appendix I.

3. Methods

HIV testing data was collated from national surveillance, sentinel surveillance and survey data in order to monitor HIV testing recommendations and policy (a full list of the monitoring data sources are found in Appendix II). Where appropriate, data are presented by service type, setting type, diagnosed HIV prevalence band^{iv} and risk group. Where possible, HIV test offer, coverage, and positivity are presented for different risk groups and setting types.

In 2017, NICE published a quality statement to support the implementation of HIV testing recommendations; and this report examines current levels of HIV testing provision:

- people should be offered an HIV test when admitted to hospital or attending an emergency department in areas of extremely high HIV prevalence, or when having a blood test when admitted to hospital or attending an emergency department in areas of high HIV prevalence
- people attending GP practices in areas of high or extremely high HIV prevalence should be offered an HIV test at registration or when having a blood test if they have not had an HIV test in the past 12 months
- people newly diagnosed with an HIV indicator condition should be offered an HIV test
- people in at-risk groups who test negative for HIV are advised that the test should be repeated at least annually
- people who may have been exposed to HIV by a person newly diagnosed with HIV should be offered an HIV test

A full list of the HIV testing definitions are found in Appendix III.

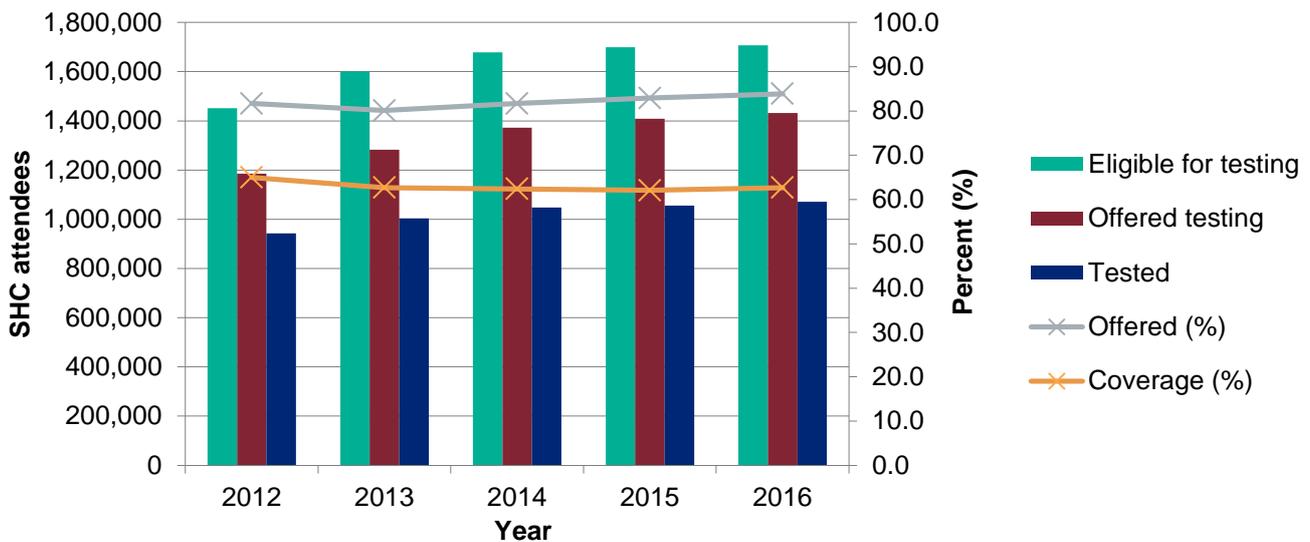
^{iv} Diagnosed HIV prevalence bands are available on the Sexual and Reproductive Health Profiles.

4. HIV testing among people with increased risk of infection

Most HIV infections in England are detected following HIV tests carried out in sexual health services (SHS). The number of people attending these services continues to rise, and over a million people were tested for HIV in these services in 2016. This testing identified 2,358 new HIV diagnoses in 2016, a positivity rate of 0.2%.

Most (87%) of these people attended specialist SHS, where test coverage was much higher than in non-specialist SHS (68% vs. 28%). Testing in specialist SHS identified 2,323 HIV diagnoses, a positivity rate of 0.2%. An additional 35 diagnoses were made among the 60,289 people tested in non-specialist SHS (positivity rate 0.1%).

Figure 1: HIV test offer and coverage in SHS attendees eligible¹ for HIV testing, England 2012-2016



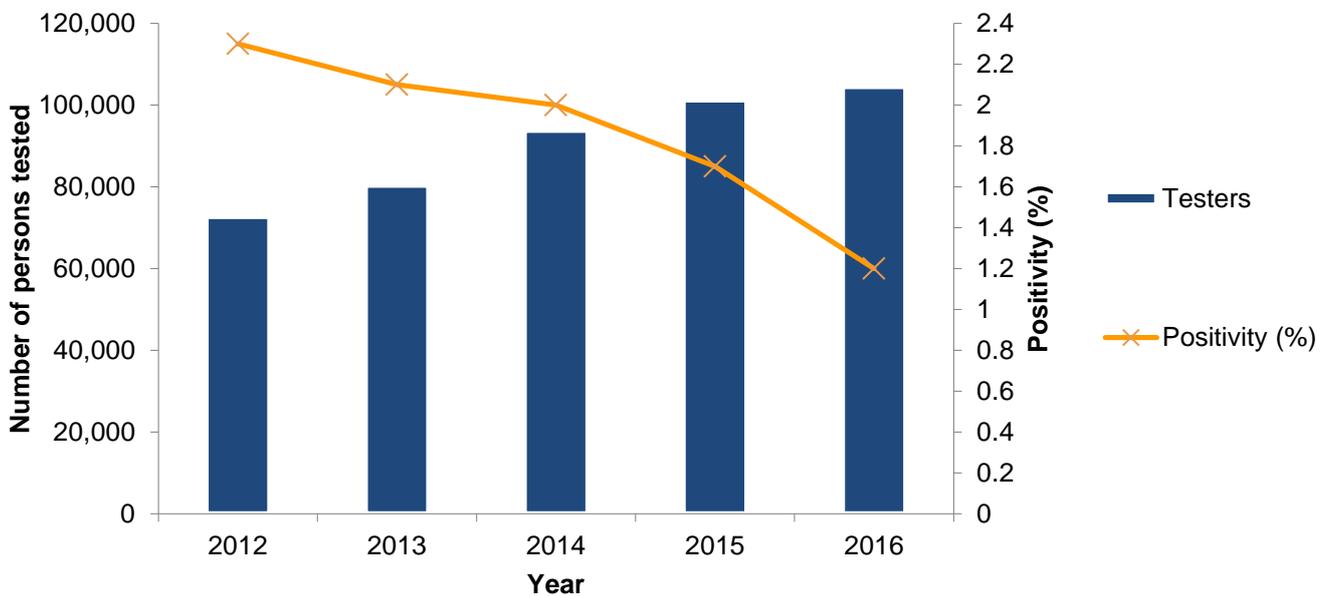
¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

4.1. Gay and bisexual men

The number of gay and bisexual men tested for HIV in SHS continues to rise, and 104,478 were tested in 2016. In 2016, 1,292 HIV diagnoses were made among gay and bisexual men attending SHS.

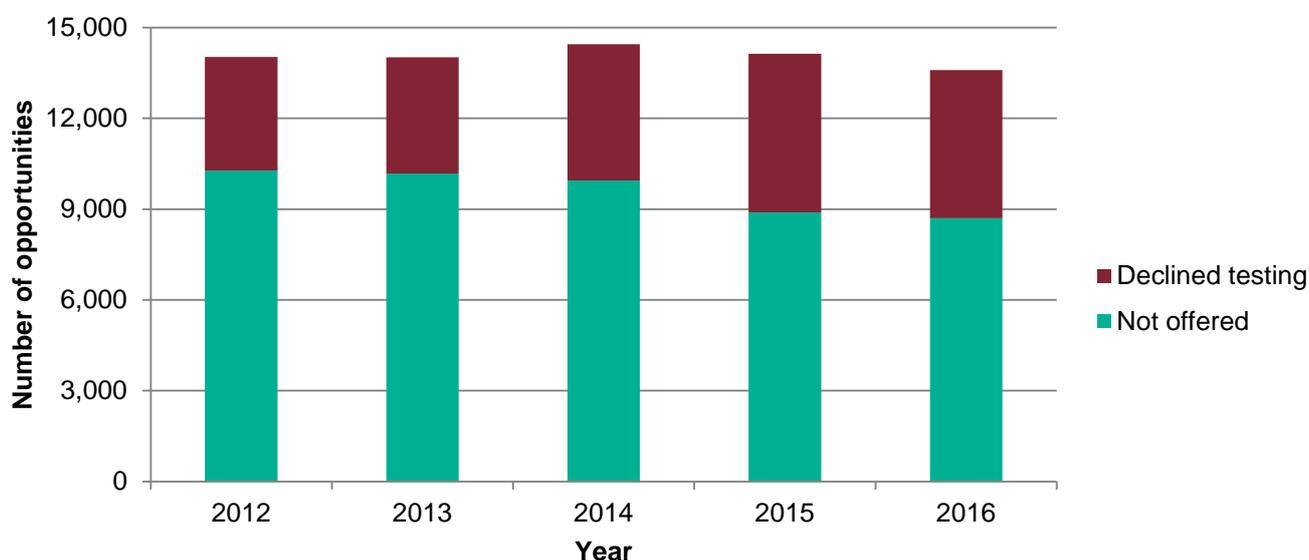
The HIV test positivity rate among gay and bisexual men has fallen from 2.3% in 2012, to 1.2% in 2016. Positivity rates fell most sharply between 2015 and 2016, dropping by 29% from 1.7% to 1.2%.

Figure 2: Trends in HIV testing and positivity for gay and bisexual men, 2012-2016, England residents



SHS tested 89% of gay and bisexual male attendees who were eligible for testing in 2016. Of the 13,598 gay and bisexual male attendees who were not tested, 8,706 were not offered an HIV test, and 4,892 were offered but declined a test. The number of gay and bisexual men not offered an HIV test has fallen each year since 2012. The number of gay and bisexual men declining testing increased from 3,755 in 2012 to 5,247 in 2015, before falling to 4,892 in 2016.

Figure 3: Trends in the number of missed opportunities in SHS: eligible¹ gay and bisexual attendees not offered an HIV test or offered but declined an HIV test, 2012-2016



¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

Overall HIV test coverage in gay and bisexual men has increased from 83% in 2012 to 89% in 2016 (see Appendix V). Both HIV test coverage (88% vs. 77%) and positivity rates (1.3% vs. 0.6%) were higher among the 97% of gay and bisexual men who attended specialist SHS than among those who attended non-specialist SHS.

Table 1: HIV test offer, coverage and positivity in all SHS (specialist and non-specialist) attendees by gender and sexual orientation, England 2016

	Eligible attendees ¹	Offered (Offered %)	Tested (Coverage %)	New Diagnoses	Positivity (%)
Heterosexual men	521,613	475,121 (91.1)	401,525 (77.0)	579	0.1
Gay and bisexual men	118,076	109,370 (92.6)	104,478 (88.5)	1,292	1.2
Men (total) ²	666,640	597,346 (89.6)	516,235 (77.4)	1,901	0.4
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Heterosexual women	965,600	801,153 (83.0)	536,943 (55.6)	447	0.1
Women (total) ^{2,3}	1,040,269	834,249 (80.2)	554,462 (53.3)	457	0.1
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Total⁴	1,706,909	1,431,595 (83.9)	1,070,697 (62.7)	2,358	0.2

¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

² Includes those where orientation is not known.

³ Includes those who identified as women who have sex with women (WSW).

⁴ Includes those where gender is unknown/not specified.

Table 2: HIV test offer, coverage and positivity in specialist SHS attendees by gender and sexual orientation, England 2016

	Eligible attendees ¹	Offered (Offered %)	Tested (Coverage %)	New Diagnoses	Positivity (%)
Heterosexual men	491,750	450,659 (91.6)	383,586 (78.0)	574	0.1
Gay and bisexual men	114,493	106,310 (92.6)	101,695 (88.0)	1,276	1.3
Men (total) ²	623,829	567,854 (91.0)	494,066 (79.2)	1,878	0.4
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Heterosexual women	825,249	695,630 (84.3)	501,802 (60.8)	436	0.1
Women (total) ^{2,3}	868,197	718,175 (82.7)	516,350 (59.5)	445	0.1
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Total⁴	1,492,026	1,286,029 (86.2)	1,010,416 (67.7)	2,323	0.2

¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

² Includes those where orientation is not known.

³ Includes those who identified as WSW.

⁴ Includes those where gender is unknown/not specified.

Table 3: HIV test offer, coverage and positivity in non-specialist SHS attendees by gender and sexual orientation, England 2016

	Eligible attendees ¹	Offered (Offered %)	Tested (Coverage %)	New Diagnoses	Positivity (%)
Heterosexual men	29,863	24,462 (81.9)	17,939 (60.1)	5	0.0
Gay and bisexual men	3,583	3,060 (85.4)	2,783 (77.1)	16	0.6
Men (total) ²	42,811	29,492 (68.9)	22,169 (51.8)	23	0.1
<hr/>					
Heterosexual women	140,351	105,523 (75.2)	35,141 (25.0)	11	0.0
Women (total) ^{2,3}	172,072	116,074 (67.5)	38,112 (22.1)	12	0.0
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Total⁴	214,883	145,566	60,281	35	0.1

¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

² Includes those where orientation is not known.

