



Public Health  
England

Protecting and improving the nation's health

# **Progress towards ending the HIV epidemic in the United Kingdom**

**2018 report – summary, key messages and recommendations**

## About Public Health England

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

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## Summary findings

### UNAIDS 90:90:90 targets

The latest estimates for undiagnosed HIV infections indicate that the UNAIDS 90:90:90 targets have been met both in the United Kingdom (UK) overall and in England. There has been a steady progression towards meeting these targets over the past decade, and it is now time to look beyond and identify new priorities that, if achieved, could accelerate the falls in HIV transmission that are well underway.

In 2017, 92% (Credible interval (CrI) 88 to 94%) of the estimated 101,600 (CrI 99,300 to 106,400) people living with HIV infection in the UK were diagnosed, 98% of people diagnosed were receiving treatment and 97% of people receiving treatment were virally suppressed. Overall, 87% of people living with HIV in the UK were estimated to have an undetectable viral load and therefore unable to pass on the infection.

### Decline in HIV incidence and diagnoses in gay and bisexual men

The estimated annual number of new infections acquired by gay, bisexual and other men who have sex with men<sup>1</sup> in the UK has more than halved from a peak of around 2,700 (95% CrI 2,200 to 3,200) in 2012 to 1,200 (CrI 600 to 2,100) in 2017.

There has been a continuation of the decline in new HIV diagnoses among gay and bisexual men (31% decline, from 3,390 in 2015 to 2,330 in 2017). Previously, diagnoses among this group had been increasing year on year from 2,820 in 2008 to 3,390 in 2015. The decrease in numbers of new diagnoses has been observed within London (44%, from 1,415 in 2015 to 798 in 2017) and outside London including in the South of England (33%, 398 to 267) and the Midlands and East of England (29%, 411 to 293).

### Decline in HIV diagnoses acquired through heterosexual sex

New HIV diagnoses in both black African and black Caribbean heterosexuals<sup>2</sup> have been decreasing steadily over the past 10 years (black African: 78%, from 2,424 in 2008 to 542 in 2017; black Caribbean: 77%, from 231 to 52). Declines have been observed for the first time among non-black African and non-black Caribbean heterosexual men, particularly among white heterosexual men (31%, from 429 in 2016 to 296 in 2017).

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<sup>1</sup> Gay, bisexual and other men who have sex with men are hereafter referred to as gay and bisexual men; this group was previously referred to as men who have sex with men (MSM).

<sup>2</sup> Heterosexual men and women refer to people who probably acquired their HIV infection through heterosexual sex and/or people reporting their sexual orientation as heterosexual.

## Living with diagnosed HIV infection

The population of people living with diagnosed HIV infection (93,385) is growing older and diversifying. In 2017, more than a third (39%) of people receiving HIV care were aged 50 years or above; 14% of gay and bisexual men receiving care were from black, Asian and other minority ethnic (BAME) groups; and 26% of heterosexuals receiving care were white. These figures were 18%, 12% and 21%, respectively, in 2008.

In 2017, 98% of people receiving care were on antiretroviral treatment, and 97% on treatment had an undetectable viral load. Of the 87,057 people attending for care in 2015, 97% were retained in care 2 years later in 2017. Clinical outcome measures were high across all groups, although virological suppression was slightly lower among 15-24 year olds (87%) and non-retention was higher among people who inject drugs (PWID) (7%).

The excellent HIV treatment and care outcomes observed in the UK are reflected in the results of a national HIV patient survey, *Positive Voices*, which found that three-quarters (73%) of people with HIV accessing care in England rated their health as “very good” or “good”, compared to 81% of the general English population [1]. In contrast, with regard to health-related quality of life, as measured by the Euroqol (EQ-5D-5L) instrument which takes into account both physical and mental health, significantly lower scores were reported in people living with HIV in the survey (0.60 on a scale of 0 to 1 where 0 is the worst possible health and 1 is the best health) as compared to the general English population (0.86). This disparity was largely driven by poor mental health, with half (50%) of people with HIV having symptoms of depression and anxiety, compared to a quarter (24%) of the general public. HIV populations with markedly lower health-related quality of life were trans/non-binary populations (0.50), people infected through blood/blood products (0.48) and people who inject drugs (0.31).

In 2017, 428 people with HIV infection died from any cause and over half of deaths (62%) were among people aged 50 years and over. In 2017, the crude overall mortality rate among those aged 15 to 59 years who had their HIV infection diagnosed promptly (CD4 cell count  $\geq 350$  cells/mm<sup>3</sup>) was 1.22 per 1,000 compared to 1.66 per 1,000 in the general population of the same age group.

