Future Commissioning of London HIV Prevention Services Project Steering Group

Review of HIV Epidemiology in London

This report was commissioned by the Association of Directors of Public Health (London) and written by Josh Forde and Paul Crook, Public Health England





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- Epidemiological review
- Evidence review update
- A Call for Evidence
- Stakeholder engagement
- Segmented insight research
- Mapping of current HIV prevention.

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Public Health England 133-155 Waterloo Road Wellington House London SE1 8UG Tel: 020 7654 8000 www.gov.uk/phe Twitter: @PHE_uk

Facebook: www.facebook.com/PublicHealthEngland

Prepared by: Josh Forde and Paul Crook, Field Epidemiology Services (Victoria Office) For queries relating to this document, please contact: josh.forde@phe.gov.uk

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Published November 2013 PHE gateway number: 2013312

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Key findings

HIV continues to be a major public health issue for London. In 2011, more than 2,600 new HIV diagnoses were made in London clinics. Despite a decline in new HIV diagnoses since 2004, which may reflect changing patterns in migration, the number of new HIV diagnoses reported in 2011 was 11% higher than in 2000.

Key risk groups

The key risk groups for HIV in London remain men who have sex with men (MSM) and black Africans. Sex between men was the most common route of infection for those diagnosed in 2011 in London (54%), while black Africans accounted for 30%.

Injecting drug use accounts for a relatively low number of HIV cases in London, just one per cent of all new HIV diagnoses. This may be related to the early provision of harm reduction measures such as needle exchange services across London. However, the prevalence of HIV in people who inject drugs (PWID) in London is three times higher than in England as a whole.

Over the last ten years there has been a doubling in heterosexually infected cases thought to have been acquired in the UK, albeit from low numbers.

High rates of STIs are seen in black Caribbeans, however, they account for five per cent of new HIV diagnoses in the capital which is in proportion to their share of London's population.

Burden of diagnosed HIV

Due to the effectiveness of HIV treatment, which has reduced the number of deaths from HIV, the number of people living with diagnosed HIV in London in 2011 was the highest ever reported.

Over 31,000 HIV-diagnosed London residents accessed care in 2011, representing a five per cent increase on the number seen in 2010 and almost double that seen in 2002. More than five in every 1,000 London residents aged 15 to 59 years have diagnosed HIV, which is more than double the rate in England. Londoners represent just under half of all people accessing HIV care in England.

Local authority variation

London local authorities (LAs) account for 18 of the 20 LAs with the highest diagnosed prevalence rates of HIV in the country. Thirty London LAs had a prevalence of diagnosed HIV greater than two per 1,000 population in 2011, which is the threshold at which it has been recommended to expand routine HIV testing in the local population. There are areas of high prevalence in every LA in London.

Despite the high prevalence of diagnosed HIV across London there are notable differences between LAs in keeping with the variation in their resident populations. The diagnosed prevalence rate varies ninefold, the proportion of new diagnoses acquired through sex between men varies from 12% to 93%, and the proportion of new diagnoses in black Africans varies from three per cent to 70%.

Undiagnosed HIV

It is estimated that in 2011 one in five Londoners with HIV was unaware of their HIV status. If people are aware of their diagnosis, they can access effective treatment. This not only greatly improves their health, but also reduces their chances of infecting others. It has been estimated that over half of overall HIV transmission is due to people who are not aware of their diagnosis.

Late diagnosis of HIV

It is of particular concern that a large proportion of people with HIV are diagnosed late in London (44%), as defined by a CD4 count of less than 350 cells/mm³. Reducing late HIV diagnoses is one of the indicators in the Public Health Outcomes Framework. People who are diagnosed late have a tenfold risk of mortality within one year of diagnosis compared to those diagnosed promptly and they have increased healthcare costs.

Focus on MSM

An estimated one in 12 MSM in London have HIV. There is evidence of sustained transmission of HIV in MSM in London and concerns over high levels of unsafe sexual behaviour, facilitated by the use of recreational drugs. London has relatively high numbers of MSM, who are more likely to live in inner London LAs and these areas tend to have the highest numbers of MSM newly diagnosed with HIV. Over half of new HIV diagnoses in MSM were in residents of eight LAs; Lambeth, Southwark, Westminster, Camden, Tower Hamlets, Islington, Wandsworth and Lewisham.

The number of people newly diagnosed with HIV who have been infected through sex between men has risen by 20% over the past decade. The majority of MSM newly diagnosed with HIV are white (77%), born abroad (55%) and have been infected in the UK (83%). Compared to other risk groups they are less likely to be diagnosed late and correspondingly when diagnosed, they are more likely to be shown to have been recently infected.

HIV should not be viewed in isolation. MSM have high rates of other sexually transmitted infections (STIs) (80% of all syphilis and over half of all gonorrhoea diagnoses in London) and recent outbreaks which have predominantly affected HIV positive MSM have been linked to unsafe sexual behaviour and use of recreational drugs, including injecting.

Focus on black Africans

Over half a million black Africans live in London, which represents seven per cent of the London population. The proportion of each LA's population that is black African ranges from one to 16%.

