Annual Epidemiological Spotlight on HIV in London

2016 data
About Public Health England

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1 Summary

HIV remains an important public health problem in London with the infection impacting on London more than any other part of the UK. However, there are some promising signs that combination prevention activities are being effective in reducing transmission.

In 2016, an estimated 38,700 people were living with HIV in London (95% credible interval (CrI) 37,500-41,400), which was 43% of all people living with HIV in England. This figure includes both those diagnosed and undiagnosed.

HIV prevalence among gay, bisexual and other men who have sex with men (MSM) aged 15 to 59 years was higher in London, with 128 (CrI 100-158) per 1,000 MSM estimated to be living with HIV, compared with 57 (CrI 50-67) per 1,000 in the rest of England.

New diagnoses

In 2016, an estimated 1,967 London residents were newly diagnosed with HIV, accounting for 38% of new diagnoses in the UK.

For robust trend data we need to examine the number of people newly diagnosed in London clinics (not all of whom are resident in London). In 2016, this was 2,090, a large fall of 23% from 2015, mainly due to a fall among MSM. There had previously been a long term trend for a decline in the overall number of new diagnoses due in the main to a fall in the number of new diagnoses in black Africans who have acquired HIV abroad.

The new diagnosis rate for London residents aged 15 years or older (28 per 100,000) was nearly 3 times higher than the rate for England in 2016 (10 per 100,000).

In 2016, 64% of all new diagnoses in London residents were in MSM (compared to 69% in 2015 and 45% in 2007). Of the MSM newly diagnosed with HIV, 67% were white and 28% were UK born.

The number of MSM resident in London newly diagnosed with HIV declined sharply from 2015 to 2016 (30% fall from 1,804 in 2015 to 1,266 in 2016, adjusted for missing information). Within London, the decline in HIV diagnoses was most apparent in 5 large clinics where the number of MSM testing positive fell by 35% (not all were London
Collectively, these clinics have been referred to as 'large fall' clinics and comprise Dean Street, Mortimer Market, Homerton, St Mary’s and St Thomas’. These clinics reported 28% of all the new HIV diagnoses made in MSM in England in 2016. Elsewhere in London, HIV diagnoses made in MSM fell by 18% in 2016. Within London, the steepest decline was observed among MSM aged 15 to 24 years.

Heterosexual contact was the second largest infection route for new diagnoses in London residents in 2016 (33%). Infections in African born persons accounted for 51% of all heterosexually acquired cases in 2016 (n=245), compared to 70% (n=875) in 2007. Infections in UK born persons accounted for 21% of all heterosexually acquired cases in 2016.

Injecting drug use accounted for only a small proportion (<1%) of new diagnoses in London.

Black Africans represented 21% of all newly diagnosed London residents in 2016 (compared to 20% in 2015 and 37% in 2007). A small proportion of new diagnoses in 2016 were in black Caribbeans (4%).

The number of new diagnoses was highest in the 25 to 34 year age groups in males and the 35 to 44 year age groups in females in 2016.

**Late diagnoses**

Reducing late HIV diagnoses is one of the indicators in the Public Health Outcomes Framework. People who are diagnosed late have a ten-fold risk of mortality within one year of diagnosis compared to those diagnosed promptly and they have increased healthcare costs.

It is of particular concern that a large proportion of people with HIV are diagnosed late in London (defined by a CD4 count of fewer than 350 cells/mm$^3$ at diagnosis), although London compares favourably with the rest of England (34% from 2014 to 2016, compared to 40% in England).

In London, heterosexuals were more likely to be diagnosed late (57% of males, 50% of females) than MSM (23%). By ethnic group, black Africans were more likely to be diagnosed late than the white population (53% and 25% respectively). Over half of people who inject drugs were diagnosed late (57%).

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People living with diagnosed HIV

The 36,862 people living with diagnosed HIV in London in 2016 was 1% higher than 2015 and 47% higher than 2007. This increase is partly due to the effectiveness of HIV treatment, which has reduced the number of deaths from HIV.

The diagnosed prevalence rate of HIV in London in 2016 was 5.8 per 1,000 residents aged 15-59 years. This was more than twice as high as the 2.3 per 1,000 rate observed in England as a whole.

All 33 local authorities in London had a diagnosed HIV prevalence rate in excess of 2 per 1,000 population aged 15 to 59 years in 2016, which is the threshold for expanded HIV testing. Eighteen local authorities had extremely high prevalence rates of diagnosed HIV in excess of 5 per 1,000.