## Decline in late HIV diagnoses

The number of late HIV diagnoses<sup>3</sup> (CD4 cell count <350 cells/mm<sup>3</sup>) decreased from 3,895 in 2008 to 1,879 in 2017, and in 2017, 43% of HIV diagnoses were made at a late stage of HIV infection. Late diagnosis was highest in heterosexual men (59%, 307/523) and heterosexual women (50%, 312/624) and lowest among gay and bisexual men (33%, 524/1,571).

## Combination HIV prevention

The progressive implementation of combination HIV prevention is the principal explanation for the fall in HIV incidence in gay and bisexual men since 2012 [2].

Combination HIV prevention seeks to achieve maximum impact through simultaneous implementation of complementary evidence-based behavioural, biomedical and structural interventions in the context of a well-researched and understood local epidemic [3]. Current key components of combination HIV prevention in the UK include: condom provision, pre-exposure prophylaxis (PrEP), expanded HIV testing and prompt initiation of antiretroviral therapy (ART) after diagnosis. The needs of individuals change across their life course. A combination HIV prevention approach helps ensure that individuals have access to the types of interventions that best suit their needs as their life evolves.

## Condoms

Condoms remain fundamental to the combination prevention approach of HIV and sexually transmitted infections (STIs) and are highly effective in preventing transmission, when used correctly and consistently during vaginal and anal sex [4, 5]. Condom use has been a key component of prevention initiatives, which, along with other elements of combination prevention, will have contributed significantly to the containment of the HIV epidemic in the UK [6, 7].

## Pre-exposure prophylaxis (PrEP)

Pre-exposure prophylaxis (PrEP) when used consistently by individuals at risk of HIV infection is highly effective at preventing HIV acquisition [8-11]. With the development of internet self-purchasing in 2015, PrEP use in England is thought to have quadrupled during 2016 [12], so that an estimated 3,000 gay and bisexual men were taking PrEP by year end. This number will have increased again during 2017, especially since the PrEP

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<sup>3</sup> Adjusted for missing CD4 information. CD4 count at diagnosis was 72% complete for new reports received in 2017.

**Impact Trial**, jointly co-ordinated by Chelsea & Westminster NHS Foundation Trust and PHE began, as did PrEP programmes and studies in **Scotland** and **Wales**.

It is very probable that this scale-up of PrEP use will have had a substantial effect at reducing underlying HIV incidence, additional to the effect of intensified HIV testing and the immediate treatment of those newly diagnosed as living with HIV. However, it is too soon to estimate the size of this additional effect from available data.

Meanwhile, the 2016 commitment by NHS-England to support a **PrEP programme** that is informed by the PrEP Impact Trial results and the work that is underway to prepare for this programme are both welcome [13].

### HIV testing policy

HIV testing policies aim to encourage the offer and uptake of testing in a range of clinical and community settings and those at increased risk. This includes testing in all attendees with an STI-related need at sexual health services, people attending general practice, A&E and admitted to hospital in areas of high and extremely high HIV prevalence, people with HIV indicator conditions<sup>4</sup> and encouraging regular test seeking by those at continuing risk of HIV acquisition.

The number needed to test to detect one HIV infection is a useful measure for assessing and comparing the efficiency of testing in different settings. In the next phase of the HIV response, the return for these testing policies will diminish as they become even more successful. Nevertheless, it is essential that these policies are further strengthened wherever there is scope for improvement.

### HIV testing in sexual health services in England

Testing activity at sexual health services (SHS) has continued to increase in 2017, largely driven by increased testing of gay and bisexual men. Encouragingly, the number of HIV diagnoses detected in these services in England has fallen across all groups, with 1,956 HIV infections diagnosed in 2017, 17% fewer than in 2016.

In 2017, 116,071 gay and bisexual men were tested in SHS, 9% more than in 2016. HIV test positivity among gay and bisexual men attending SHS has continued to decrease, falling from 1.2% in 2016 to 0.9% in 2017, reflecting both declining infection rates and changing testing routines. The number of HIV infections detected in this group fell by 20% between 2016 and 2017.

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<sup>4</sup> People with symptoms that may indicate HIV or HIV is part of the differential diagnosis in line with HIV in Europe's **HIV in indicator conditions**.