The diagnosed prevalence of HIV in black Africans is six times higher than white populations, reflecting the prevalence of HIV in their country of origin. The largest numbers of black Africans living with diagnosed HIV were in Newham, Southwark, Lewisham, Lambeth and Croydon.

Since 2003, there has been a fall in the number of new HIV diagnoses made among heterosexual men and women who acquired HIV in Africa, which is likely to be due to changing patterns of migration. Only 30% of black Africans are believed to have been infected in the UK and the absolute number of infections diagnosed has declined slightly since 2006. Those born in four African countries accounted for over half of new diagnoses in black Africans in 2011, most likely reflecting recent migration patterns and prevalence of HIV in these countries.

Black Africans are more likely than MSM to be undiagnosed or diagnosed late and less likely to be diagnosed with a recent infection.

HIV testing

Taking measures to improve diagnosis of HIV through normalising and expanding HIV testing is key to reducing late and undiagnosed HIV. However, expanded HIV testing as recommended by national guidance has not been commissioned widely across London.

There is encouraging evidence that HIV testing is increasing in primary and secondary care. HIV testing in genitourinary medicine (GUM) is also increasing although uptake of HIV testing varies markedly between clinics. Uptake in antenatal screening is very high.

Given the cost of long term treatment there are large potential cost benefits in preventing HIV through primary prevention and through ensuring that those infected are diagnosed and enter care. Preventing the estimated 1,100 HIV infections that were probably acquired in the UK and subsequently diagnosed in 2011 in London would have reduced future HIV-related costs by an estimated £354 million.

Linking the epidemiology with prevention

MSM and black African heterosexuals remain the groups at highest risk of acquiring HIV infection within London; efforts are needed to reinforce prevention and promote regular HIV testing within these populations.

Consistent condom use, having fewer sexual partners and avoiding overlapping sexual relationships all reduce the risk of becoming infected.

It is important that robust harm reduction measures for people who inject drugs, such as needle exchange services, also remain in place to ensure continued success in preventing infection in this group.

MSM

The evidence of ongoing transmission of HIV among MSM suggests that the priority for primary prevention should focus on reducing risky sexual behaviour in MSM. Prevention activity should take account of emerging evidence of increased recreational drug use, including injecting, among MSM. Measures to reduce the harm from injecting will need to meet the needs of MSM.

Awareness needs to be raised among MSM that sero-sorting (choosing sexual partners assumed to be of the same HIV status as themselves) is unsafe. For HIV positive MSM it carries the risk of infection with another STI or hepatitis while for HIV negative MSM it carries the risk of HIV infection because one-fifth of HIV positive MSM are unaware of their infection.

The high rates of STIs in MSM, and particularly HIV positive MSM, suggest that any coordinated prevention activity should have a broad remit to tackle STIs in general, rather than restrict activity to HIV prevention. While MSM are less likely to be diagnosed late, given the evidence of ongoing transmission it is important that frequent HIV testing should be promoted in this group. MSM should have an HIV/STI screen at least annually, and every three months if having unprotected sex with new or casual partners.

Black Africans

Since black Africans are more likely to be undiagnosed or diagnosed late, HIV testing of this group needs to be prioritised. It is a national recommendation that black Africans should have an HIV test and regular HIV/STI screening if having unprotected sex with new or casual partners.

To improve testing, however, there needs to be targeted work at reducing stigma in this group, and also improvements in high prevalence areas in the commissioning of expanded HIV testing in acute clinical admission units and primary care.

Context

In February 2013 the Leaders Committee at London Councils recognised the shortcomings of the Pan London HIV Prevention Programme (PLHPP) approach to HIV prevention. In response, Association of Directors of Public Health (ADPH) London, working with London Councils, designed the Future Commissioning of London HIV Prevention Services (FCLHPS) Project to oversee a London-wide needs assessment over the summer of 2013.

The FCLHPS project included six work streams:

- epidemiological review
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The overall findings of the needs assessment are published in the report, "HIV Prevention Needs Assessment for London" (November 2013).

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ADPH London and London Councils will develop an options paper for a meeting of the leaders of the 33 councils in London, due to take place in November 2013.

Aim

The aim of this review is to describe the epidemiology of HIV and HIV testing in London.

Specification

ADPH (London) asked Public Health England (PHE) Field Epidemiology Services, Victoria Office to update the report 'HIV epidemiology in London' published in May 2013¹ using 2011 data. In particular, the following additions were requested:

- comparisons across local authorities (LAs) where available
- more detail on the major risk groups—men who have sex with men (MSM) and black Africans—including population estimates, trends in new HIV diagnoses, prevalence rates, information on country of birth and late diagnosis.

A detailed profile for each local authority was not requested because this is already available through PHE produced LA Sexually Transmitted Infection (STI) Epidemiology Reports (LASERS) and LA HIV Profiles for London.

Methods

This report was compiled in the main by using routine sources of information collected by PHE. Where information was not available at a London level, national information was used.

Routine population estimates were sourced from the Office of National Statistics². Where population estimates were not available, for example for MSM, we estimated populations using methods previously described³.