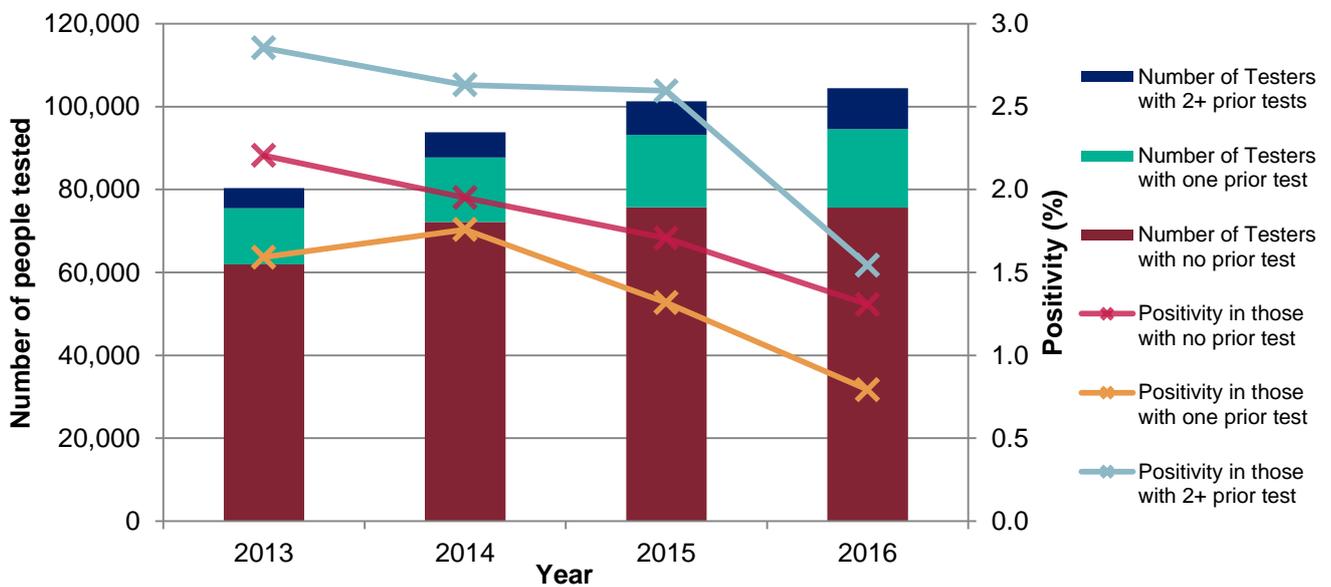
³ Includes those who identified as WSW.

⁴ Includes those where gender is unknown/not specified.

Gay and bisexual men are advised to test for HIV at least annually, and every 3 months if having sex with new or casual partners^[9, 12, 23]. Of the 104,478 gay and bisexual men tested in SHS in 2016, 28,826 (28%) had tested once during the preceding year at the same service, and 9,908 (8%) had tested 2 or more times in the preceding year at the same service. The proportion of gay and bisexual men testing for HIV who had at least 1 HIV test during the preceding year at the same service increased by 57% between 2013 and 2016.

Most (77%) of HIV diagnoses made in gay and bisexual men attending SHS are made among those who have not had a test in the previous year. HIV test positivity was higher among those who previously had 2 or more tests in the prior year (1.5%), compared with those who had not had a test in the previous year (1.3%), or those who had 1 test in the previous year (0.8%). Positivity rates in all 3 groups have fallen since 2013, with the sharpest decline (42%) occurring between 2015 and 2016 in those with 2 or more tests in the previous year.

Figure 4: Trends in HIV testing and positivity among gay and bisexual men without a prior HIV test¹, with 1 prior test^{1,2} and with 2+ prior tests^{1,2}, 2013-2016



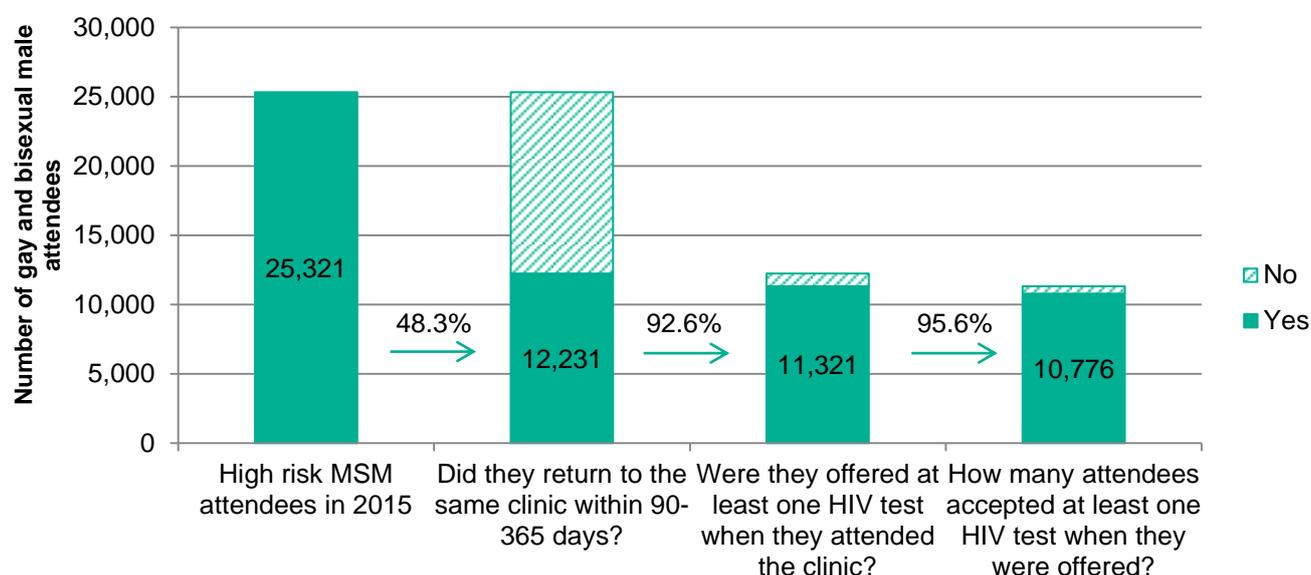
¹ Prior HIV test is an HIV test in the 43-365 days preceding the attendee's first HIV test in that calendar year.

² This data represents testers who returned to test at the same SHS.

Gay and bisexual men who are at high risk of HIV acquisition (eg men with a recent anogenital bacterial STI diagnosis) are a priority group who should regularly and repeatedly test for HIV. In 2015, 25,321 gay and bisexual men were diagnosed with an anogenital bacterial STI at specialist SHS. 48% of these men re-attended the same specialist SHS over the following year (excluding those returning within 90 days who might not be eligible for an HIV test). An HIV test was offered to 93% of these attendees at least once during the following year. An HIV test was accepted at least once by 95% of these men. Overall, 10,776 (43%) gay and bisexual men who had been diagnosed with an anogenital bacterial STI received an HIV test (at the same SHS) during the following year. This testing resulted in 300 diagnoses, an overall positivity of 2.8% (see Figure 5).

Of the 10,776 gay and bisexual men with an anogenital bacterial STI diagnosis who had an HIV test over the following year, 55% had 1 HIV test, 28% had 2 tests, and 17% had 3 or more tests.

Figure 5: HIV testing cascade among gay and bisexual men who have a high HIV risk¹ who attended specialist SHS, 2015-2016



¹ Includes gay and bisexual men with an anogenital bacterial STI diagnosis in 2015.

Information on sexual orientation is available for testers in three types of settings: SHS, the national HIV self-sampling service and the 2017 PHE survey of HIV testing in community settings (see further details in 5.3.). Most (82.7%) of the HIV tests among gay and bisexual men are carried out by SHS, 12.3% by the national HIV self-sampling service, and 4.9% by community services. The positivity rates among gay and bisexual men using these services were 1.2% in SHS, 0.8% (high reactivity^v) in self-sampling, and 0.8% (total reactivity^{vi}) in community settings.

Table 4: HIV tests, positives and reactivities in gay and bisexual men in SHS, self-sampling and community settings, 2016

	Number of tests	Number of Positives/ Reactives ¹	Positivity & Reactivity ² (%)	Proportion of total tests (%)	Proportion of total positives & reactivities (%)
SHS	104,478	1,292	1.2	82.7	88.3
Self-sampling service	15,573	122	0.8	12.3	8.3
Community settings	6,232	50	0.8	4.9	3.4
Total	126,283	1,464	1.2	100	100

¹ Only high reactivities (samples with a cut off index (COI) above 50) are presented for self-sampling service. All reactivities are presented for community settings.

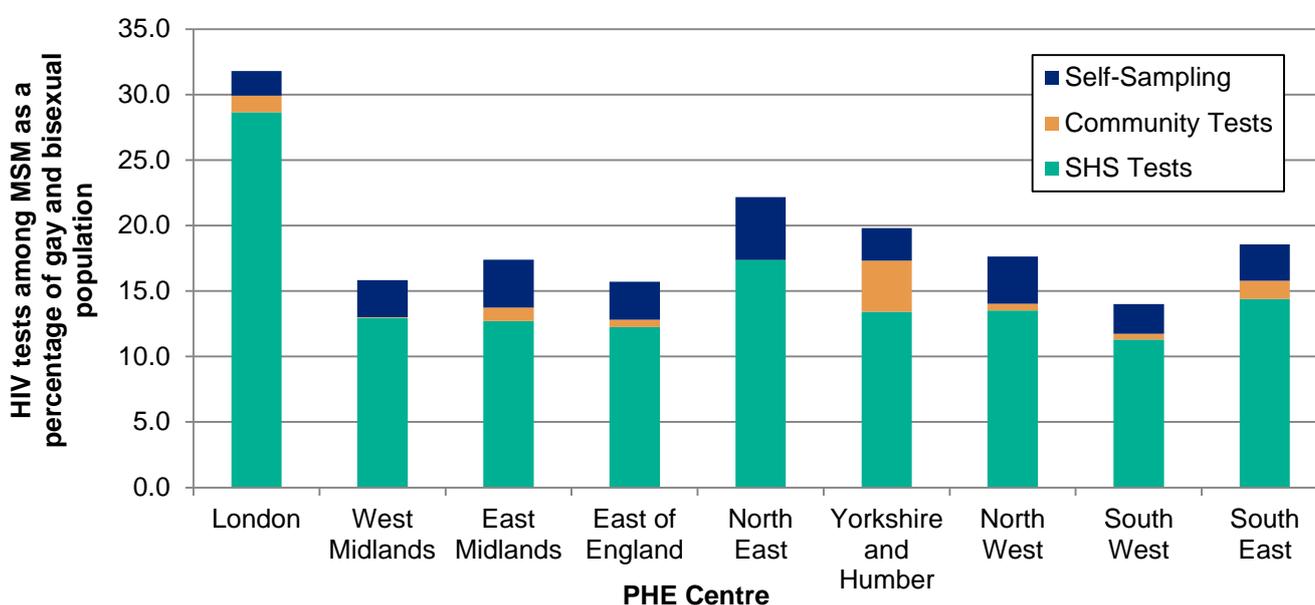
² High reactivity is presented for self-sampling service and total reactivity is presented for community settings.

^v High reactivity indicates cut off Index (COI) above 50.

^{vi} Total reactivity is presented as COI information is not available for tests carried out in community settings.

This HIV testing data for gay and bisexual men has been combined with estimates of the gay and bisexual male population and ONS population data [24, 25] to determine the number of HIV tests carried out among local gay and bisexual male populations^{vii}, in order to create an estimate for the proportion of gay and bisexual men tested for HIV. In 2016, 125,989 HIV tests were carried out in an estimated population of 582,132^{viii} gay and bisexual men in England. This would be equivalent to 22% of gay and bisexual men testing for HIV in these settings, and ranges from 14% in South West, to 32% in London (see Appendix VI).

Figure 6: HIV tests as a percentage of the gay and bisexual male population^{1, 2}, PHE centre, 2016



¹ Gay and bisexual male population derived from GP patient survey residence data and ONS mid-year population estimates.

² Includes gay and bisexual males aged 15-90 years old.

4.2. Black African men and women

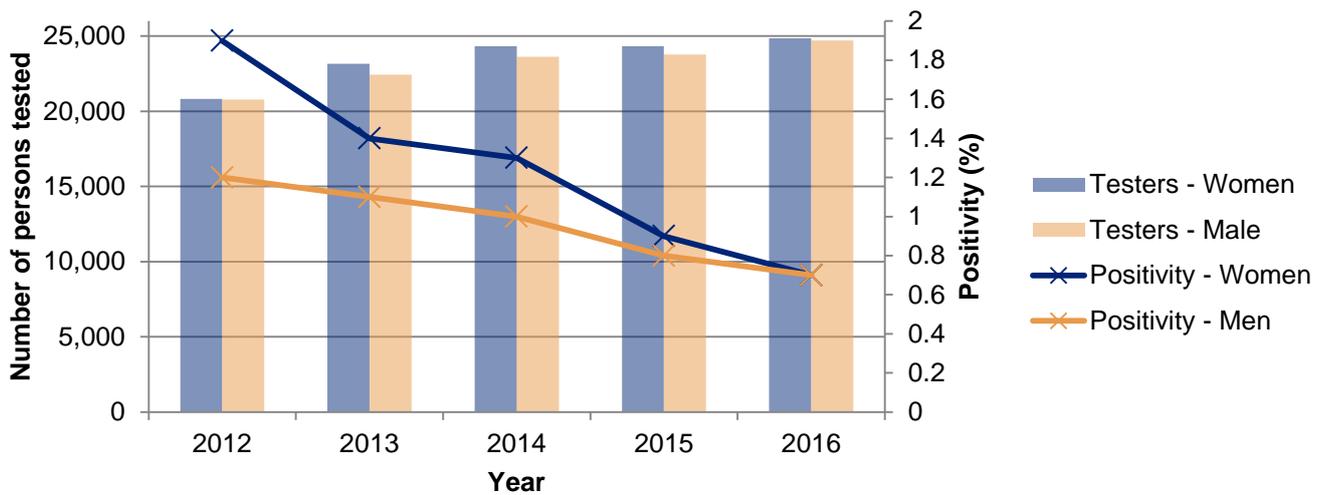
In 2016, 69% of the 72,052 black African men and women attending SHS were tested for HIV. The number of black African men and women tested for HIV in SHS continues to rise, where 24,851 women and 24,703 men were tested in 2016. The HIV test positivity in women has fallen from 1.9% in 2012, to 0.7% in 2016. The HIV test positivity has also fallen in men from 1.2% in 2012 to 0.7% in 2016 (see Figure 7).

^{vii} The number of gay and bisexual males who were accessing HIV care in 2015 has been excluded from the estimates for the gay and bisexual population number.

^{viii} The number of reactivates in self-sampling and community tests have been removed from the total number of SHS tests assuming that each reactive would receive a confirmatory test in a SHS.

Overall HIV test coverage in black African men and women has increased slightly from 68% in 2012 to 69% in 2016 (see Appendix VII). Both HIV test coverage (73% vs. 41%) and positivity rates (0.7% vs. 0.2%) were higher among the 86% of black African men and women who attended specialist SHS than those who attended non-specialist SHS in 2016.