Gay and bisexual men should test annually for HIV, and every 3 months if they are having unprotected sex<sup>5</sup> with new or casual partners. In 2017, 42% of gay and bisexual men tested for HIV at a specialist SHS<sup>6</sup> had tested at least once before at the same service during the previous year. This proportion is similar to that in 2016 (41%).

Over three-quarters of HIV diagnoses (77%, 785/1,020) in gay and bisexual men attending specialist SHS were among those who had not tested in the 2 years before diagnosis (at the same service). Only 8% of HIV diagnoses in gay and bisexual men were made among men who had had 2 or more tests in the previous year (at the same service).

In SHS, the 2 groups who had the highest test positivity were the sexual partners of people with HIV, 4.3% of whom tested positive, and gay and bisexual men who recently had an anogenital bacterial STI. Of these men in this group who returned to the same clinic in the year following their STI diagnosis, 4.4% tested positive for HIV.

In 2017, over 67,000 heterosexual men and women who were of black African ethnicity or born in a high prevalence country (regardless of ethnicity) were tested for HIV in SHS. The number of people tested in this group stayed constant between 2016 and 2017. However, between 2016 and 2017 positivity rates fell among men (from 0.5% to 0.4%) but stayed stable among women (0.6%).

Many missed opportunities for testing continue to occur at SHS. Nearly 350,000 SHS attendees were not offered a test for HIV in 2017, despite being recorded as eligible for testing<sup>7</sup>. This included over 10,000 gay and bisexual men and over 10,000 black African heterosexual men and women.

HIV testing practices vary between different SHS. Within specialist SHS, 12% (27/221) of services met BASHH standards of testing 80% of all eligible attendees. HIV test coverage was much lower among heterosexual men (78%) and heterosexual women (59%) than among gay and bisexual men (89%) attending specialist SHS.

HIV test coverage rates in specialist SHS were much higher than in non-specialist SHS<sup>8</sup>. In particular, in 2017 only 29% of the 108,000 eligible heterosexual women attending sexual and reproductive health (SRH) services were tested for HIV compared

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<sup>5</sup> Unprotected sex: HIV can be transmitted sexually if no protection is used and the person with HIV has a detectable viral load. Protective methods include consistent condom use, effective use of PrEP or use of ART to achieve an undetectable viral load.

<sup>6</sup> Specialist SHS refers to level 3 sexual health services including genitourinary medicine (GUM) and integrated GUM/sexual and reproductive health (SRH).

<sup>7</sup> Eligible SHS attendee: any patient attending a SHS at least once during a calendar year, excluding those 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 for reproductive healthcare only.

<sup>8</sup> Non-specialist SHS refers to level 2 sexual health services including; sexual and reproductive health (SRH) services, young people's services, enhanced GPs, online sexual health services and other sexual health services.



with 59% of the 853,680 heterosexual women attending specialist SHS. Despite this difference in coverage, the test positivity was the same for women attending both service types.

Most (77%) people testing for HIV at SHS were not gay and bisexual men, or black African men or women, or born in a high prevalence country, or identified as trans. Testing these 'other heterosexual' attendees detected 24% of all HIV diagnoses made in SHS. The proportion of 'other heterosexual' men whose tests were positive for HIV fell from 0.11% in 2016 to 0.08% in 2017, but remained unchanged among 'other heterosexual' women (0.04%).

### HIV testing in other settings

HIV testing continues to be available in a wide variety of settings. In general practices reporting to Sentinel Surveillance of Blood Borne Viruses (SSBBV), HIV testing rates in extremely high prevalence areas (140/10,000) in 2017 were greater than in high prevalence areas (80/10,000), and over 4 times greater than in low prevalence areas (35/10,000). HIV test positivity was greater in extremely high prevalence areas (0.3% positive) than in high or low prevalence areas (both 0.2% positive).

Laboratories participating in SSBBV reported that 70,215 people attending A&E were tested for HIV in 2017, of whom 0.7% were positive for HIV. Within other secondary care settings, SSBBV reported 186,719 people were tested for HIV where 0.6% of HIV tests were positive.

In 2017, 127,364 HIV tests were obtained online or carried out in a community setting. This includes people who either tested through the national targeted HIV self-sampling service, other free online HIV self-sampling services, community providers, or privately purchased self-testing kits. Reactivity was higher in tests carried out in the national HIV self-sampling service (1.0%) than in tests carried out by community providers (0.4%) reflecting the targeting of the service.

'Opt-out' blood-borne virus testing has increased in prisons, and 41,455 HIV tests were carried out in the financial year 2017 to 2018. While 71% of eligible new receptions and transfers were offered an HIV test, only 33% accepted the offer of a test, and 1.1% of tests were positive.