We interrogated the following disaggregated PHE 2011 London datasets to describe HIV burden, trends, risk factors for transmission and risk groups:

- new diagnoses of HIV: HIV and AIDS New Diagnoses and Deaths Patient Reporting System (HARS)⁴
- people diagnosed with HIV and accessing care: Survey of Prevalent Diagnosed HIV Infections (SOPHID)⁵
- sexually transmitted infections (STIs) diagnosed in Genitourinary Medicine (GUM) clinics: GUM Clinic Activity Dataset (GUMCAD)⁶

We requested relevant London information on the following from the PHE Centre for Infectious Disease Surveillance and Control (CIDSC):

- recent HIV infection⁷
- late diagnosis of HIV⁸
- undiagnosed HIV⁹
- HIV positivity in other population groups¹⁰⁻¹²
- HIV testing¹³⁻¹⁶
- hepatitis C¹⁷, Shigella flexneri¹⁸ and Lymphogranuloma Venereum¹⁹ in HIV positive patients

No systematic literature review was conducted. No information on knowledge, attitudes or behaviours was sought.

1. New diagnoses of HIV reported by London clinics

This section describes the epidemiology of new diagnoses of HIV and AIDS made in London⁴. This information should help us understand current trends in the epidemic and identify which population groups are most at risk⁴. It should be noted, however, that some of these diagnoses will involve people who are not resident in the city and that the information is presented by year of diagnosis, which is often later than the year of infection. Furthermore, one would expect more HIV diagnoses in areas that have more extensive HIV testing programmes.

Where possible the data are adjusted to take into account missing information for easier interpretation of trends. Analyses are based on reports received by the end of June 2012.

Total numbers and trends

There were 2,637 new HIV diagnoses made in London in 2011, representing a four per cent fall since 2010 (n=2,740). It is important to note that this figure is provisional and will rise as late reports are received. Diagnoses in London represent almost half (46%) of all new diagnoses made in England.

Following a peak in 2004 (n=3,279), there has been a steady decline in new HIV diagnoses thought largely to be due to changing patterns in migration (Figure 1.1)⁴. Despite this fall, the number diagnosed in 2011 was still 11% higher than that diagnosed in 2000 (n=2,367).



Figure 1.1: HIV and AIDS diagnoses and deaths reported in London, 2002-2011⁴

In 2011, there were only 156 AIDS diagnoses, about a third of the number seen in 2000 (n=465), and 169 deaths. As the number of people living with HIV has increased steadily over the past decade, the number of deaths has remained relatively stable, representing a declining mortality rate among people living with HIV in London. This decline is attributed to the effectiveness of antiretroviral therapy.

Gender

Almost three quarters of those diagnosed with HIV in 2011 were male (74%). However, in heterosexually acquired cases, it was females who predominated (58%).

Route of infection

The most common route of acquiring HIV in those diagnosed in 2011 was through sex between men (n=1,427, 54% of new diagnoses). Sex between men and women was the second most common route of infection accounting for 1,130 (43%) new diagnoses of HIV in London. During the decade prior to 2010 sex between men and women had been the most common route of infection. However, numbers in this group have declined since 2003 (n=1,936, 59% of new diagnoses) (Figure 1.2⁴).





In 2011, 39 people who inject drugs (PWID) were newly diagnosed with HIV, accounting for one per cent of all new diagnoses, a proportion which has remained relatively stable since 2000. This may reflect ongoing measures to prevent transmission among PWID, including through the robust provision of needle exchange programmes across London.

Ethnicity

In 2011, 50% (n=1,315, adjusted) of newly diagnosed cases of HIV were white, up from 1,233 in 2010; while 30% (n=787, adjusted) were black African. The proportion of newly diagnosed HIV cases who were black African has declined following a peak of 51% in 2002.

In 2011, the proportion of those being newly diagnosed who were white men was 46%. This is up from 40% in 2010 and is the highest proportion recorded over the past decade (Figure 1.3^4).

In 2011, black African men made up 12% of new diagnoses, and black African women 18%. This is a large decrease in the proportions seen a decade previously when black African men accounted for 18% of new diagnoses and black African women 32%.



Figure 1.3: New HIV diagnoses made in London clinics by ethnicity and sex, 2002-2011⁴

Black Caribbeans have continued to account for around five per cent of those newly diagnosed with HIV (n=129 in 2011). The proportion of cases that belong to other black and other minority ethnic (BME) groups seems to have plateaued in recent years and in 2011 they accounted for 15% of new HIV diagnoses.

Prior to 1995, data on ethnicity was not collected for laboratory reports. Between 1995 and 2011 ethnicity was not reported for three per cent of those people newly diagnosed with HIV. The figures used in this section have been adjusted to take into account missing information.

World region of birth

Almost a third (31%) of people newly diagnosed with HIV in 2011 were born in the UK (where country of birth was reported). Among those born abroad, around half (32% of total) were born in Africa, with West Africa accounting for about half of these (15% of total). This is in contrast to earlier phases of the epidemic when Eastern and Southern Africa were more prominent.