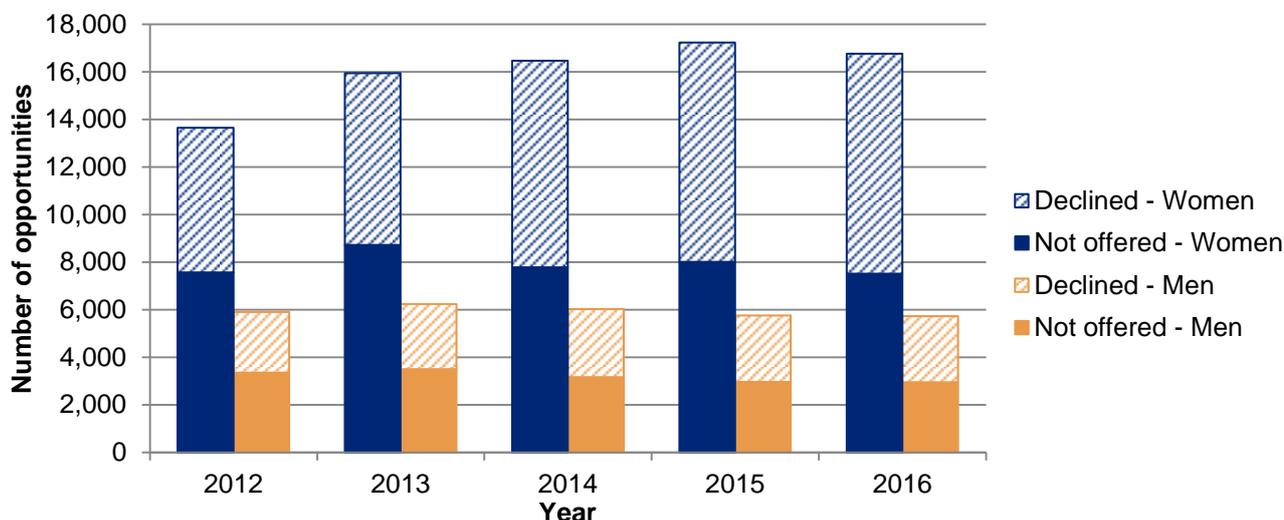
Figure 7: Trends in HIV testing and positivity for eligible¹ black African men and women attending SHS, 2012-2016, England residents



¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

In 2016, 22,496 black African men and women attended an SHS but were not tested for HIV. This included 7,511 women who were not offered an HIV test, and 9,255 who were offered, but declined a test. The number of attendees who were not tested was lower in men, with 2,954 men who were not offered a test and 2,775 who declined the offer of a test. The total number of black African men and women not offered an HIV test and the number of black African men declining an HIV test have both remained relatively stable over the last 5 years. However, the number of women declining testing has increased by 52% since 2012.

Figure 8: Trends in the number of missed opportunities in SHS eligible¹ black African men and women not offered an HIV test or offered but declined an HIV test, 2012-2016

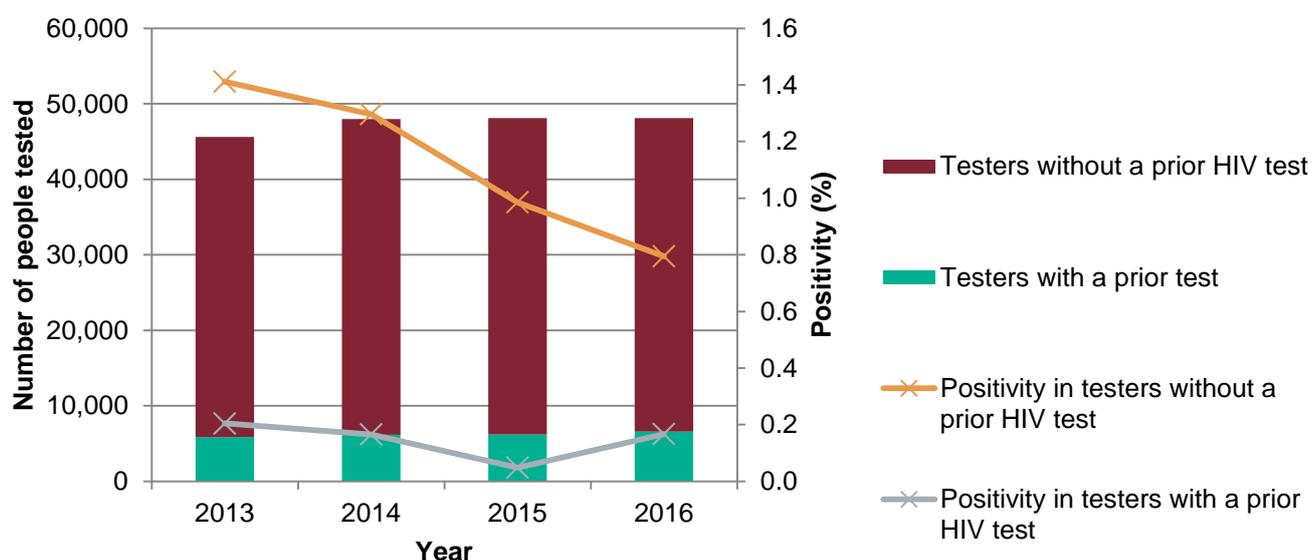


¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

Black African men and women are advised to have regular HIV tests if having sex without a condom with new or casual partners ^[9]. In 2016, 6,589 (13%) black African men and women who tested for HIV, had tested previously during the preceding year at the same service. The number of black African men and women testing for HIV who had an HIV test during the preceding year at the same service increased by 12% between 2013 and 2016.

The HIV test positivity among black African men and women who had an HIV test during the preceding year was lower than among those who had not had an HIV test (0.2% vs. 0.8%). In 2016, 11 new HIV diagnoses were made among black African men and women who had an HIV test during the preceding year. These only accounted for 3% of all new HIV diagnoses made among black African men and women attending SHS.

Figure 9: Trends in HIV testing and positivity among black African men and women with and without a prior HIV test¹, 2013-2016, England residents



¹ Prior HIV test is an HIV test in the 43-365 days preceding the attendee's first HIV test in that calendar year.

In the three settings that capture ethnicity information of their HIV tester: SHS, the national HIV self-sampling service and the 2017 PHE survey of HIV testing in community settings (see further details in 5.3.), the majority (92%) of the HIV tests among black African men and women are carried out by SHS, 3% by the national HIV self-sampling service, and 5% by community services. The positivity rates among black African men and women using these services were 0.7% in SHS, 1.6% (high reactivity^{ix}) in self-sampling, and 0.9% (total reactivity^x) in community settings (see Table 5).

Table 5: Total HIV tests, positives and reactivities in black African men and women in SHS, self-sampling and community settings, 2016

	Number of tests	Number of Positives & Reactives ¹	Positivity & Reactivity ²	Proportion of total tests (%)	Proportion of total positives & reactivities ¹ (%)
SHS tests	49,556	341	0.7	91.7	87.0
Self-sampling	1,649	26	1.6	3.1	6.6
Community settings	2,825	25	0.9	5.2	6.4
Total	54,030	392	0.7	100	100

¹ Only high reactivities (samples with a cut off index (COI) above 50) are presented for self-sampling service. All reactivities are presented for community settings.

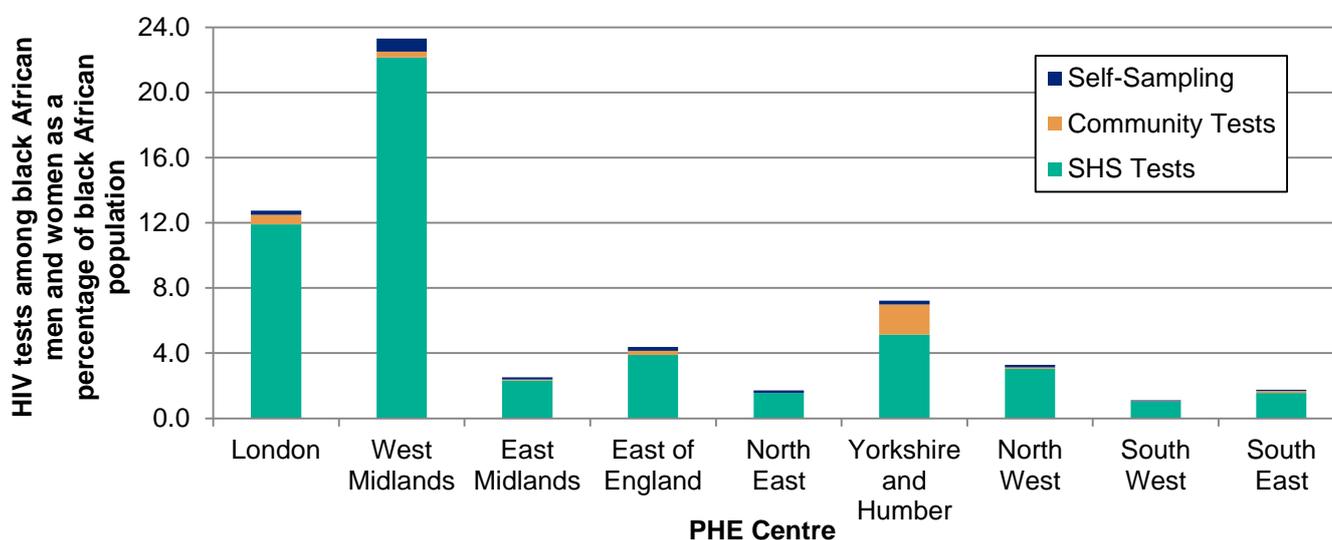
² High reactivity is presented for self-sampling service and total reactivity is presented for community settings.

^{ix} High reactivity indicates COI above 50.

^x Total reactivity is presented as COI information is not available for tests in community settings.

This HIV testing data for black African men and women has been combined with estimates of the black African population from the Census and ONS population estimates to determine the number of HIV tests carried out among black African populations^{xi}, a proxy for the proportion of black African men and women tested for HIV. In 2016, 53,975 HIV tests^{xii} were carried out among the 959,311 black African men and women in England. This would be equivalent to 6% of black African men and women being tested for HIV in these settings, and this varies from 1.1% in South West, to 23.3% in the West Midlands (see Appendix VIII for further details). These estimates do not include HIV tests carried out among black African men and women in other settings such as hospitals and general practice.

Figure 10: HIV tests among black African men and women as a percentage of the black African population^{1, 2}, PHE centre, 2016



¹ Black African population derived from census data and ONS mid-year population estimates.

² Includes people aged 15-64 years old.

4.3. People born in a country with a high diagnosed HIV prevalence

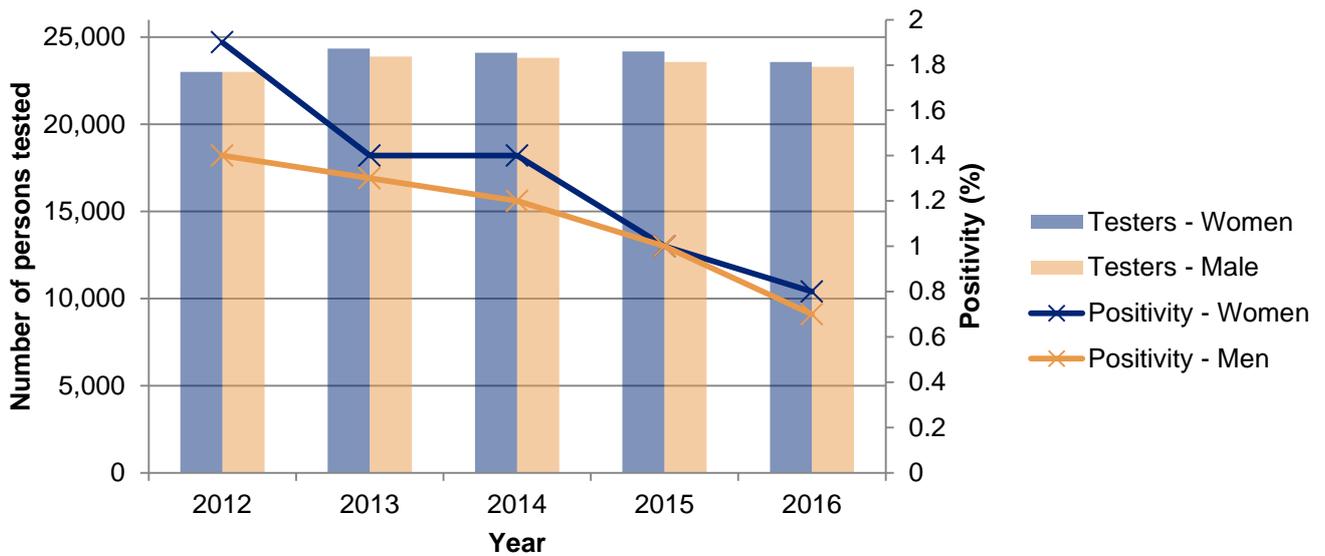
In 2016, 72% of people born in countries of high diagnosed HIV prevalence (>1%)^[26] attending SHS were tested for HIV. Both the number of eligible attendees who were tested for HIV in SHS and the overall HIV test coverage has stayed fairly constant between 2012 to 2016 (see Appendix IX). In 2016, 23,567 women and 23,292 men were tested for HIV in 2016.

^{xi} The number of black African men and women who were accessing HIV care in 2015 have been excluded from the denominator.

^{xii} The number of reactivates in self-sampling and community tests have been removed from the total number of SHS tests assuming that each reactive would receive a confirmatory test in a SHS.

This testing identified 368 HIV diagnoses, representing 16% of all new HIV diagnoses made in SHS. The HIV test positivity among women born in high prevalence countries has more than halved from 1.9% in 2012, to 0.8% in 2016. While, the HIV test positivity among men has halved from 1.4% to 0.7% in 2016.