The 2 most common probable routes of transmission for London residents living with diagnosed HIV in 2016 were sex between men (52%) and sex between men and women (44%).

In 2016, 45% of those living with diagnosed HIV in London were aged between 35 and 49 years, and 39% were aged 50 years and over (up from 17% in 2007). Males represented 71% of London residents living with diagnosed HIV in 2016 and females represented 29%.

In 2016, 48% of London residents living with diagnosed HIV were white and 31% were black Africans. However, due to the relative sizes of the white and black African populations the rate per 1,000 population was much higher in black Africans (27.1 per 1,000) than in the white population (4.8 per 1,000).

Continuum of HIV care

The UNAIDS treatment targets have been met and exceeded in London. In 2016, 97% of residents were receiving anti-retroviral treatment and of these, 97% were virally suppressed (VL<200) and were very unlikely to pass on HIV, even if having sex without condoms (untransmissible virus). This compares to 96% in England receiving ART and 97% of these virally suppressed.

For London residents diagnosed in 2016, the median time from diagnosis to treatment initiation was 13 days, fewer than the corresponding figure of 21 days in England.

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People living with undiagnosed HIV

London has also met the UNAIDS target of 90% of people living with HIV estimated to be diagnosed (90%, Credible Interval (Crl) 84%-93%). This equates to an estimated 3,900 (Crl 2,700-6,400) undiagnosed people living in London.

It is estimated that in London, 2,100 MSM are undiagnosed (Crl 1,800-3,200) and 1,400 heterosexuals (Crl 600-3,500), including 600 black Africans.

The proportion of those living with HIV who are undiagnosed varied by exposure group with the highest proportion undiagnosed among people living with HIV who inject drugs (24%, Crl 10%-64%), who are male heterosexuals (13%, Crl 5%-35%) and MSM (10%, Crl 9%-14%).

HIV testing

HIV testing is increasing. A total of 350,891 HIV tests were conducted in specialist sexual health services (SHSs) in London, an increase of 12% since 2012. The HIV testing coverage at specialist SHSs in London was 73%, which compares to 68% across England. HIV testing coverage in specialist SHSs is higher in MSM (90%) than in heterosexual men (81%) and heterosexual women (65%).

The five 'large fall' clinics experiencing a decline in HIV diagnoses in 2016 also demonstrated an increase in the number of HIV tests, particularly among frequent HIV testers, with the decline in HIV diagnoses being most apparent in infrequent testers.

Public health implications

Free and effective antiretroviral therapy (ART) in the UK has transformed HIV from a fatal infection into a chronic, manageable condition. People living with HIV in the UK can now expect to live into old age if diagnosed promptly. For many people, treatment means one daily tablet with no or few side effects.

There are a number of approaches to the prevention of HIV transmission and continued funding in prevention activities remains critical to curb the HIV epidemic. Prevention should be targeted at MSM and black African people who are the population groups most at risk of HIV. The London HIV Prevention Programme (LHPP) is a London-wide sexual health promotion initiative funded by London local authorities aiming to increase HIV testing and promoting prevention choices for Londoners.³ HIV Prevention England have been contracted to deliver, on behalf of PHE, a nationally coordinated programme

³ http://doitlondon.org/
of HIV prevention work. These programmes both work with MSM and black African people.

The UK is one of the first countries in Europe to witness a substantive decline in HIV diagnoses in gay and bisexual men. Combination prevention is working: the decline is driven by large increases in HIV tests among gay and bisexual men attending sexual health clinics, including repeat testing in higher risk men, as well as improvements in the uptake of anti-retroviral therapy (ART) following HIV diagnosis\(^4\,^5\). The largest declines in new HIV diagnoses were observed in areas of London with the highest testing rates and prompt access to treatment. Other factors, including condom use with casual partners and internet access of pre-exposure prophylaxis (PrEP), will also have contributed to the downturn in HIV diagnoses in this group.

Correct and consistent condom use remains an extremely effective way to prevent HIV transmission. Investment in HIV prevention has resulted in moderately high rates of condom use in key populations. Work to improve condom use should address underlying factors that lead to risk taking behaviour, especially among MSM. These are diverse and may include low self-esteem, ‘chemsex’ (the use of drugs before or during planned sexual activity to sustain, enhance, disinhibit or facilitate the experience) and sero-adaptive behaviour (modifying of sexual behaviour based on one’s own HIV sero-status, the perceived HIV sero-status of a sexual partner, and/or differences in risk of transmission by different sexual acts).