MSM were more much more likely to be UK-born than heterosexuals (45% of MSM with a known country of birth compared to 15% of heterosexuals with a known country of birth). One in five (19%) MSM was born in Western Europe (excluding the UK) and around one in eight (12%) was born in Latin America.

Where reported, two-thirds (67%) of heterosexuals were African-born and 15% were born in the UK.

HIV infection acquired in the UK

Almost one third of heterosexually acquired cases in 2011 (31%, n=317 adjusted) were probably infected in the UK (Figure 1.4). This proportion is higher than in 2010 (29%) although the absolute number has fallen (n=335). It is almost double the number of heterosexually acquired cases thought to have been acquired in the UK in 2002 (n=162, adjusted).

Cases recorded as possibly acquiring infection in the UK are made up of cases that have reported heterosexual contact both in the UK and abroad. This has only been an exposure sub-category since 2002. These numbers have remained relatively stable over the past nine years, accounting for an estimated nine to 12% of heterosexually infected new diagnoses (in 2011: 12%, n=125, adjusted).

In 2011, just under half of heterosexually acquired newly diagnosed HIV cases were probably infected in Africa (45%, n=464, adjusted), which is the same proportion as in 2010 (n=521, adjusted). The number of cases peaked in 2001 (83%, n=1,322, adjusted), since when there has been a downward trend (Figure 1.4^4).

An analysis of UK-born adults diagnosed with HIV between 2002-2010 in England, Wales and Northern Ireland revealed that 15% had acquired their HIV infection abroad [5]. These individuals were likely to be older at diagnosis, report heterosexual contact, and report sex with a commercial sex worker. These findings highlight the need to extend HIV prevention efforts and testing guidance to include people travelling abroad.





Country of infection has historically been less well reported for cases infected via sex between men. In 2011, this information was missing for over a quarter of diagnoses thought to have been acquired via this route. However, where this information is reported, UK-acquired infections have consistently accounted for more than seven out of every ten HIV diagnoses. In 2011, the proportion was 83%. In the same year, an estimated eight per cent in this group were reported to have acquired their infection in another European country and 10% to have acquired it outside Europe or abroad but with no country specified.

The country of acquisition was not reported for 30% of people newly diagnosed with HIV in 2011. This proportion may fall over time, particularly for those infected heterosexually, as missing information is followed up. However, even after follow-up, country of acquisition remains unknown for over a quarter of diagnoses reported in each year between 2002 and 2011. The figures used in this section have been adjusted to take into account the proportions of information relating to route of exposure and country of acquisition that are missing.

Age

In 2011, the median age at HIV diagnosis was 36 years (interquartile range (IQR): 29-44), the same as in 2010. Young people aged 15 to 24 years made up nine per cent of those diagnosed with HIV in 2011, the same proportion (nine to 11%) as between 2002 and 2011. By contrast, the proportion of those aged 50 years or older at diagnosis more than doubled over the same period from six per cent in 2002 to 13% in 2011.

Mapping new HIV diagnoses across London

The following maps highlight how new diagnoses of HIV are geographically spread across London (Figures 1.5, 1.6 and 1.7). As around a fifth of people living with HIV are undiagnosed, it is important to note that the accessibility of HIV testing will impact on the number of new diagnoses: areas which have programmes for wider HIV testing are likely to diagnose more new cases of HIV.

Newly diagnosed MSM with HIV were much more concentrated in central London areas, while newly diagnosed heterosexuals with HIV were more dispersed. This reflects where at-risk populations live.



Figure 1.5: Number of new HIV diagnoses by LA of residence, 2011⁴





Figure 1.7: Number of new HIV diagnoses in MSM by LA of residence, 2011⁴

Enfield

The number is the number of new HIV diagnoses in $\mathsf{MSM}\xspace$ by LA of residence.

The percentage is the percentage of all new London HIV diagnoses (with a known LA of residence) that each LA accounts for.



Recent infection

Newly diagnosed MSM in England and Wales are more likely than heterosexuals to have evidence of a recent infection²⁰. The Recent Infection Testing Algorithm (RITA) incorporates results from an HIV antibody assay modified for the determination of HIV avidity as well as clinical biomarkers (CD4 cell count, ART and AIDS at diagnosis) to distinguish recent from long-standing HIV infection. This surveillance programme covered 60% of all people newly diagnosed in London in 2011²⁰.

In 2011, an estimated 17% of people newly diagnosed in London had recently acquired their HIV infection (i.e. infected in the previous 4 to 6 months), compared to 16% in England Wales and Northern Ireland⁷.

The proportion of recent infection was higher among MSM (24%), compared to heterosexual men (5%) and women (10%) (Figure 1.8).

The proportion of likely recent infections among people newly diagnosed varied with age⁷. One in four (24%) of those newly diagnosed aged under 35 years were recently infected, compared to 11% among those aged over 50 years.





While the elevated proportion of recent infection among those newly diagnosed appears to indicate HIV transmission is ongoing, these results need to be interpreted in the context of testing patterns and frequency of testing among populations²⁰. For example, people who test frequently are more likely to be identified as recently infected. Furthermore, the higher proportions of recently acquired infections among younger age groups may reflect the likelihood they have been sexually active for a shorter time²⁰.