Figure 11: Trends in HIV testing and positivity for eligible¹ SHS attendees born in a country with high diagnosed HIV prevalence² by gender, 2012-2016, England residents

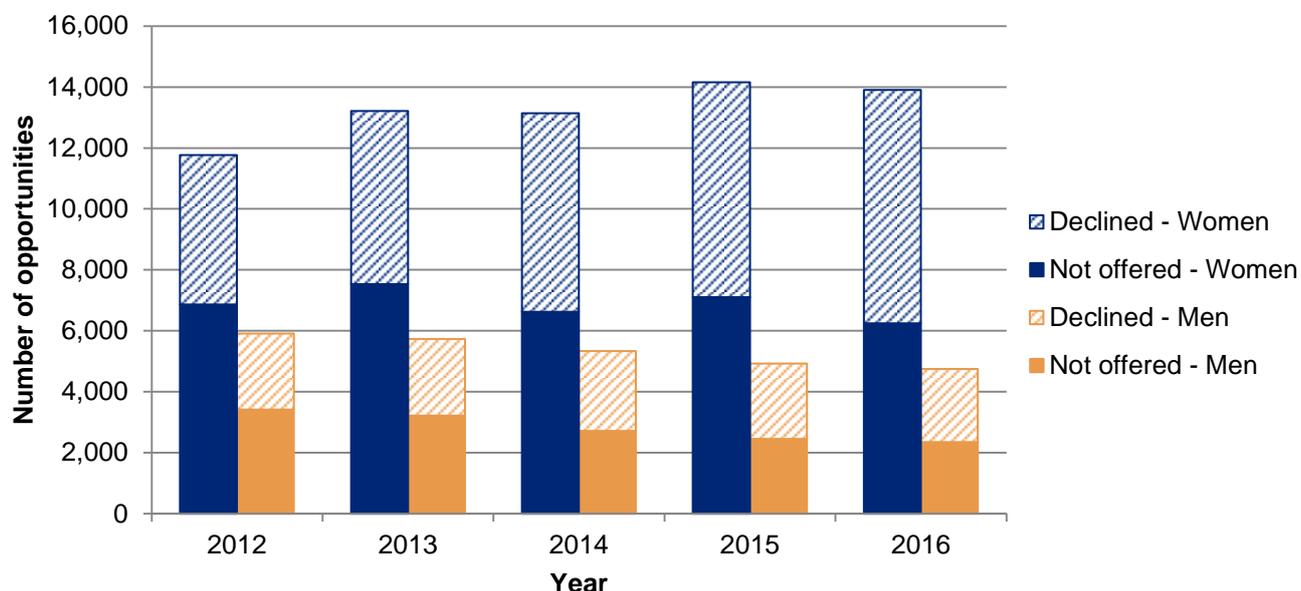


¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded; includes England residents only.

² Countries where known HIV diagnosed prevalence is >1% in ages 15-49^[26]

In 2016, 18,646 people born in high prevalence countries attended an SHS in 2016 but were not tested for HIV. This included 6,240 women who were not offered an HIV test, and 7,657 women who declined the offer of a test. The total number of men who were not tested for HIV was lower than women, with 2,352 men not offered an HIV test and 2,396 who declined the offer of an HIV test. The number of women not offered has fluctuated from 2012 to 2016, with an overall decrease of 9%. While the number of men not offered an HIV test has steadily decreased by 31% from 2012 to 2016. The number of women who declined the offer of an HIV test has increased by 56% from 2012 to 2016. While, the number of men who declined the offer of a test has stayed fairly constant between 2012 to 2016 (see Figure 12).

Figure 12: Trends in the number of missed opportunities in eligible¹ SHS attendees born in countries with high diagnosed HIV prevalence², not offered an HIV test or offered but declined an HIV test, 2012-2016



¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded; includes England residents only.

² Countries where known HIV diagnosed prevalence is >1% in ages 15-49 ^[26]

88% of SHS attendees who were born in a high prevalence country attended a specialist SHS. Both HIV test coverage (76% vs. 39%) and positivity rates (0.8% vs. 0.2%) were higher among those who attended specialist SHS than those who attended non-specialist SHS.

4.4. HIV testing and the interface between ethnicity and country of birth

Half of all black African attendees at SHS eligible for HIV testing were born in a country with a high diagnosed HIV prevalence. There were 262 HIV diagnoses in this group, 110 of which were made in men and 152 were made in women. This group had a higher positivity (1.0%) than black African men and women born in the UK (0.2%) or other countries (0.5%).

Table 6: HIV test offer, coverage and positivity in eligible¹ SHS attendees by ethnic group and country of birth, England, 2016

Ethnicity	Country of Birth	Eligible attendees ¹	Offered (Offer %)	Tested (Coverage %)	New diagnoses (Positivity %)
Black African	Country with high HIV prevalence ²	35,880	30,903 (86.1)	25,461 (71.0)	262 (1.0)
	United Kingdom	17,966	15,806 (88.0)	12,929 (72.0)	32 (0.2)
	Other Country	8,113	6,894 (85.0)	5,583 (68.8)	27 (0.5)
	Unknown	10,093	7,984 (79.1)	5,583 (55.3)	20 (0.4)
	Total	72,052	61,587 (85.5)	49,556 (68.8)	341 (0.7)
Black Caribbean	Country with high HIV prevalence ²	9,566	8,653 (90.5)	7,205 (75.3)	19 (0.3)
	United Kingdom	33,820	30,683 (90.7)	24,951 (73.8)	40 (0.2)
	Other Country	2,769	2,500 (90.3)	2,143 (77.4)	10 (0.5)
	Unknown	9,108	7,138 (78.4)	4,894 (53.7)	5 (0.1)
	Total	55,263	48,974 (88.6)	39,193 (70.9)	74 (0.2)
Black Other	Country with high HIV prevalence ²	3,032	2,698 (89.0)	2,175 (71.7)	<20 (<0.9)
	United Kingdom	15,998	14,536 (90.9)	11,494 (71.8)	25 (0.2)
	Other Country	2,396	2,121 (88.5)	1,747 (72.9)	<5 (<0.3)
	Unknown	4,182	3,327 (79.6)	2,216 (53.0)	<5 (<0.2)
	Total	25,608	22,682 (88.6)	17,632 (68.9)	48 (0.3)
All other ethnicities ³	Country with high HIV prevalence ²	17,033	14,665 (86.1)	1,2024 (70.6)	72 (0.6)
	United Kingdom	1,122,463	956,455 (85.2)	702,953 (62.6)	1,028 (0.1)
	Other Country	238,542	207,303 (86.9)	165,696 (69.5)	664 (0.4)
	Unknown	176,193	120,081 (68.2)	83,777 (47.5)	131 (0.2)
	Total	1,554,231	1,298,504 (83.5)	964,450 (67.3)	1,895 (0.2)
Total		1,707,154	1,431,747 (83.9)	1,07,0831 (62.7)	2,358 (0.2)

¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded; includes England residents only.

² Countries where known HIV diagnosed prevalence is >1% in ages 15-49 ^[26]

³ All other ethnicities includes White, Asian, Mixed, Other and unknown.

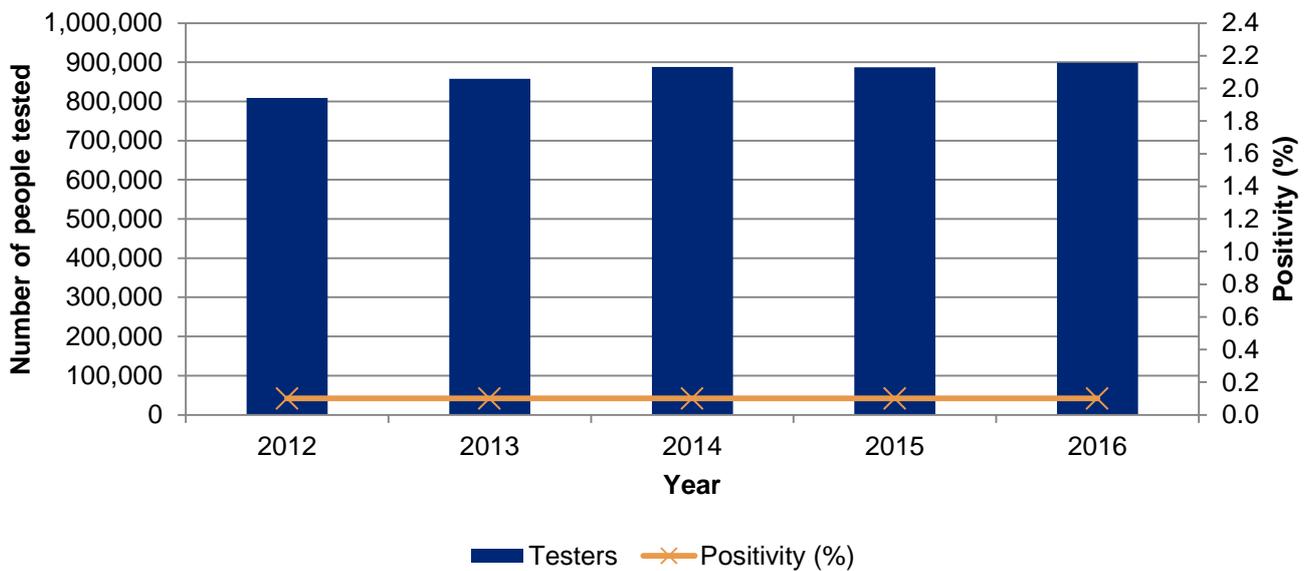
4.5. Trans communities

In 2016, 75 transgender people used the PHE self-sampling service and returned kits for testing, and fewer than 5 of the kits tested were highly reactive. Community services tested 43 transgender people for HIV in 2016, and none of the tests were reactive.

4.6. Other SHS attendees

In 2016, 87% of SHS attendees eligible for HIV testing were not a gay or bisexual man, a black African man or woman, or born in a high prevalence country. SHS tested 898,786 ‘non-risk group’ attendees for HIV. 231 new HIV diagnoses were identified among women and 443 diagnoses were identified among men. These diagnoses represented 29% of the total HIV diagnoses made in SHS in 2016. The number of tests carried out in other attendees has increased by 11% between 2012 and 2016, and the positivity rate has remained stable at 0.1%.

Figure 13: Trends in HIV testing and positivity for eligible¹ other² SHS attendees, 2012-2016, England residents



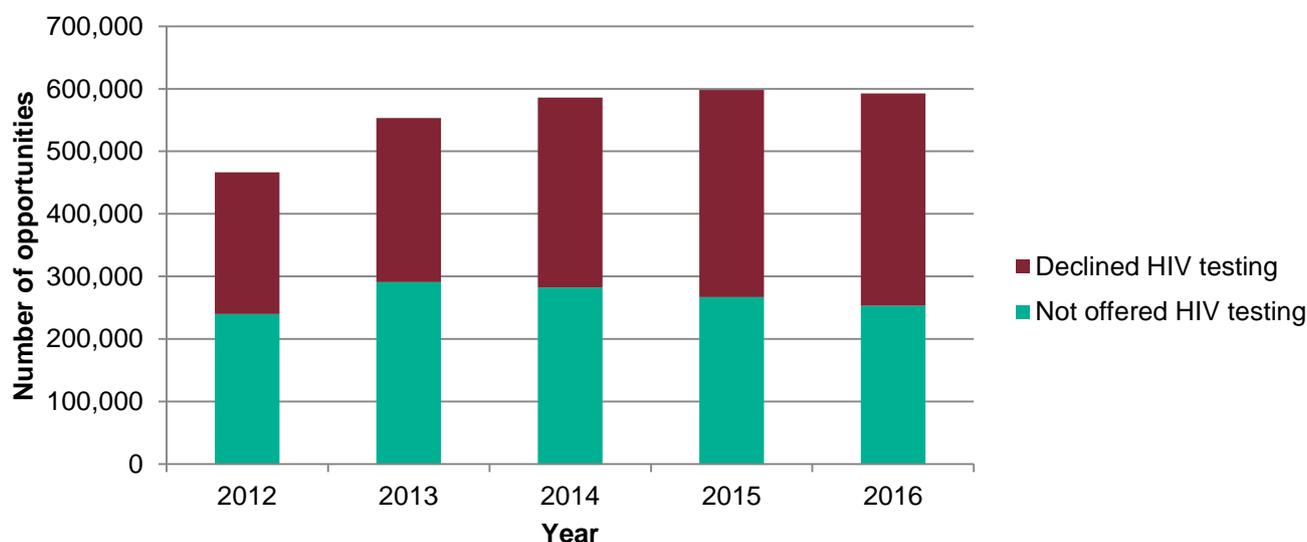
¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

² An other attendee is an attendee who is not a gay or bisexual male, black African man or woman or born in a country with high HIV prevalence³

³ Countries where known HIV diagnosed prevalence is >1% in ages 15-49^[26]

In 2016, 592,503 other attendees attended an SHS but were not tested for HIV. This included 252,933 who were not offered an HIV test, and 339,570 who were offered but declined a test. The number of other attendees not offered an HIV test has fallen each year since 2013, while the number declining testing has increased each year to 27% in 2016 (see Figure 14).

Figure 14: Trends in the number of missed opportunities in SHS: other¹ eligible attendees² not offered an HIV test or offered but declined an HIV test, 2012-2016



¹ An other attendee is an attendee who is not a gay and bisexual male, black African man or woman or born in a country with high HIV prevalence³

² Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded; includes England residents only.

³ Countries where known HIV diagnosed prevalence is >1% in ages 15-49^[26]

Overall test coverage in this group has decreased slightly from 63.4% in 2012 to 60.3% 2016 (see Appendix X). Both HIV test coverage (66% vs. 26%) and positivity rates (0.1% vs. 0.02%) were higher among the 87% of ‘non-risk group’ attendees who attended specialist SHS, than those who attended non-specialist SHS.

4.7. Sex workers

In 2016, 4,491 sex workers eligible for HIV testing attended specialist SHS, 84% of whom were tested for HIV. This testing identified 11 HIV diagnoses (0.3% positivity). Further HIV offer and coverage breakdowns in sex workers attending specialist SHS can be found at: [Sexually transmitted infections \(STIs\) Annual data tables](#)

4.8. Partner notification

In 2016, 2,211 partner people attended specialist SHS because they had been told that they had a sexual partner with HIV (HIV partner notification). 86% of these partner notified contacts were offered an HIV test, and 84% were tested for HIV. There were 72 new diagnoses made in this group, a positivity rate of 3.9%. 42 of these diagnoses were made in gay and bisexual men, 20 in heterosexual men and 10 in heterosexual women (see Table 7).