While testing and treatment for HIV in the UK is free and available to all, large numbers of people living with HIV remain undiagnosed and rates of late diagnosis remain high. Late HIV diagnosis is associated with poorer health outcomes, including premature death. Furthermore, since the vast majority of people diagnosed with HIV are effectively treated, most new HIV infections are passed on from persons unaware of their infection.

Undiagnosed HIV infection and onward transmission can be reduced through further HIV testing. Due to the relatively high numbers of MSM and black Africans who remain undiagnosed, HIV testing is particularly important for these groups. In addition, incidence remains high in MSM.

Partner notification following the diagnosis of HIV infection is a highly effective way to detect undiagnosed HIV infections: in 2016 in England, 3.9% of partners of people diagnosed with HIV were also positive for HIV.


The 2017 PHE report on HIV testing in England recommendations include:\(^6\)

- SHSs should consider how they can ensure that:
  - all MSM are offered and recommended regular (i.e. annual) HIV tests
  - all MSM at high risk of HIV acquisition (e.g. a recent anogenital STI diagnosis), are offered and recommended frequent (i.e. 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 MSM
  - all other attendees are offered and recommended to have HIV tests
- general practices and secondary care in high (2-5 people aged 15-59 years living with diagnosed HIV per 1,000 residents) and extremely high (>5 per 1,000) prevalence areas should consider how they can ensure that they offer and recommend HIV testing to patients in line with NICE recommendations.\(^7\)
- 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.
- 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.
- providers of HIV testing in prisons should consider how they can ensure that HIV testing is implemented and monitored effectively.
- antenatal service providers and blood, tissue and organ donation services should continue to maintain current high levels of HIV testing.

Symptoms due to HIV and AIDS may not appear for many years, and people who are unaware of their infection may not feel themselves to be at risk. However, anyone can acquire HIV regardless of age, gender, ethnicity, sexuality or religion and it is essential to challenge assumptions about who is at risk of HIV. As well as increasing awareness of HIV, efforts to reduce stigma and other socio-cultural barriers that prevent people from testing and seeking long-term care should be strengthened.

HIV Pre Exposure Prophylaxis (HIV–PrEP) is the use of antiretroviral agents by people who do not have HIV prior to a potential exposure to HIV to prevent acquisition of infection. Studies have shown that consistent use of HIV-PrEP can be an efficacious and effective prevention intervention. HIV–PrEP has the potential, within a combination prevention approach, to have a significant role in the control of HIV transmission. The first phase of implementation is the 3-year clinical trial of 10,000 participants which

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\(^6\) HIV testing in England: 2017 report. PHE.

\(^7\) HIV testing: increasing uptake among people who may have undiagnosed HIV. NICE.
https://www.nice.org.uk/guidance/ng60
launched in October 2017. Although the evidence around the clinical effectiveness of PrEP is strong, advice from PHE has highlighted significant outstanding implementation questions that should be answered prior to using PrEP in a sustained way on a substantial scale in England. These questions will be answered by the clinical trial, paving the way for full roll-out. NHS England will fully fund the cost of the clinical trial phase and will work in partnership with local authorities, the Local Government Association and PHE to implement the findings as part of a wider national roll-out.

It has been demonstrated that the advantages of ART extend beyond personal clinical benefit. It is now widely understood that effective HIV treatment results in an ‘undetectable’ viral load which protects against passing the virus to others. Revised guidelines from the British HIV Association and World Health Organisation have been published which recommend that patients start ART at diagnosis regardless of CD4 count both for clinical benefits and preventing onward transmission. People living with HIV and their health care providers can discuss starting ART to reduce their risk of transmitting HIV to their sexual partners. A new policy of immediate anti-retroviral therapy at HIV diagnosis is currently being considered by NHS England which would complement the current treatment as prevention policy.

As rates of other infections transmitted sexually such as gonorrhoea, syphilis, lymphogranuloma venereum, hepatitis C and *Shigella* have been shown to be higher in MSM who are HIV positive, it is important that MSM living with HIV are specifically made aware of the risks of these infections and how to prevent them.

As people with HIV continue to age, it is critical that HIV and other services continue to evolve to meet the needs of people living with HIV including the management of comorbidities and other complex health conditions.