2. London residents living with diagnosed HIV and accessing care

It is vital that people with HIV are diagnosed and access care quickly because treatment is not only very effective at improving health-a person diagnosed with HIV aged 35 years will live on average for another 36 years²¹—it is also very important in reducing transmission. This is because people who are receiving effective treatment are much less infectious to others.

Diagnosed HIV prevalence

There were 31,147 people living with a diagnosed HIV infection in London in 2011 (Figure 2.1) representing 46% of all those accessing HIV care in England (n=67,695)⁵.

The diagnosed prevalence rate of HIV in London was 5.4 per 1,000 residents aged 15 to 59 years, which is much higher than any other region and more than two and a half times the rate in England (1.97 per 1,000) (Figure 2.1 and $2.2)^5$.



Figure 2.1: Diagnosed prevalence of HIV (in those aged 15-59 years old) by previous NHS region, 2011 (SOPHID data)⁵



Figure 2.2: Cartogram of HIV diagnosed prevalence. The former NHS regions are sized by the prevalence rate of diagnosed HIV (SOPHID data)⁵. Darker colours represent higher rates.



London local authorities (LAs) account for 18 of the 20 LAs with the highest diagnosed HIV prevalence rate in England⁵. All but three LAs in London have a diagnosed prevalence rate of over two per 1,000 adults. There was a marked variation across local LAs, ranging from 1.6 per 1,000 in Havering to 13.8 per 1,000 adults in Lambeth (the highest in the country) (Figure 2.3).





Trends

With continuing high numbers of new diagnoses and people living longer with HIV, it is not surprising to see a continued year-on-year increase in the number of people living with diagnosed HIV (Figure 2.4).

The number of London residents seen for HIV care in 2011 (n=31,147) was five per cent higher (n=1,428) than 2010 (n=29,719) and was almost double the number seen in 2002 (n=16,717)⁵.





Over the past five years the greatest increase in numbers seen for HIV care has been in Lambeth and Southwark (Figure 2.5)⁵. However, the greatest proportional increases were observed in some LAs with lower overall numbers, such as Havering and Bexley.





Age and gender

The majority of London residents accessing HIV care in 2011 were male (69%, n=21,395)⁵. The proportion of females is higher in younger age groups, with females forming 44% of the 15 to 24 years age group (n=438) (Figure 2.6).



The trend over time has been for older age groups to access care for HIV, which is to be expected given the improved life expectancy (Figure 2.7).

Route of infection

The two commonest routes of HIV infection were through sex between men and sex between men and women, respectively accounting for 47% (n=14,767) and 46% (n=14,275) of those people accessing HIV care in London in 2011⁵.

Differences are seen across London LAs (Figure 2.8⁵). The proportion of those who acquired HIV through sex between men ranged from eight per cent in Barking and Dagenham to 84% in City of London (note small numbers), while the proportion who acquired HIV through sex between men and women ranged from six per cent to 86%.





Injecting drug use was the route of infection for two per cent of people accessing HIV care in London in 2011, the same proportion as in England as a whole⁵. This may reflect ongoing measures to prevent transmission among PWID, including through the robust provision of needle exchange programmes across London.

A small proportion of people were infected through mother to child (vertical) transmission (two per cent)⁵.

Ethnicity

In 2011, almost half (47%, n=14,549) of those accessing HIV care in London were white, just over a third (34%, n= 10,602) were black African and five per cent were black Caribbean⁵. However, by LA this varies considerably (range: black Africans 0-74%, black Caribbeans 1-13%, white 13-90%) (Figure 2.9).





Rates of diagnosed HIV were over six times higher in black Africans in London compared to white populations (Figure 2.10)⁵.





Deprivation

Levels of deprivation vary considerably across the capital (Figure 2.11) and the most deprived areas in London also have the highest HIV prevalence⁵. HIV prevalence is as high as 8.0 per 1,000 in the most deprived areas but less than 1.5 per 1,000 in the least deprived areas (Figure 2.12).





Figure 2.12: Prevalence of diagnosed HIV infection among adults aged 15-59 years by residential deprivation: England and London, 2011^{5, 20}



Mapping diagnosed HIV across London

The following two pages outline how HIV prevalence and numbers vary across the city. The first map shows the considerable variation in HIV prevalence by LA, with the highest prevalence occurring in the areas of central London (Figure 2.13)⁵.

Figure 2.14 shows the diagnosed rate of HIV by Middle Super Output Area (ie geographical areas of around 7,500 people)⁵. It highlights those areas with a high diagnosed prevalence of over two per 1,000 adults, which is the level above which expanded HIV testing has been recommended by national guidance and areas of hyperendemicity, which are especially concentrated in Lambeth. There are areas of high diagnosed prevalence in every LA in London.