Table 7: HIV PN contacts attending SHS, offered HIV testing, tested and diagnosed by gender and sexual orientation, England 2016

Sexual orientation	PN Contacts	Offered (Offered %)	Tested (Coverage %)	Contacts diagnosed (Positivity %)
Heterosexual men	520	470 (90.4)	459 (88.3)	20 (4.4)
Gay and bisexual men	1,196	994 (83.1)	979 (81.9)	42 (4.3)
Men (total) ¹	1,724	1,471 (85.3)	1,445 (83.8)	62 (4.3)
Women (total) ^{1,2}	486	423 (87.0)	414 (85.2)	10 (2.4)
Total³	2,211	1,895 (85.7)	1,860 (84.1)	72 (3.9)

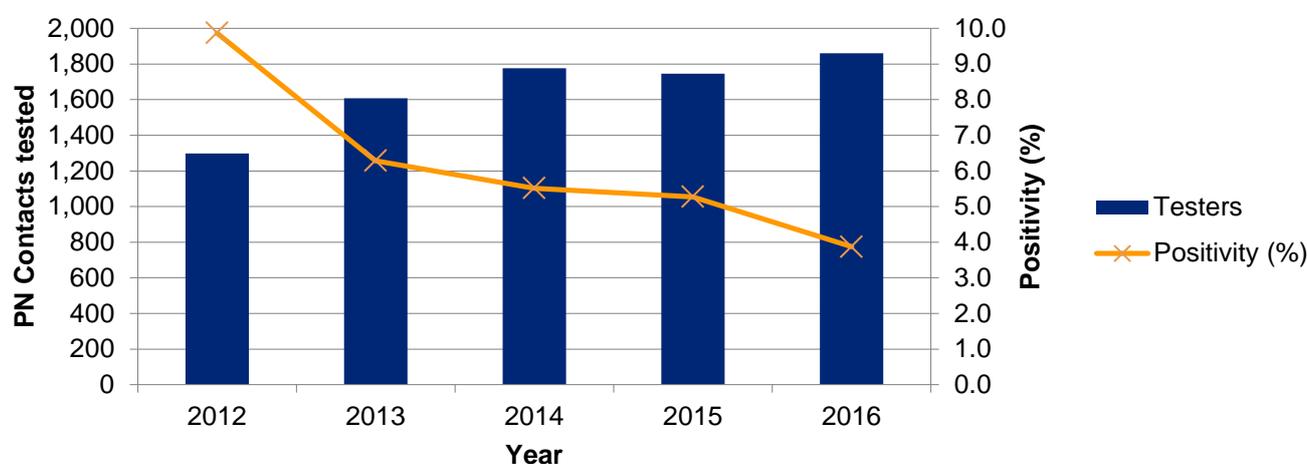
¹ Includes those where orientation is not known.

² Includes those who identified as WSW.

³ Includes those where gender is unknown/not specified.

The number of people tested at specialist SHS as a result of HIV partner notification has increased by 43% between 2012 and 2016. The positivity rate among this group has fallen from 9.9% in 2012 to 3.9% in 2016.

Figure 15: Partner notification contacts¹ tested for HIV and positivity in specialist SHCs, England 2012-2016



¹ Includes only England residents.

The partner notification test ratio is the number of partner notification contacts tested for HIV divided by the number of new HIV diagnoses. This composite measure reflects the process of a sexual contact of someone with HIV being identified and attending a specialist SHC, being offered an HIV test, and receiving an HIV test. This PN ratio has steadily increased from 0.4 in 2012 to 0.8 in 2016 (see Appendix XI).

5. Where do people test for HIV?

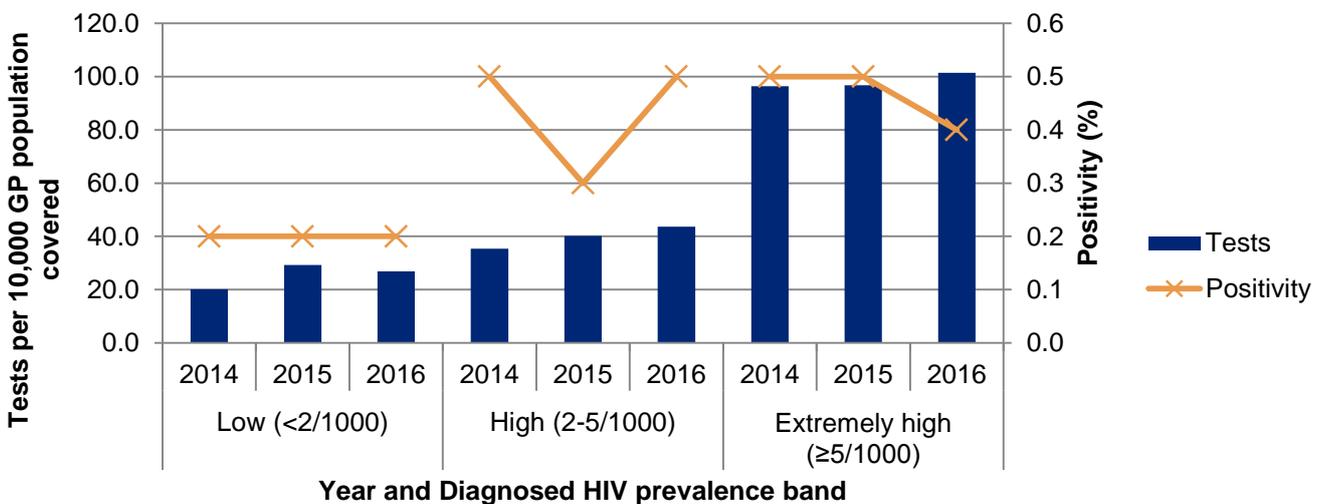
5.1. General Practice

National data on HIV testing in general practice is derived from general practices that submit HIV tests to laboratories participating in the Sentinel Surveillance of Blood Borne Viruses (SSBBV). SSBBV has collected data on HIV, Hepatitis B and Hepatitis C virus testing since 2002. Antenatal HIV testing data is excluded from this SSBBV analysis, and national antenatal testing data is discussed in section 5.9.1.

Testing trends are presented using data from laboratories for which SSBBV had HIV tests consistently reported between 2014 and 2016. This data represents 34% of the general practice population in extremely high prevalence areas, 22% in high prevalence areas and 14% in low prevalence areas. HIV testing rates in general practice have increased by 17% between 2014 and 2016. In extremely high prevalence areas, 101 per 10,000 of the general practice population were tested for HIV in 2016, with a positivity of 0.4%. In high prevalence areas, 44 per 10,000 of the general practice population were tested for HIV, 0.5% of whom were positive. This data is based on laboratory tests, and exclude point of care tests (POCT).

Positivity rates have remained consistent at 0.2% in low prevalence areas over the 3 year period. For high prevalence areas the positivity rate was 0.5% during 2014 and 2016 with a drop to 0.3% in 2015, and for extremely high prevalence areas, the positivity rate has fallen slightly from 0.5% to 0.4% in 2016.

Figure 16: HIV tests and positivity¹ in general practice² by diagnosed HIV prevalence band³ in data captured by SSBBV, England, 2014-2016



¹ Number of positive tests/number of total tests (x100%).

² GP practices who consistently reported to SSBBV from 2014-2016.

³ Based on the diagnosed HIV prevalence data in those aged 15-59 in 2016, banding by service local authority.

5.2. Secondary care: accident and emergency and other settings

In 2016, SSBBV reported data on 41,197 people tested in accident and emergency settings, and 105,766 people tested for HIV in other hospital settings (including in-patient and out-patient settings). This testing identified 253 HIV diagnoses in accident & emergency and 588 diagnoses in other hospital settings. In both settings the test positivity rate was 0.6%. Test coverage data in hospitals is not available from this dataset.

Table 8: HIV tests and positives in accident and emergency and all other secondary care settings¹ in data captured by the SSBBV², 2016

Service type	Number tested	Number positive (%)
Accident and emergency	41,197	253 (0.6)
All other secondary care ¹	105,766	588 (0.6)
Total	146,963	841 (0.6)

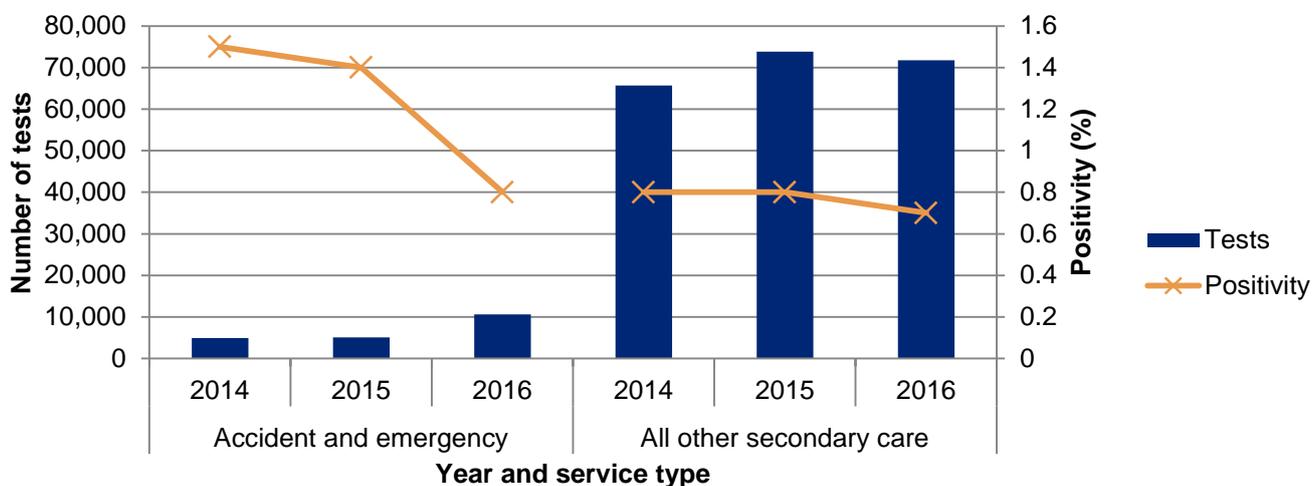
¹ Comprises of HIV tests carried out in all other secondary care services other than A&E except antenatal and HIV services.

² From services within the sentinel surveillance of blood borne virus testing.

Testing trends were presented using data from laboratories for which SSBBV had HIV tests consistently reported between 2014 and 2016. The number of HIV tests has increased by 17% in the hospitals using laboratories reporting to the SSBBV, from 70,588 in 2014 to 82,365 in 2016 (see Figure 18). This includes a 118% increase in HIV tests in accident and emergency departments, and a 9% increase in other secondary care settings. The large rise in HIV testing in accident and emergency during this period reflects local testing initiatives and studies.

HIV test positivity rates in accident and emergency have fallen from 1.5% in 2014 to 0.8% in 2016. HIV test positivity rates in other secondary care settings have also fallen slightly from 0.8% positive to 0.7% positive.

Figure 17: Trends in the total number of tests and positives in accident and emergency and all other secondary care settings¹ in data captured by the SSBBV², 2016



¹ Comprises of HIV tests carried out in all other secondary care services other than A&E except antenatal and HIV services.

² From services within the sentinel surveillance of blood borne virus testing who consistently reported between 2014-2016.

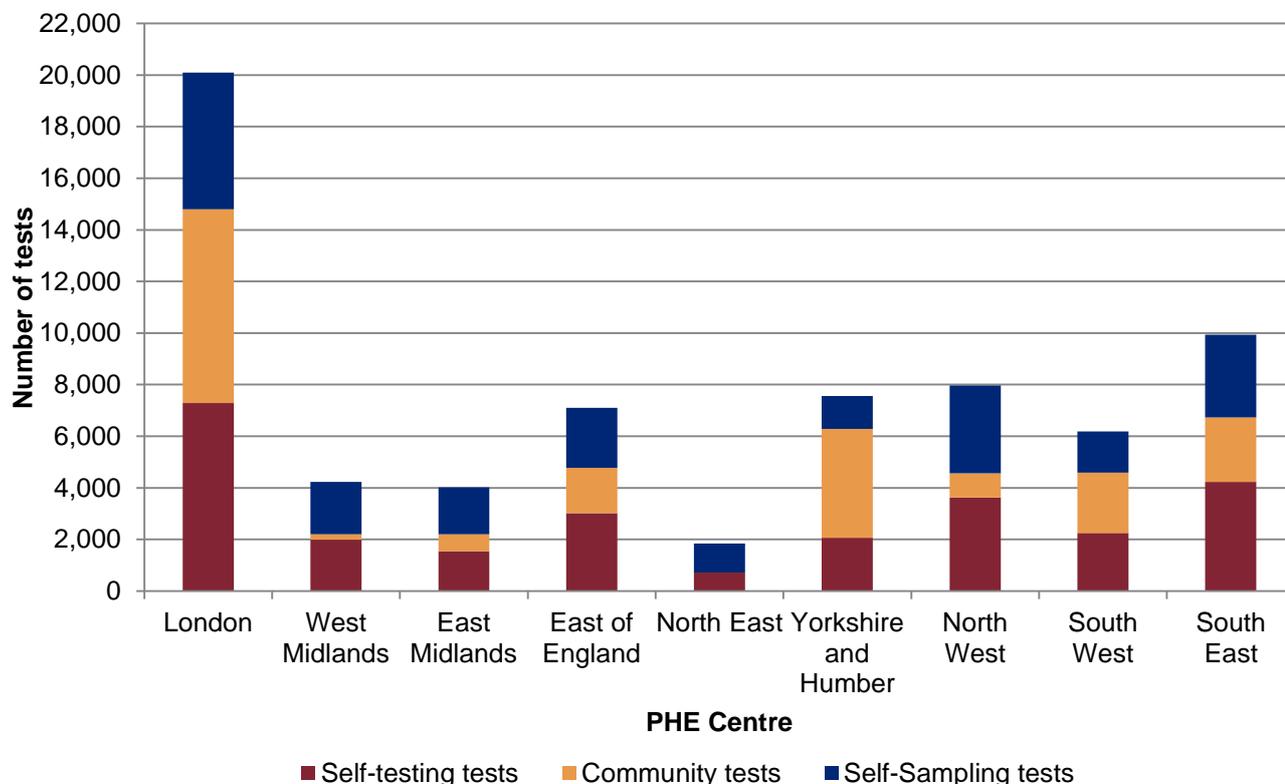
5.3. Community and home HIV testing

Data is available for three community and home HIV testing pathways in England; the **National HIV Self-Sampling Service** in which individuals perform their own HIV test, and send the kit to a laboratory in order to receive their results; **BioSure HIV Self-Test** kits which individuals perform themselves and obtain the results directly from the test kit; and community HIV testing through which individuals can access HIV testing in a variety of local settings.

In 2016, 68,942 HIV tests were carried out or purchased in community and home settings in England. These included 22,085 test kits returned via the national HIV self-sampling service, 26,723 self-testing HIV kits purchased from BioSure, and 20,134 HIV tests reported through the first national survey of community HIV testing. A full list of the organisations who participated in the survey can be found in Appendix IV.

The test reactivity is available for the national HIV self-sampling service (0.7% high reactivity), and for the community HIV testing survey (0.6% total reactivity).