Just over half of PWID reported that they had tested for HIV in the previous 2 years. However, only one third of PWID who had accessed a clinical service in the previous year had been tested for HIV.

## Treatment as prevention (TasP)

Among people diagnosed promptly (CD4 count  $\geq 350$  cells/mm<sup>3</sup>), the proportion starting treatment within 91 days of diagnosis increased from 30% (836/2,826) in 2013 to 75% (1,287/1,722) in 2017, which reflects changes in recommendations about the timing of starting treatment.

## Key messages

Although there has been steady progression in implementing combination prevention measures to end the HIV epidemic and the efforts are having a major effect, there still remain opportunities for further improvements. These key messages have been drawn together to support efforts to reach those living with HIV who are undiagnosed and to maintain high treatment and care standards.

Sexual health services should consider how they can:

- increase HIV test coverage among heterosexual attendees with an STI-related need, including black Africans and people born in countries with high HIV prevalence
- increase HIV test coverage among gay, bisexual and other men who have sex with men, particularly those who have not tested recently, or who have recently had a bacterial STI
- increase quarterly testing, including an STI screen, in gay, bisexual and other men who have sex with men if they are having unprotected sex with new or casual partners
- improve notification and testing of partners of heterosexuals and gay and bisexual men newly diagnosed with HIV

General practices and hospitals in high and extremely high prevalence<sup>9</sup> areas should consider how they can better implement **NICE guidance** on offering HIV tests to patients.

Healthcare and other professionals should offer and recommend HIV and HCV tests to any patient who has injected drugs.

Prisons should consider how they can increase their 'opt-out' blood-borne virus testing activity for new receptions and transfers.

Local authorities should consider how they can:

- ensure that their population groups at increased risk can access HIV testing online and in community settings
- ensure that all commissioned HIV testing programmes have a well-defined referral pathway to HIV care for all people with a reactive/positive test result
- take account of the combination HIV prevention perspective when commissioning

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<sup>9</sup> Areas where diagnosed HIV prevalence is of 2 or more per 1,000 in people aged 15 to 59 years.

HIV care providers should:

- continue to monitor their key clinical indicators for HIV care, especially in PWID and people aged 15-24 years, to ensure the current high standard is maintained and to improve clinical outcomes
- discuss the individual and public health benefits of treatment with all people newly diagnosed with HIV, offering and recommending immediate ART, in line with the 2015 BHIVA guidelines
- adopt long-term condition care frameworks for the management of HIV to ensure the holistic needs of HIV patients are met, thereby supporting their general health and well-being – the focus should be on quality of life, prevention of co-morbidities, and incorporating principles of patient-centred care and self-management already in use for other long-term condition services
- continue to support comprehensive surveillance by reporting to PHE in a timely manner – high quality HIV public health data is essential to monitor progress towards the elimination of HIV in the UK

## Recommendations for the public

All men who have ever had sex with another man should have an HIV test even if they consider themselves to be heterosexual.

Gay, bisexual and other men who have sex with men should have an HIV test at least annually.

Gay, bisexual and other men who have sex with men should test for HIV and have an STI screen every 3 months if they are having unprotected sex with new or casual partners.

Black African heterosexual men and women, and people born in countries where HIV is common<sup>10</sup>, should have an HIV test, and repeat this every year if having unprotected sex with new or casual partners from countries where HIV is common.

Anyone who is diagnosed with HIV should accept the clinical recommendation that they start treatment immediately. Early treatment initiation enables people living with HIV to live a long and healthy life and minimises the risk of passing the infection to others. HIV treatment is free to all in the UK regardless of immigration or residency status.

A range of methods to prevent HIV acquisition is currently available in the UK. Resources are available that provide guidance on the combination of methods best suited to an individual's health and circumstances.

All HIV testing by the NHS is free and confidential for everyone, regardless of immigration or residency status.

There are many ways to get tested for HIV:

- go to an STI clinic or a community testing site ([www.nhs.uk/Service-Search/HIV-testing/](http://www.nhs.uk/Service-Search/HIV-testing/)) ([www.aidsmap.com/hiv-test-finder](http://www.aidsmap.com/hiv-test-finder))
- ask your GP for an HIV test
- request a self-sampling kit online ([www.test.hiv/](http://www.test.hiv/)) or obtain a self-testing kit

<sup>10</sup> Countries where HIV prevalence is greater than 1%. A full list of these countries can be found in Appendix 2.

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