The main risk groups for HIV are MSM and black Africans. Figures 2.15 and 2.16 highlight the substantial difference in geographical distribution across London for MSM and black Africans living with diagnosed HIV⁵. MSM with HIV live in more central areas of London while black Africans with HIV are more geographically dispersed. It should be noted that these figures have not been adjusted for LA or risk group population, and thus the distribution will likely reflect the underlying distribution of these communities.



Figure 2.13: Prevalence of diagnosed HIV in London residents (15-59 years) by LA, 2011⁵

Figure 2.14: Prevalence of diagnosed HIV in London residents (15-59 years) by MSOA, 2011⁵











3. Undiagnosed HIV

It is estimated that in 2011 one in five Londoners living with HIV was unaware of their HIV status⁹. People who know their diagnosis can access effective treatment, which not only greatly improves their health, but also reduces their chances of infecting others. An estimated half of overall HIV transmission is due to people who are not aware of their infection²².

Proportion of people living with HIV who are undiagnosed

Nationally, heterosexuals with HIV are more likely to be undiagnosed (27%) than MSM (20%) or PWID (17%) (Figure 3.1, UK data)^{9, 20}. Among heterosexuals, a lower proportion of females (25%) are undiagnosed compared to males (30%), most likely as a result of routine antenatal HIV screening. No London breakdown is available.





GUM attendees

Among GUM attendees in London in 2009, MSM (3.3%) and those born in Sub-Saharan Africa have the highest rates of previously undiagnosed HIV infection (Figure 3.1)¹¹.



Figure 3.1: Rate of previously undiagnosed HIV in GUM clinics attendees in London, 2009¹¹

Some GUM clinic attendees will leave the clinic unaware of their HIV status. In 2009, this included 44% of MSM, 25% of heterosexual males and 25% of heterosexual females¹¹.

Pregnant women

Unlinked anonymous surveys indicate that the proportion of pregnant women with HIV in London in 2011 was 0.35% (one in 285), down slightly from the 0.38% seen in 2009 but below the peak of 0.45% in 2003^{10} . Overall, prevalence has remained stable over the past decade (Figure 3.2). The proportion of pregnant women with HIV was higher in inner London in 2011 (0.41%) than in outer London (0.30%).



Figure 3.2 Proportion of pregnant women with HIV in London (UAPMP surveillance)¹⁰

People who inject drugs

The proportion of people who inject drugs (PWID) in London with HIV was 3.9% in 2011 and has changed little over the past ten years¹². However, this is three times the rate in England (1.3%).

The stability in rates may reflect ongoing measures to prevent transmission among PWID, including through the robust provision of needle exchange programmes across London. In 2011, there were ten centres in London that participated in unlinked anonymous testing of PWID.

4. Late diagnosis of HIV

Just under half of people diagnosed with HIV in London in 2011 were diagnosed late and just under a quarter were diagnosed very late⁸. While excellent treatment options are now available, these are most effective if the infection is diagnosed early. Late diagnosis of HIV infection is associated with increased morbidity and mortality, increased costs to healthcare services²³ and a reduced response to antiretroviral treatment. An earlier diagnosis can decrease onward transmission of HIV as an individual's knowledge of their HIV status has also been found to reduce their risk behaviour.

HIV infection reduces the number of key immune system cells called CD4 cells. A normal CD4 cell count is between 500 and 1,600/mm³ of blood. Late diagnosis is defined as patients with a CD4 cell count of fewer than 350 cells/mm³ within three months of diagnosis. Very late diagnosis is defined as patients with a CD4 cell count of fewer than 200 cells/mm³ within three months of diagnosis.

In 2011, 44% of London patients were diagnosed late, which represents an improvement since 2010 when 49% were diagnosed late⁸. Proportions ranged from 32% in Hammersmith and Fulham primary care trust (PCT) to 67% in Harrow PCT to (Figure 4.1).



Figure 4.1: Late diagnosis of HIV (CD4 <350) by London PCT in 2011⁸

People living in Lambeth PCT accounted for the highest proportion of all those diagnosed late in London (10.2%) (Figure 4.2). Please note that PCTs ceased to exist from April 2013.





Across the UK late diagnoses were lowest among MSM (35%), while 56% of heterosexual women and 64% of heterosexual men were diagnosed late^{8, 20}. The proportions diagnosed late among heterosexuals by ethnicity were as follows: black African men 68%, black African women 61%, black Caribbean men 64%, black Caribbean women 43%, white men 61% and white women 41%.

A similar picture is seen in London with MSM less likely to be diagnosed late. In London 31% of MSM newly diagnosed in 2011 were diagnosed late, compared to 63% of black Africans.

Over the past decade, the proportion of individuals diagnosed late in the UK has declined significantly, from 60% in 2002 to 47% in 2011 (p<0.0001 for trend), and across all exposure groups^{8, 20}. The decline in late diagnosis among MSM is particularly noteworthy, 48% in 2002 compared to 35% in 2011.

In 2011, the proportion of London patients who were diagnosed very late was 25%. This was higher among heterosexuals (35%) than MSM (12%)⁸.

The Public Health Outcomes Framework includes a range of outcome indicators against which local public health delivery are measured²⁴. The Health Protection domain has included the proportion of people presenting with HIV at a late stage of infection (CD4<350) as an indicator of essential actions to be taken to protect the public's health.