With progressive strengthening of combination prevention (including condom use, expanded HIV testing, prompt ART and availability of PrEP), HIV transmission, AIDS and HIV-related deaths could be eliminated in the UK. The recent encouraging changes are dependent upon sustained prevention efforts. The inconsistencies between groups and geographies demonstrate that combination prevention needs to be replicated for all those at risk of acquiring of HIV, whoever they are and wherever they live.
HIV risk reduction messages

Always use a condom correctly and consistently, and until all partners have had a sexual health screen.

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.

How to get an HIV test:

- go to a sexual health 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

Gay, bisexual and other men who have sex with men are advised to test for HIV and other STIs at least annually and every 3 months if having sex 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 condomless sex with new or casual partners.
2 Charts, tables and maps

Figure 1: New HIV diagnosis per 100,000 population aged 15 years or older by PHE centre of residence, 2016

The number of new diagnoses will depend on accessibility of testing as well as infection transmission.

Figure 2: New HIV diagnoses per 100,000 population aged 15 years or older by local authority of residence, London residents, 2016

The number of new diagnoses will depend on accessibility of testing as well as infection transmission.
Figure 3: New HIV diagnoses and deaths, reported from London, 2007-2016

Please note that this chart is based on the PHEC from which the report originated (which is not necessarily the same as the PHEC of residence) as PHEC of residence is not available for death reports.

Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD) and HIV and AIDS New Diagnosis Database (HANDD). The number of new diagnoses will depend on accessibility of testing as well as infection transmission.

*Numbers may rise as further reports are received. This will impact on interpretation of trends in more recent years.

Figure 4: New HIV diagnoses by probable route of infection (adjusted for missing route of infection information), London residents, 2007-2016 (please see footnote on interpreting trends)*

Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD) and HIV and AIDS New Diagnosis Database (HANDD). The number of new diagnoses will depend on accessibility of testing as well as infection transmission.

*Numbers may rise as further reports are received and more information is obtained on area of residence of those diagnosed. This is more likely to affect more recent year, particularly 2016. Please see important note on data earlier in this report. This will impact on interpretation of trends in more recent years.
Figure 5: Number of new HIV diagnoses by age group and gender (A) and probable route of infection in males (B), London residents, 2016

The number of new diagnoses will depend on accessibility of testing as well as infection transmission.

Figure 6: Number of new HIV diagnoses by ethnic group (adjusted for missing ethnic group information), London residents, 2007-2016

Please see footnote on interpreting trends*

Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD) and HIV and AIDS New Diagnosis Database (HANDD).
The number of new diagnoses will depend on accessibility of testing as well as infection transmission.

*Numbers may rise as further reports are received and more information is obtained on area of residence of those diagnosed. This is more likely to affect more recent year, particularly 2016. Please see important note on data earlier in this report. This will impact on interpretation of trends in more recent years.
Figure 7: Number of new HIV diagnoses by world region of birth (adjusted for missing world region of birth information), London residents, 2007-2016

Please see footnote on interpreting trends*

Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD) and HIV and AIDS New Diagnosis Database (HANDD). The number of new diagnoses will depend on accessibility of testing as well as infection transmission.

*Numbers may rise as further reports are received and more information is obtained on area of residence of those diagnosed. This is more likely to affect more recent year, particularly 2016. Please see important note on data earlier in this report. This will impact on interpretation of trends in more recent years.

Figure 8: Percentage of new HIV diagnoses that were diagnosed late by local authority of residence, London, aged 15 years and over, 2014-2016 *


* Only includes new diagnoses for which CD4 count was reported within 91 days of diagnosis; late diagnosis defined as CD4 count <350 cells/mm³.

The underlying population will impact on the proportion diagnosed late, e.g. MSM are less likely to be diagnosed late.
Figure 9: Percentage of new HIV diagnoses that were diagnosed late by probable route of infection (A) and ethnic group (B), London residents, ages 15 years and over, 2014-2016*

(a) Probable exposure category

(b) Ethnic group

* Only includes new diagnoses for which CD4 count was reported within 91 days of diagnosis; late diagnosis defined as CD4 count <350 cells/mm³.