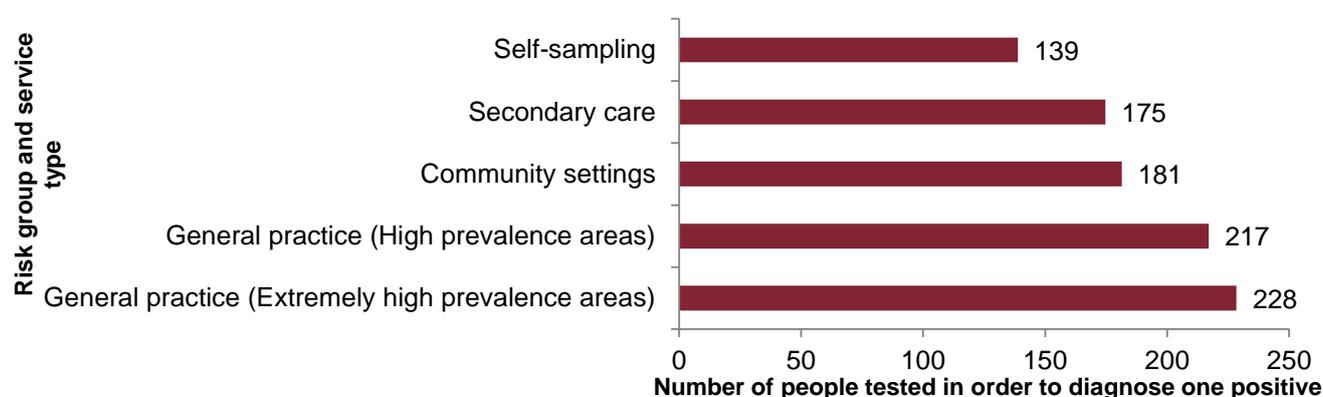
Figure 18: HIV tests carried out through self-sampling, self-testing and community testing services, PHE centre, 2016



5.4. The number of people needed to be tested to diagnose one HIV infection: a comparison of different testing approaches

Large volumes of HIV testing are carried out in general healthcare settings such as hospitals, general practice and in community settings. These different activities may be compared using the total number of people tested required to diagnose one HIV infection. For example, in general practices in extremely high prevalence areas, 228 people need to be tested to identify one new HIV infection, compared with the self sampling service in which 139 people need to be tested to diagnose one new HIV infection (see Figure 19).

Figure 19: Number of people tested in order to diagnose one positive/reactive by risk group and service type, 2016



5.5. Healthcare services for those diagnosed with hepatitis B or C

Data on people aged ≥ 15 years who tested positive for hepatitis B surface antigen (HBsAg) or hepatitis C-specific antibodies (anti-HCV - indicative of a history of HCV infection) between 2010 and 2014 were collated from SSBBV. People known to be HIV positive at the time of the hepatitis test and those who tested positive for HBV in the antenatal screening programme were excluded.

Of the 16,046 people who tested positive for HBV surface antigen (HBsAg) between 2010 and 2014, 46% were tested for HIV within 6 months. HIV testing rates were lowest in secondary care (40% tested), and highest in SHS (67% tested). Overall HIV test positivity was 2.4% for people who tested within 6 months of testing positive HBsAg (see Table 9).

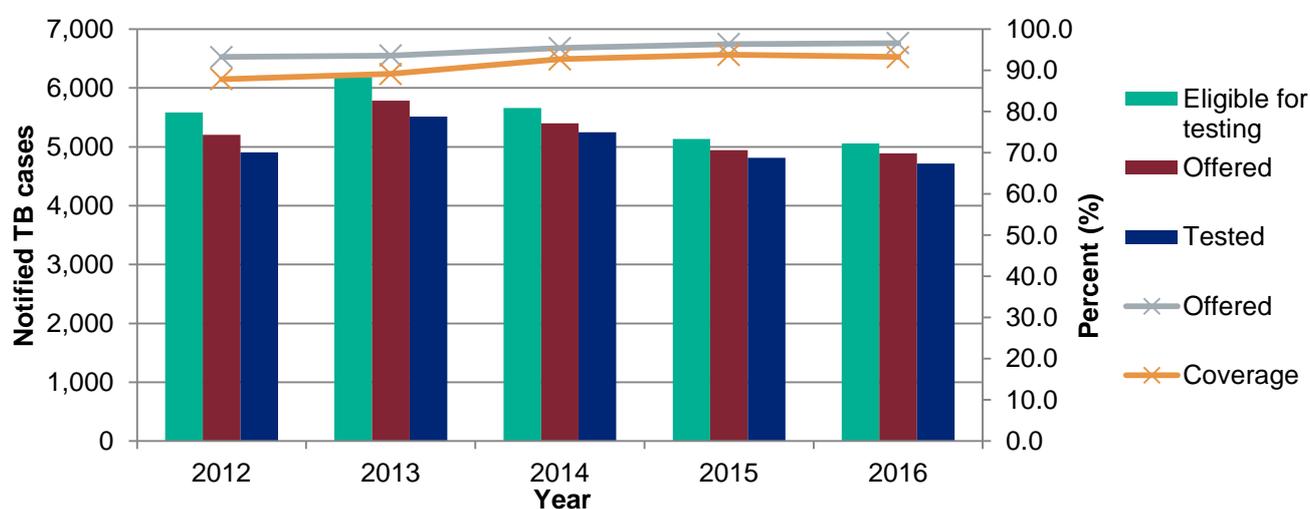
Of the 31,689 people who tested positive for anti-HCV between 2010 and 2014, 45% were tested for HIV within 6 months. HIV testing rates were lowest in primary care (41% tested), and highest in secondary care (51% tested). Overall HIV test positivity was 1.9% for people who tested within 6 months of testing positive for anti-HCV.

Table 9: HIV testing within 6 months in those positive for HBsAg or anti-HCV, England 2010-2014

Hepatitis positivity ¹	Service type (all hepatitis positive)	HIV tested on the same day ² (%)	HIV tested within 6 months ³ (%)
HBsAg	Primary care ⁴ (6,016)	1,600 (26.6)	1126 (18.7)
	SHS (3,284)	1,791 (54.6)	97 (3.0)
	Secondary care (6,746)	2,190 (32.5)	497 (7.4)
	Total (n=16,086)	5,593 (34.8)	1,722 (10.7)
Anti-HCV	Primary care ⁴ (18,287)	6,172 (33.8)	1282 (7.0)
	SHS (3,279)	1,673 (51.0)	98 (3.0)
	Secondary care (10,123)	4,378 (43.2)	752 (7.4)
	Total (n=32,114)	12,429 (38.7)	2,158 (6.7)

5.6. Healthcare services for those diagnosed with tuberculosis (TB)

In 2016, testing information was available for 93% (5,059/5,445) of notified TB cases with a previously unknown HIV status. Of these cases, 93% (4,716/5,059) were tested for HIV (coverage %^{xiii}), an increase from the 88% tested 4,905/5,583 in 2012.

Figure 20: HIV testing offer and coverage¹ in notified TB cases² by year, England 2012-2016


¹ Coverage % is defined as % of notified TB cases tested for HIV.

² Total with previously unknown HIV status where HIV testing is known and excluding those diagnosed post-mortem.

The proportion of notified cases who were tested for HIV was highest in those born in countries with high HIV prevalence (95%) and in those born in all other countries (excluding the UK) (95%) and then followed by those born in the UK (89%).

^{xiii} Coverage % is defined as % of notified TB cases tested for HIV.

Table 10: HIV testing in notified TB cases by country of birth, England 2015

Country of birth	Notified TB cases ¹	Offered (offered %)	Tested (tested %)
Country with high HIV prevalence ²	536	530 (98.9)	509 (94.9)
United Kingdom	1,299	1,197 (92.1)	1,158 (89.1)
Other country ³	3,109	3,060 (98.4)	2,955 (95.0)
Total⁴	4,947	4,789 (96.8)	4,624 (93.5)

¹ Total includes those with previously unknown HIV status where HIV testing is known and excluding those diagnosed post-mortem.

² Countries where known HIV diagnosed prevalence is >1% in ages 15-49^[26].

³ All other countries excluding the UK and those with high HIV diagnosed prevalence.

⁴ Includes those where COB classified as "Other" (n=4).

In 2015, 3.8% (211/5,513) of notified TB cases were co-infected with HIV (as determined by matching TB cases to HIV cases)^{xiv}. Where known, 54% (111/204) of co-infected notified TB cases were born in countries of high diagnosed HIV prevalence (>1%)^[26]. The proportion of notified TB cases co-infected with HIV has fallen from the peak of 8.4% in 2008 (534/6,308).

5.7. Specialist services for people who inject drugs

In 2016, the prevalence of HIV among people who inject drugs (PWID) who participated in the unlinked anonymous monitoring (UAM) survey in England was 0.85% (95% CI, 0.53%-1.3%)^[27]. In 2016, 77% (1,820/2,374) of PWID in England participating in the UAM Survey reported ever having a test for HIV, which is similar to the uptake reported for 2015 (78%). Among recent initiates to injecting, those who first injected in the preceding 3 years, 63% (104/165) reported ever having had a test for HIV. This reflects a small decrease in self-reported uptake of testing over the last year (67% in 2015).

In 2016, 82% (396 /481^{xv}) of PWID who had not been tested for HIV had accessed a clinical service in the preceding year. Most of those who had not been tested for HIV had seen their GP (69%), were being prescribed a substitution drug (63%), or had used a needle and syringe programme (58%) during the previous year (see Figure 21).

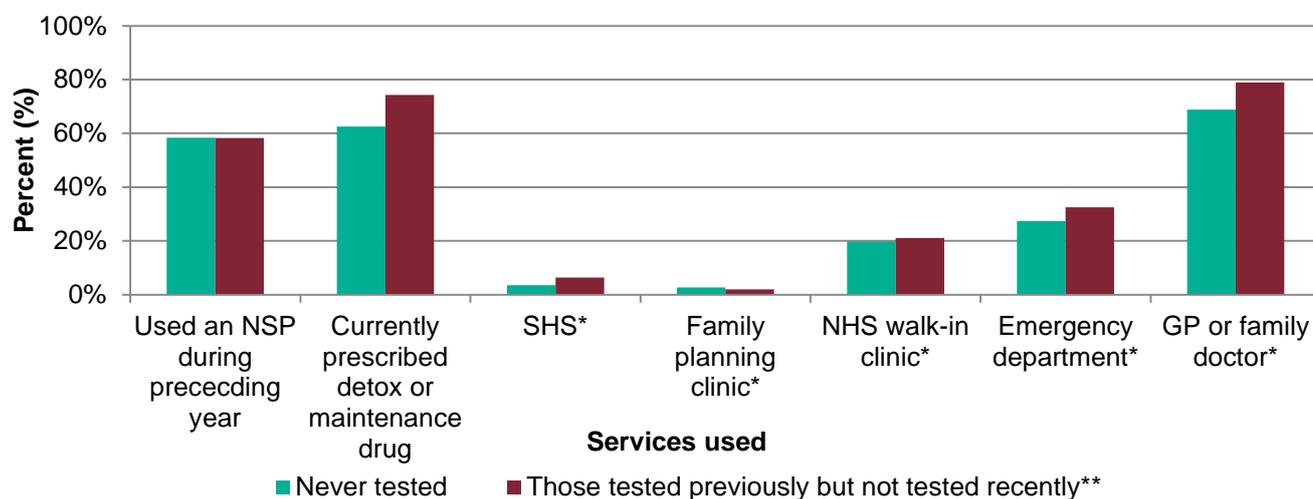
In 2016, of those who reported ever testing for HIV, almost half (47%) reported that their last HIV test was more than two years ago. Health service use in the previous year was higher in those PWID who had tested previously for HIV but had not tested recently, compared to those who had never been tested. Most who had previously tested for HIV,

^{xiv} Includes TB and HIV cases aged 15 years and over

^{xv} Of the 554 participants in 2016 who reported never being tested for HIV, data for 73 participants was missing for health service use.

but not recently, had seen their GP (79%), received a substitution drug (74%) or had used a needle and syringe programme (58%).

Figure 21: Proportion of PWID (%) never tested for HIV and not recently tested¹ for HIV accessing health services in the previous year, England 2016



* In the preceding 12 months, ** Not tested in the preceding 2 years

5.8. Prisons

In 2014, PHE, NHS England (NHSE) and the HM Prison and Probation Service (HMPPS) developed an ‘opt out’ blood-borne virus (BBV) testing programme in which all new receptions should be offered testing for HCV, HBV and HIV ^[28]. For the financial year 2016/2017, preliminary data from the Health and Justice Indicators of Performance (HJIPs) indicates that there were 214,606 new receptions and transfers in the 112 English prisons from which data is collected. In total, 37,474 HIV tests took place (17.5% of new receptions and transfers) and 942 HIV infections were reported (HIV test positivity 2.5%). Information on the proportion of these infections that were new diagnoses and the number of prisoners offered an HIV test is not available for this time period. However, the programme has yet to be fully implemented and planned data quality improvements are underway.

In 2016, 3,139 prisoners attended specialist SHS and were eligible for HIV testing. Of those eligible, 80% were offered and 65% accepted HIV testing. This identified 17 new diagnoses of HIV, a test positivity of 0.5%. The number of eligible prisoners attending specialist SHS has decreased by 53% since 2012. Further, HIV offer and coverage breakdowns in prisoners attending specialist SHS can be found at: [Sexually transmitted infections \(STIs\) Annual data tables](#).

5.9. HIV screening

5.9.1. Antenatal services

Uptake of HIV screening in pregnant women who engage with antenatal care has increased since 2011 and exceeded 98% for the first time in 2015. Positivity in all pregnant women has decreased by 21% since 2012 and rates of newly diagnosed infection decreased from 0.07 in 2011 to 0.03 in 2015.

Table 11: HIV testing uptake and positivity among pregnant women presenting to antenatal care, England 2011-2015

	2011	2012	2013	2014	2015
Uptake %	97.1	97.7	97.6	97.3	98.2
Number Tested ¹	684,510	684,566	673,373	693,570	720,590
Number Positive ²	1,182	1,306	1,080	1,018	1,082
Positive %	0.17	0.19	0.16	0.15	0.15
Newly diagnosed ³ %	0.07	0.04	0.04	0.03	0.03

¹ Among pregnant women presenting to antenatal care.

² The number positive is the total number of women who screened positive during antenatal screening which comprises: women newly diagnosed and those previously diagnosed and retested in this pregnancy.

³ [(no. of newly diagnosed/ (no. screened - no. previously diagnosed))] (x 100%)

5.9.2 Blood, tissue and organ donors

HIV infection in blood donors

NHS Blood and Transplant (NHSBT) screens all blood donations made in England (and North Wales until 1 April 2016) for evidence of HIV infection ^[29]. People wishing to donate are advised not to give blood if they think they need a test for HIV.

From 2012 to 2016, 9,264,850 donations were tested and overall positivity rates were low, ranging between 0.4 and 0.8 per 100,000 donations. Of the 57 positive HIV donations identified in 2016, 18 were probably acquired from sex between men, 7 were in black ethnic groups, and 4 were in people born in a high HIV prevalence country (see Appendix XII). The rate of HIV positivity in donors of black ethnicity was 13.0 per 100,000, compared with the rate among white donors of 0.5 per 100,000 (2012-2016).