To tackle late diagnosis of HIV a multi-faceted approach is needed, including measures to encourage those at risk to come forward to be tested, education and support for clinicians to improve their knowledge of HIV and HIV testing (as in many cases opportunities for earlier diagnosis are missed), and expanded HIV testing in line with the national HIV testing guidance.

5. Focus on MSM

Demographics

Describing the MSM population in London is challenging because sexuality is currently not recorded in UK routine population-level information systems. The British National Survey of Sexual Attitudes and Lifestyles 2000 (NATSAL II) provides the best estimates of the prevalence of MSM aged 16 to 44 years²⁵. In 2000, an estimated 5.5% (95% CI 4.2-7.1%) of men aged 16 to 44 years in Greater London reported same-sex contact in the preceding five years²⁵.

Novel methods for estimating MSM populations in local populations have been described, which take into account estimations from NATSAL and SOPHID data, termed SOPHID weighted estimates³. These have been used to estimate the number of MSM in the 16 to 44-year-old male population of each LA (Figure 5.1).

Figure 5.1: SOPHID weighted estimates of the number of 16 to 44-year-old MSM resident in each LA in London and the estimated proportion of males aged 16 to 44 years that are MSM^{3, 5, 25}



As various assumptions are used to calculate these estimates, they should be used with caution. They rely on first estimating the prevalence of HIV in inner and outer London using both NATSAL II (using inner and outer London estimations of proportions of MSM) and inner and outer London SOPHID data. It is then assumed that the HIV prevalence among MSM is constant across LAs in inner London and across LAs in outer London. The number of MSM in each LA can then be calculated by applying the appropriate NATSAL prevalence estimate to the number of MSM known to be living with diagnosed HIV (SOPHID data) in each LA.

New diagnoses

MSM accounted for over half of all new diagnoses in 2011 (54%, 1,427, adj) in London, compared to 36% in 2002⁴. The number of new diagnoses in MSM has been increasing in recent years (Figure 5.2) and the numbers diagnosed in 2011 were five per cent higher than 2010 (1,367, adj) and 31% higher than 2002 (1,091, adj). New diagnoses are difficult to interpret in isolation, but considered alongside data on recently acquired infections and incidence estimates, it is evident that transmission of HIV among MSM is ongoing, and remains substantial.





Geography

In 2011, over half of new HIV diagnoses in MSM were in residents of eight LAs; Lambeth, Southwark, Westminster, Camden, Tower Hamlets, Islington, Wandsworth and Lewisham (Figure 5.3)⁴. However, it should be noted that social settings where the greatest transmission risks occur are not necessarily in the borough where they live.

MSM account for varying proportions of new diagnoses in different LAs, ranging from 93% in City of London to 12% in Barking and Dagenham (Figure 5.4).



Figure 5.3: Number of new HIV diagnoses in MSM by London LA of residence, 2011⁴

Figure 5.4: MSM as the proportion of new diagnoses in each London LA. 2007-2011⁴



Age

The peak age group for MSM newly diagnosed with HIV in London in 2011 was the 25 to 29 years age group (Figure 5.5)⁴.





Ethnicity

Over three-quarters of MSM newly diagnosed with HIV in 2011 were white (77%), with smaller proportions of black Caribbeans (3%) and black Africans (3%)⁴. Other black and minority ethnic groups accounted for 18%.

County of birth

The majority of MSM diagnosed in 2011 were born abroad (45% UK born)⁴. This compares to 2002 when the majority were born in the UK (57% UK born). Figure 5.6 shows the main countries of birth of MSM newly diagnosed with HIV over the five year period to 2011.

Figure 5.6: Proportion of total number of MSM newly diagnosed with HIV in London between 2007 and 2011 born in particular countries (only countries with more than 100 diagnoses were included)⁴



Country of infection

The vast majority of MSM diagnosed with HIV in 2011 were infected in the UK (83%). Among the UK-born this was 93% (Figures 5.7 and 5.8)⁴. For MSM born in other countries, the proportion who were infected abroad varied considerably.

Figure 5.7: Proportion of MSM newly diagnosed with HIV in London between 2007 and 2011 infected in the UK, by country of birth (only countries with more than 100 diagnoses were included)⁴







Other risk factors

Concerns have been raised about the increasing use of recreational drugs, including injected drugs, among MSM²⁶. Less than one per cent of MSM newly diagnosed with HIV in London from 2009 to 2011 also described intravenous drug use as a possible route of transmission⁴. The issue will require ongoing monitoring as more recent data becomes available.

Recent infection

MSM newly diagnosed with HIV in London are more likely to have a recent infection (24%) than heterosexuals (8%)^{7, 20}. The proportion of likely recent infections among people newly diagnosed varied with age in England, Wales and Northern Ireland. One in four (28%) newly diagnosed MSM aged under 35 years were recently infected, compared to 15% among MSM aged over 50 years^{7, 20}.