Figure 10: Diagnosed HIV prevalence per 1,000 residents aged 15-59 years by PHE Centre, 2016

Figure 11: Number of residents living with diagnosed HIV and accessing care, London, 2007-2016


Figure 12: Number of residents living with diagnosed HIV and accessing care by probable route of transmission (adjusted for missing information), London, 2016


Figure 13: Percentage of residents with diagnosed HIV and accessing care by age group, London, 2007 and 2016

Figure 14: Diagnosed HIV prevalence per 1,000 residents by ethnic group aged 15-59 years, London, 2016

Figure 15: Diagnosed HIV prevalence per 1,000 residents aged 15-59 years by local authority, London, 2016

Figure 16: Diagnosed HIV prevalence per 1,000 residents aged 15-59 years by local authority, London, 2016

Figure 17: Diagnosed HIV prevalence per 1,000 residents (all ages) by middle super output area of residence, London, 2016

Figure 18: The continuum of HIV care, London, 2016 (estimated values)
3 Information on data sources

With the exception of Figure 3, analyses in this report are residence-based, unless otherwise noted. Information about a patient’s place of residence is not collected by the HIV and Aids New Diagnosis Database (HANDD). Reports to this database are cross-linked to the database of people accessing care for HIV, HARS.

If a report could not be linked to a corresponding HARS report, the patient’s PHEC of residence (but not their LA of residence) was imputed using the location of the centre at which they were diagnosed where sufficient information about the latter was available.

Imputation was not used to supplement the linkage process in the HIV Spotlight report produced in 2014. This means that the numbers in the new diagnosis section of the report for that year cannot be compared directly with the numbers in this report.

Numbers may change as more information becomes available to assign area of residence to cases and historical data is refreshed accordingly.

HIV & AIDS New Diagnoses and Deaths (HANDD) collects information on new HIV diagnoses, AIDS at diagnosis and deaths among people diagnosed with HIV. Information is received from laboratories, specialist SHSs, GPs and other services where HIV testing takes place in England, Wales and Northern Ireland. The Recent Infection Testing Algorithm (RITA) and CD4 surveillance scheme are linked to HANDD to assess trends in recent and late diagnoses. Data is de-duplicated across regions and therefore figures may differ from country-specific data.

The Survey of Prevalent HIV Infections Diagnosed (SOPHID) began in 1995 and was a cross-sectional survey of all adults living with diagnosed HIV infection who attend for HIV care in England, Wales and Northern Ireland. SOPHID collected information about the individual’s place of residence along with epidemiological data including clinical stage and antiretroviral therapy (ART). In 2015, SOPHID reporting in England was replaced by the HIV & AIDS Reporting System (HARS) which captures information at every attendance for HIV care.

Date of data extract: October 2017. Updates to HANDD and SOPHID/HARS made after this date will not be reflected in this report.

Confidence intervals for rates in the figures have been calculated to the 95% level using the Byar’s method; confidence intervals for percentages have been calculated to the 95% level using the Wilson Score method: http://www.apho.org.uk/resource/item.aspx?RID=48457. Confidence intervals presented in the text are produced by Bayesian analysis.
ONS mid-year estimates for 2016 were used as a denominator for rates for 2016.

The data behind charts showing absolute numbers has been adjusted for missing information; however, unless stated otherwise, the numbers in the summary section are the numbers as reported, i.e. unadjusted counts. Where charts are displaying adjusted data this is indicated in the chart title.

The denominators for all percentages exclude records for which information was unknown, i.e. the proportion of new diagnoses where probable route of infection was sex between men would be calculated using new diagnoses for which route of infection was known as the denominator.
4 Further information

Please access the online ‘Sexual and Reproductive Health Profiles’ for further information on a whole range of sexual health indicators:
http://fingertips.phe.org.uk/profile/sexualhealth

For more information on local sexual health data sources please access the PHE guide:

For a report on STIs and HIV in MSM in London please access:

For the annual epidemiological spotlight on STIs in London: 2016 data please access:
https://www.gov.uk/government/publications/sexually-transmitted-infections-london-data

Local authorities have access to LA HIV, sexual and reproductive health epidemiology reports (LASERs) and other HIV and STI intelligence via the HIV and STI portal. They should contact josh.forde@phe.gov.uk if they do not have access to this information.
5 About the Field Epidemiology Service

The Field Epidemiology Service (FES) supports Public Health England Centres and partner organisations through the application of epidemiological methods to inform public health action.

FES does this in two main ways, firstly by providing a flexible expert resource, available, as and when needed, to undertake epidemiological investigations for key health protection work and secondly through the expert analysis, interpretation and dissemination of surveillance information to PHE Centres, local health partners, service providers and commissioners of services.

Within the FES network, excellence and innovation is encouraged, we foster academic collaborations and take active part and lead in research, development and training.

You can contact your local FES team at fes.seal@phe.gov.uk

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