Blood donations which are confirmed positive for HIV are usually made by people who thought they were at low risk of infection. Where known, all infections were likely sexually acquired; with the transmission route not reported for 3 infections. A third (33%) of positive donors were non-compliant with donor selection guidelines, of which the majority reported sex between men within the last 12 months.

Tissue donors tested by NHS Blood and Transplant (NHSBT)

Living surgical bone donors and deceased tissue donors are tested by NHSBT. The donor selection guidelines and testing policies are similar to those for blood donors and all donors are tested for HIV. In 2016, 708 living surgical bone donors and 3,011 deceased donors were screened for HIV and no confirmed HIV positive donors were identified. From 2006 – 2016, 1 HIV positive living surgical bone donor (3.2 per 100,000 donors) and 3 HIV positive deceased donors (16.7 per 100,000 donors) were identified.

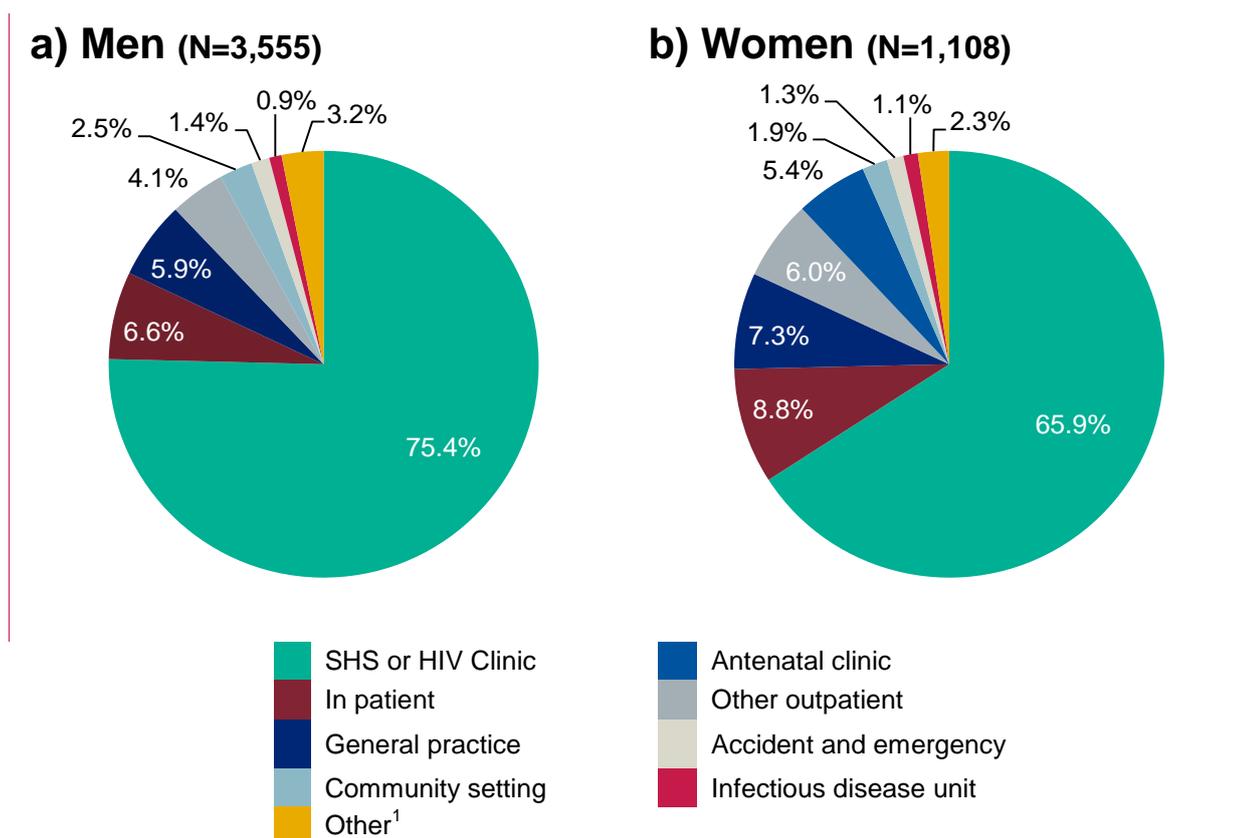
Organ donors (UK data)

Organs can be donated for transplant with consent after brain stem or circulatory death. Some restrictions apply, but surgeons balance risk of using an organ from an infected donor against the risk of a patient remaining on the transplant list. Deceased organ donors are routinely tested for HIV. Unlike blood and tissue donors tested by NHSBT, the organ donor testing is performed at a local laboratory. In the UK in 2016, 1,916 deceased donors had consented for donation and none were positive for HIV.

6. Settings where HIV is diagnosed

The setting of the initial positive test was reported for 99% of adults (aged ≥ 15 years) newly diagnosed with HIV in England in 2016 (N=4,663). The distribution of diagnoses among men and women by setting of first positive test can be seen in Figure 22. Most adults continue to have their first positive test in SHS or HIV clinics, comprising 75% of men and 66% of women. This followed by hospital wards (in patient services) and general practice for both sexes. Additionally, 3.2% of men and 2.3% of women had their first positive test in service described as other, this includes the following: blood transfusion service, prison, home testing, drug misuse service, self-sampling service, other and setting/service not reported. This reflects the increasing number of settings and services where HIV testing is offered.

Figure 22: New diagnoses among adult men and women (aged ≥ 15 years) by setting of first positive test, England 2016



¹ Other includes blood transfusion service, prison, home testing, drug misuse service, self-sampling service, other and setting/service not reported.

7. Data limitations and developments

SHS data will differ from the numbers presented in the previous report as clinics may have resubmitted data. HIV testing data from both specialist and non-specialist SHS have been presented together for the first time in this report. Improved code usage also has contributed to enhanced data quality, particularly when identifying whether an attendee is eligible for HIV testing. However, the usage of codes identifying whether an individual is attending for SRH reasons or when an HIV test is inappropriate could be improved.

Following the expansion of online sexual health services, future reports will present data from more of these services. Future reports will also include better information on trans communities attending SHS.

A large number of HIV tests that are carried out in primary care settings are point of care tests, where the result is interpreted by a trained professional and the sample is not sent to a laboratory for testing. Therefore, the results of these tests are not captured in laboratory surveillance systems and are not presented in this report.

Data on HIV testing among patients with hepatitis B and C, in hospitals and within general practice, is provided by a national sentinel surveillance laboratory based system. This national data sample is being developed through linkage to other data sources. In the future, this will be used to provide HIV test coverage rates in hospitals, and further data on testing in patients with indicator conditions.

Future reports will include HIV testing data from the latent TB Infection testing and treatment programme. Future reports will also present data collected after the implementation of the new donor selection policy for blood, tissue and cell donors. These changes include a reduction in deferral time since last sexual contact for MSM, commercial sex workers and partners of people deemed at higher risk of blood-borne infections^[30].

Future reports will be tailored to assess the impact of the PrEP impact trial^[31] and any subsequent PrEP programme on HIV testing activity.

8. Links to more information

- information about sexual health services is available at: [Sexually transmitted infections \(STIs\): surveillance, data, screening and management](#)
- information on people living with HIV/AIDS is available at: [HIV: surveillance, data and management](#)
- information on PHE self-sampling service is available at: [HIV Self-sampling scheme](#)
- information on those diagnosed with tuberculosis is available at: [Tuberculosis \(TB\) and other mycobacterial diseases: diagnosis, screening, management and data](#)
- information on the Unlinked Anonymous Monitoring Survey of People Who Inject Drugs (UAM PWID) is available at: [People who inject drugs: HIV and viral hepatitis monitoring](#)
- information on the number of HIV tests and positivity captured by the Sentinel Surveillance of Blood Borne Virus Testing is available at: [Sentinel surveillance of blood borne virus testing in England](#)
- information on the Health & Justice indicators of performance is available at: [Prison health: health and justice annual report](#)
- information on antenatal screening is available at: [NHS infectious diseases in pregnancy screening \(IDPS\) programme](#)
- information on the screening of blood donors is available at: [Blood, tissue and organ donors: surveillance schemes](#)

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10. Appendices

Appendix I: HIV testing legislation and guidelines

UK HIV testing legislation	
UK regulations	
The Blood Safety and Quality Regulations 2005 The Human Tissue (Quality and Safety for Human Application) Regulations 2007 The Quality and Safety of Organs Intended for Transplantation (Amendment) Regulations 2014	
National screening recommendations	
Recommendation	Organisation
The UK NSC recommendation on HIV screening in pregnancy	UK NSC 2006
National HIV/STI testing guidelines	
Guideline	Organisation
UK national guidelines for HIV testing 2008	BASHH/BHIVA/BIS 2008
HIV testing: increasing uptake in black African men and women (PH33)	NICE 2011
HIV testing: increasing uptake in men who have sex with men (PH34)	NICE 2011
Guidelines for the blood transfusion services in the UK	JPAC 2013
Sexually transmitted infections in primary care	RCGP/BASHH 2013
BASHH recommendations for testing sexually transmitted infections in men who have sex with men	BASHH 2014
Standards for the management of sexually transmitted infections (STIs)	MEDFASH/BASHH 2014
Partner notification for adults: definitions, outcomes and standards	BASHH/BHIVA/SSHA/NAT 2015
HIV testing: increasing uptake among people who may have undiagnosed HIV	NICE 2016
European HIV testing guideline	
Guideline	Organisation
HIV indicator conditions: guidance for implementing HIV testing in adults in health care settings	HIV in Europe 2012
2014 European guideline on HIV testing	IUSTI 2014
Other HIV testing guidelines	
Guideline	Organisation
Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations	WHO 2016
Guidelines on HIV self-testing and partner notification	WHO 2016

Appendix II: HIV testing recommendations and PHE monitoring data sources

HIV testing recommendation	Information type	Information system	Primary guidance source(s)
Universal testing in specialist services			
Sexual health clinics (SHS)	National surveillance in SHS	GUMCAD	NICE 2016; BASHH/BHIVA/BIS 2008
Termination of pregnancy services	No data available	No data source available	NICE 2016; BASHH/BHIVA/BIS 2008
Services for people who use drugs	Voluntary national survey in specialist drug services	UAM Survey of PWID	NICE 2016; BASHH/BHIVA/BIS 2008
Specialist clinical services (TB, HCV, HBV, lymphoma ¹)	National surveillance in TB services Sentinel surveillance, 40% pop coverage through participating labs	ETS SSBBV	NICE 2016, HIV in Europe 2012
Prisons	National surveillance of BBV testing in the prison estate (in progress) National surveillance in SHS (prisoner attendees)	HJIPS GUMCAD	NICE 2016
Routine testing in clinical settings in areas of high and extremely high prevalence (≥2 per 1,000 population 15-59 years olds)			
General practice	Sentinel surveillance,	SSBBV	NICE 2016
Secondary and emergency care	Sentinel surveillance,	SSBBV	NICE 2016
Testing at home and community settings targeting at-risk groups			
BA communities, gay and bisexual men	National surveillance in SHS Ad hoc survey of HIV testing in community settings	GUMCAD Ad hoc survey	NICE 2016
Self-sampling Self-testing	National service data, 80+ participating LAs National service data Ad hoc survey of HIV testing in community settings	National HIV Self-Sampling Service Independent data source Ad hoc survey	NICE 2016 WHO 2016, IUSTI 2014
Universal testing where there is a HIV transmission risk to others (includes screening)			
Antenatal screening	National surveillance of BBV testing in antenatal care	NAISM	UK NSC 2006; IDPS 2016
Blood, tissue, organ donation screening	National surveillance of testing in blood, tissue and deceased organ donors	NHSBT/PHE	JPAC 2013

Routine testing in high-risk groups²			
Those with clinical indicator diseases (including STIs, TB, HCV, HBV)	Sentinel surveillance, 40% pop coverage through participating labs National surveillance in TB services National surveillance in SHS	SSBBV ETS GUMCAD	NICE 2016 HIV in Europe 2012
Sexual partners of those with known HIV	National surveillance in SHS	GUMCAD	BASHH/BHIVA/SSHA/NAT 2015, WHO 2016
Those with history of injecting drug use	Voluntary national survey in specialist drug services	UAM Survey of PWID	NICE 2016, WHO 2016, WHO 2016
Those from country of high diagnosed HIV prevalence (>1%) ^[26]	National surveillance in SHS National surveillance in TB services	GUMCAD ETS	NICE 2016; BASHH/BHIVA/BIS 2008
Sex workers	National surveillance in SHS	GUMCAD	RCGP/BASHH 2013; WHO 2016
Transgender people	National service data, 80+ participating LAs Ad hoc survey of HIV testing in community settings	National HIV Self-Sampling Service Ad hoc survey	WHO 2016
Victims of sexual assault	No data available	No data source available	RCGP/BASHH 2013
Female sexual contacts of gay and bisexual men	No data available	No data source available	NICE 2016; BASHH/BHIVA/BIS 2008
Those reporting sexual contact with people from countries of high HIV prevalence	No data available	No data source available	NICE 2016, BASHH/BHIVA/BIS 2008

¹ No data available for lymphoma services.

² Includes black African populations and gay and bisexual men.

Appendix III: HIV testing definitions

Data source: GUMCAD (SHS, gay and bisexual men, BA data)
HIV test coverage and positivity
Eligible new SHS episode
A visit to a SHS including all subsequent SHS attendances in the following six weeks. Attendances by known HIV positive patients or where an HIV test was not appropriate or where the attendance was reported as being related to SRH care only are excluded.
Offered
Number of 'Eligible new SHS episodes' in which (a maximum of) one HIV test was offered
Tested
Number of 'Eligible new SHS episodes' in which (a maximum of) one HIV test was accepted
Offered %
% of 'Eligible new SHS attendees' in which an HIV test was offered
Coverage %
% of 'Eligible new SHS attendees' in which an HIV test was accepted; data represent the number of persons tested for HIV & not the number of tests reported
Positivity
Number of new diagnoses identified in SHS, excluding those already diagnosed in other settings
Positivity %
As a % of all HIV tests performed (a maximum of 1 test per attendee every six weeks)
HIV testing in PN Contacts
Offered
Number of PN contacts offered an HIV test on day of attendance
Tested
Number of PN contacts tested for HIV test on day of attendance
Offered %
% of PN contacts offered an HIV test on day of attendance
Coverage %
% of PN contacts tested for HIV test on day of attendance
Contacts diagnosed
Number of PN contacts diagnosed with HIV
Contacts diagnosed %
% of PN contacts diagnosed with HIV

Data source: Enhanced tuberculosis surveillance
HIV test coverage
Eligible for testing
Number of notified TB cases with previously unknown HIV status, where HIV testing is known and excluding those diagnosed post-mortem
Offered
Number of notified TB cases offered HIV testing
Tested
Number of notified TB cases tested for HIV
Offered %
% of notified TB cases offered HIV testing
Tested %
% of notified TB cases tested for HIV

Data source: SSBBV (Secondary care and hepatitis data)
Persons tested for HIV in secondary care
<p>Number tested Number of persons HIV tested in services part of SSSBV; data de-duplicated subject to availability of date of birth, soundex and first initial</p>
<p>Number positive Number of persons found positive in services part of the SSBBV</p>
<p>Positive % % of persons found HIV positive in services part of the SSBBV</p>

Data source: SSBBV (Primary care data)
HIV tests carried out in primary care
<p>Number of tests Number of HIV test carried out by services taking part in SSBBV</p>
<p>Number of positive tests Number of positive HIV tests found in services part of the SSBBV</p>
<p>Positive tests % % of positive HIV tests found in services part of the SSBBV</p>

Data source: National HIV Self-sampling Service
Self-sampling kits tested & reactivity
<p>Number of tests Number of self-sampling kits returned by service users that were tested for HIV</p>
<p>Reactive kits Number of self-sampling kits returned by service users that were reactive for HIV; low reactivity indicates COI below 50; high reactivity indicates COI above 50; total includes low and high reactive kits</p>
<p>Reactive kits % % of high reactive kits returned by service users</p>

Data source: NAISM
HIV test uptake
<p>Uptake % % of HIV tests accepted by pregnant women attending antenatal services</p>

Appendix IV: Description of surveillance systems and data source

BioSure

BioSure holds a regulatory approval to sell self-testing kits, and has provided data for inclusion within this report.

Enhanced tuberculosis surveillance (ETS)

Tuberculosis cases in England are notified to the enhanced tuberculosis surveillance system. Data is provided by clinical teams via electronic submission or by case report forms entered to ETS by Health Protection Teams. Demographic and social risk factor data, as well as clinical information is available for all notified TB cases. The proportion of HIV testing carried out in notified TB cases is presented annually in line with the Collaborative Tuberculosis Strategy for England. Test results are not available for individual TB cases tested for HIV. Completeness of HIV testing data varies between PHECs.

GUMCAD STI Surveillance System

GUMCAD collects disaggregate data on diagnoses made and services provided by specialist sexual health services and non-specialist sexual health services. GUMCAD is a mandatory dataset with full coverage in all specialist SHS in England. Non-specialist SHS coverage (excluding GPs) continues to improve as services continue to register. Data on HIV testing activity is submitted quarterly. Nationally reporting and by level of local authority is available annually. Clinic level activity is also accessible within participating services.

Health and justice indicators of performance (HJIPs)

These performance indicators have been developed by NHS England, PHE and NOMS and were rolled out to capture data from April 2014 in the England prison estate. The HJIPs gather information directly from the Health Informatics system (SystemOne) and provide a broad range of quantitative measures to describe the burden of disease, patient needs and the quality of health services in prisons. Current data quality improvement work will inform future coverage and positivity analyses for HIV testing in prison settings, as well as referral into care.

HIV and AIDS new diagnoses and deaths patients reporting system (HARS)

The HARS dataset collects disaggregate information on those diagnosed with HIV infection who present to HIV outpatient services in the UK. Returns are electronic, quarterly and include demographic data taken at registration as well as clinical and risk factor information. At present, HARS is linked with other HIV surveillance in place to estimate the proportion of late HIV diagnoses in line with Public Health Outcome Framework (PHOF) late diagnosis indicators.

National antenatal infections screening monitoring (NAISM)

HIV screening is offered and recommended as part of the NHS Infectious Disease in Pregnancy Screening Program. Aggregate data is collected by maternity unit or at trust level and based on the number of pregnant women booking and presenting to antenatal care. Data until Q1 2016 was collated by PHE as part of the National Antenatal Infections Screening Monitoring programme and from Q2 2016 it is now collated by the UK NSC. Testing uptake and positivity data are submitted quarterly, with annual collation and reporting.

National HIV self-sampling service

In November 2015, PHE launched a nation-wide HIV self-sampling service for most at-risk populations for HIV acquisition with the support of local authorities. The aim of this service is to provide a cost effective and clinically robust remote HIV sampling service for sexually active individuals aged 16 years and over. Emphasis will be placed on increasing HIV testing amongst most at risk groups including gay and bisexual men and black African populations (and other black communities at increased risk of HIV). In February 2016, the service was devolved to participating local authorities who have since taken responsibility for implementing the service in their areas.

NHS blood and transplant (NHSBT)/PHE epidemiology unit surveillance programme

The NHSBT / PHE epidemiology unit surveillance programme is a series of national schemes that monitors infection in blood, tissue and organ donors and in transfusion recipients. Testing activity data is collated from UK blood services. HIV testing numbers and rates of infection are reported annually in all blood, tissue and deceased organ donations.

PHE Community HIV testing Survey

In 2017, PHE worked with the National AIDS Trust (NAT) and Terrence Higgins Trust (THT) to carry out the first ever survey of community HIV testing. 33 service providers reported that they carried out over 20,000 HIV tests in community settings in 2016. The survey captured information on where community HIV testing took place and; the local authority of residence, gender, sexual orientation and ethnicity of the tester. The following organisations took part in the survey; Addaction Bournemouth, Africa Advocacy Foundation, BDP, BHA for Equality, CGL (Swindon), CGL (Knowsley), CGL Spectrum (Hertfordshire), CGL (Halton), Compass (Milton Keynes), DHIVERSE, Embrace, GMI, HACO, HertsAid, Kwa Africa, LGBT Foundation, Metro, NAZ, North Lincolnshire Substance Misuse, Positive East, Positive Health (Lincolnshire), Plus me Positive about Change, Renaissance at Drugline Lancashire, Somerset Drug & Alcohol Services, Spectra, Summit House Support, The Brunswick Centre, The Eddystone Trust, THT, Trade Sexual Health, Turning Point (Wiltshire), TVPS and Yorkshire Mesmac.

Sentinel surveillance of blood borne virus testing (SSBBV)

The sentinel surveillance of blood borne virus testing began in 2002 to supplement routine hepatitis surveillance where coverage is estimated at 40% of the population. Inclusion of HIV testing data began in 2011. HIV numbers and positivity are collected by participating laboratories who provide services to a range of primary and secondary care settings in England. Where information is available, testing data can be linked to requesting hospital setting (for example ward, speciality). Quarterly returns are collected and data is reported annually.

Unlinked anonymous monitoring survey of people who inject drugs (PWID)

The unlinked, anonymous monitoring (UAM) survey of people who inject drugs (PWID) is undertaken annually. Surveys are carried out in specialist drug services in England, Wales and Northern Ireland with a self-completed questionnaire and dried blood spot sample. Self-reported uptake of HIV testing and HIV prevalence in PWID are both reported annually by gender and age.

Appendix V: HIV test offer, coverage and positivity in gay and bisexual men eligible¹ for HIV testing attending SHS, England 2012-2016

Year	Eligible for testing ¹	Offered (Offered %)	Tested (Coverage %)	New Diagnoses (Positivity %)
2012	86,727	76,454 (88.2)	72,699 (83.8)	1,664 (2.3)
2013	94,375	84,199 (89.2)	80,355 (85.1)	1,720 (2.1)
2014	108,288	98,343 (90.8)	93,834 (86.7)	1,842 (2.0)
2015	115,396	106,508 (92.3)	101,261 (87.8)	1,732 (1.7)
2016	118,076	109,370 (92.6)	104,478 (88.5)	1,292 (1.2)

¹ Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

Appendix VI: Estimated percentage of gay and bisexual male population testing for HIV in SHS, community settings or self-sampling tests, 2016 by PHE area

PHE Centre area	Estimated gay and bisexual population number ¹	SHS tests ²	Community tests	Self-sampling tests	Estimated percent of gay and bisexual men tested (%)
London	175,398	50,248	2,237	3,278	32
West Midlands	50,544	6,545	29	1,427	16
East Midlands	34,969	4,443	356	1,279	17
East of England	52,055	6,370	298	1,510	16
North East	18,098	3,144	0	866	22
Yorkshire and Humber	39,194	5,256	1,534	973	20
North West	75,277	10,176	391	2,707	18
South West	53,443	6,034	239	1,206	14
South East	83,156	11,973	1,143	2,327	19
England	582,132	104,189	6,227	15,573	22

¹ The number of gay and bisexual males who were accessing HIV care in 2015 has been excluded from the denominator

² SHS tests: no. of tests in SHS - (no. of reactivates in self-sampling tests + no. of reactivates in community tests)

Appendix VII: HIV test offer, coverage and positivity in black African men and women eligible¹ for HIV testing attending SHS, England 2012-2016

Year	Eligible for testing	Offered (Offered %)	Tested (Coverage %)	New Diagnoses (Positivity %)
2012	61,205	50,233 (82.1)	41,605 (68.0)	641 (1.5)
2013	67,794	55,564 (82.0)	45,600 (67.3)	573 (1.3)
2014	70,450	59,502 (84.5)	47,959 (68.1)	551 (1.1)
2015	71,114	60,121 (84.5)	48,115 (67.7)	416 (0.9)
2016	72,052	61,587 (85.5)	49,556 (68.8)	341 (0.7)

¹ eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

Appendix VIII: Estimated percentage of black African population testing for HIV in SHS, community settings or self-sampling tests, 2016, by PHE centre

PHE Centre area	Estimated black African population number ¹	SHS tests ²	Community tests	Self-sampling tests	Estimated percent of black African men and women tested (%)
London	246,046	29,283	1,451	642	13
West Midlands	19,567	4,335	68	159	23
East Midlands	99,354	2,305	62	139	3
East of England	97,918	3,805	252	231	4
North East	22,820	357	0	35	2
Yorkshire and Humber	30,947	1,593	567	74	7
North West	96,255	2,926	91	148	3
South West	92,578	961	11	46	1
South East	253,827	3,936	323	175	2
England	959,311	49,501	2,825	1,649	6

¹ The number of black African men and women who were accessing HIV care in 2015 has been excluded from the denominator

² SHS tests: no. of tests in SHS - (no. of reactivates in self-sampling tests + no. of reactivates in community tests).

Appendix IX: HIV test offer, coverage and positivity in attendees born in a high prevalence country¹ who are eligible² for HIV testing attending SHS, England 2012-2016

Year	Eligible attendees ²	Offered (Offered %)	Tested (Coverage %)	New diagnoses (Positivity %)
2012	63,724	53,410 (83.8)	46,016 (72.2)	754 (1.6)
2013	67,185	56,435 (84.0)	48,230 (71.8)	645 (1.3)
2014	66,399	57,072 (86.0)	47,933 (72.2)	641 (1.3)
2015	66,841	57,288 (85.7)	47,758 (71.5)	473 (1.0)
2016	65,511	56,919 (86.9)	46,865 (71.5)	368 (0.8)

¹ Countries where known HIV diagnosed prevalence is >1% in ages 15-49 ^[28]

² Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded. This includes England residents only.

Appendix X: HIV test offer, coverage and positivity in 'other attendees'¹ who are eligible² for HIV testing attending SHS, England 2012-2016

Year	Eligible attendees ²	Offered (Offered %)	Tested (Coverage %)	New Diagnoses (Positivity %)
2012	1,275,147	1,035,068 (81.2)	808,715 (63.4)	760 (0.1)
2013	1,410,762	1,119,638 (79.4)	857,514 (60.8)	742 (0.1)
2014	1,473,651	1,191,616 (80.9)	887,776 (60.2)	705 (0.1)
2015	1,485,988	1,219,029 (82.0)	887,542 (59.7)	694 (0.1)
2016	1,491,289	1,238,356 (83.0)	898,786 (60.3)	674 (0.1)

¹ An 'other attendee' is an attendee who is not a gay and bisexual male, black African man or woman or born in a country with high HIV prevalence (countries where known HIV diagnosed prevalence is >1% in ages 15-49 ^[26]).

² Eligible SHS attendee: any patient attending a SHS at least once during a calendar year; patients known to be HIV positive or for whom an HIV test was not appropriate, or for whom the attendance was reported as being related to SRH care only are excluded; includes England residents only.

Appendix XI: HIV test offer, coverage and diagnosis in HIV PN contacts attending SHS, England, 2012-2016

Year	PN contacts	Offered (Offered %)	Tested (Coverage %)	Contacts diagnosed (%) ¹	Total New Diagnoses ²	PN test ratio ³
2012	1,656	1,315 (79.4)	1,297 (78.3)	128 (9.9)	3,172	0.4
2013	1,975	1,641 (83.1)	1,607 (81.4)	101 (5.1)	3,125	0.5
2014	2,171	1,798 (82.8)	1,777 (81.9)	98 (4.5)	3,193	0.6
2015	2,034	1,773 (87.2)	1,745 (85.8)	92 (4.5)	2,895	0.6
2016	2,211	1,895 (85.7)	1,860 (84.1)	72 (3.3)	2,358	0.8

1 no. of diagnoses through ON/no. of PN contacts tested (x100)

2 All new HIV diagnoses in SHS

3 testing ratio: no. PN contacts tested to number of new diagnoses in each year

Appendix XII: Characteristics of blood donors with confirmed HIV positive donations, England and North Wales (2012-2016)

HIV infected donors	New Donors	%	Repeat Donors	%	Total	%
Number	23	100	34	100	57	100
Male	12	52	21	62	33	58
Rate (per 100,000 donations)	3.1	-	0.4	-	0.6	-
Median age	32	-	39	-	37	-
Age range	18-53	-	18-71	-	18-71	-
Negative donation within 1 year	-	-	17	50	17	30
Avidity - infection likely within 4-5 months	0	-	19	56	19	33
Ethnic Group						
White	14	61	30	88	44	77
Black African/Caribbean/Other	6	26	1	3	7	12
Indian/Pakistani/Bangladeshi	1	4	3	9	4	7
Chinese	0	0	0	0	0	0
Asian other	1	4	0	0	1	2
Mixed	1	4	0	0	1	2
Country of Birth						
United Kingdom	14	61	21	62	35	61
Countries with High HIV prevalence	4	17	0	0	4	7
All other countries	1	4	4	12	5	9
Unknown	4	17	9	26	13	23
Probable exposure category						
Sex between men and women	15	65	21	62	36	63
Sex between men	6	26	12	35	18	32
No risk identified	2	9	1	3	3	5
Region where infection acquired						
United Kingdom	14	61	28	82	42	74
Countries with High HIV prevalence	2	9	1	3	3	5
All other countries	2	9	3	9	5	9
Unknown	5	22	2	6	7	12