Incidence

No evidence of a decline in incidence among MSM in England and Wales has been observed over the past decade²⁰. This evidence comes from using a CD4-staged back-calculation approach to estimate HIV incidence and trends in diagnosis patterns among MSM in England and Wales for the period 2001-2010²⁷. The model incorporates data on new HIV and AIDS diagnoses, including CD4 cell counts at diagnosis, and information on the natural history of HIV infection.

Overall prevalence of HIV in MSM

It has been estimated that the overall prevalence rate of HIV (diagnosed and undiagnosed) in MSM in London is one in 12 (85 per 1,000), compared to one in 20 MSM (47 per 1,000) in the UK^{20} .

MSM living with diagnosed HIV

In 2011, there were 14,767 MSM living with diagnosed HIV in London⁵. This is five per cent higher than 2010 (14,026) and 85% higher than in 2002 (8,253). An estimated one in 14 MSM aged between 16 and 44 years are living with diagnosed HIV $(7.2\%)^5$.

Geography

The highest numbers of MSM living with diagnosed HIV live in more central areas of London (Figure 5.9)⁵.





Age

The largest age group for MSM living with diagnosed HIV is the 40 to 50 years age group (Figure 5.10)⁵.





Undiagnosed HIV

Nationally, one in five MSM with HIV is undiagnosed (20%, UK)^{9, 20}. This compares favourably to other risk groups.

Late diagnosis of HIV

In London, MSM were half as likely to be diagnosed late (31%) than black Africans $(63\%)^{8, 20}$. Late diagnosis in MSM has improved over the past five years (Figure 5.11).



Figure 5.11: Late diagnosis of HIV in newly diagnosed MSM in London 2011⁸

Rates of STIs in MSM

People co-infected with HIV and sexually transmitted infections (STIs) are more likely to transmit HIV during sex²⁸. MSM in London suffer from particularly poor sexual health due to STIs and this is worsening. For some STIs the majority of MSM diagnosed are also HIV positive, providing evidence of ongoing unsafe sexual behaviour.

MSM account for 18% of all London residents diagnosed with an acute STI in 2011, including 80% of syphilis diagnoses and over half of those diagnosed with gonorrhoea. Gonorrhoea diagnoses in MSM were also more likely to represent a reinfection (within one year) compared to heterosexual males: 14% compared to 5% in 2011^{6, 29}.

Outbreaks have been reported linked specifically to MSM in London. These have mostly affected HIV positive MSM and have been linked to recreational drug use. There are anecdotal reports from drug and alcohol clinics in London that recreational or club drug use is rising with the concern that this is leading to disinhibiting sexual behaviour and transmission of STIs, including HIV, and blood borne viruses^{30, 31}.

An investigation into an outbreak of Lymphogranuloma Venereum (LGV) found that 99% of cases were MSM and 80% were HIV positive. LGV acquisition has been associated with poly-drug use; meeting partners on the internet, at parties or in saunas; dense sexual networks; simultaneous contacts (parties, saunas); unprotected rectal contact, both insertive and receptive intercourse and fisting¹⁹.

MSM have also been affected by increased numbers of the gastrointestinal infection *Shigella flexneri* and a high proportion of cases are HIV positive^{18, 32}. Evidence suggests that most MSM cases had used mephedrone, ketamine, crystal metamphetamine, and γ -butyrolactone during sexual encounters. 'Slamming', a term probably used to reduce the social stigma of injecting recreational drugs, was also reported³². Drug use seemed linked to disinhibiting behaviour and pushing boundaries to seek new sexual experiences, including fisting and scat play³². Condom use was rare, and most encounters were anonymous and arranged through internet sites³².

There is evidence of ongoing, but declining, sexual transmission of hepatitis C among HIV positive MSM with links to recreational drug use¹⁷. The Enhanced Surveillance of Newly Acquired Hepatitis C infection in MSM (SNAHC) system collected data prospectively from 22 centres in London, Manchester and the South East. Of those cases reported between 2008 and 2011, 95% were HIV positive. The number of cases reported has declined from 105 in 2008 to 24 in 2011. Among HIV positive men, the estimated incidence of infection declined significantly over time (p<0.001) from 7.38 per 1,000 person years in 2008, to 1.46 in 2011. Reported risk behaviours included: PWID, unprotected anal intercourse, high rates of partner change, recreational drug use including sex under the influence of those drugs and a recent STI diagnosis.

6. Focus on black Africans

Demographics

Over half a million black Africans live in London (573, 931), which represents seven per cent of the London population². The proportion of each LA's population that is black African ranges from one to 16% (Figure 6.1).

Figure 6.1: Map of the proportion of each London LA's population that is black African²



New diagnoses in black Africans

The number of new diagnoses in black Africans made in London clinics has halved in the past ten years (49% fall) to 787 in 2011 (Figure 6.2, adj)⁴. They accounted for 30% of new diagnoses in 2011, compared to 51% in 2002.



Figure 6.2: Number of new diagnoses in black Africans and the proportion of all diagnoses that were in black Africans, made in London clinics from 2002 to 2011(figures adjusted for missing information)⁴

The proportion of new diagnoses that are in black Africans varies considerably across London e.g. black Africans represent only 3% of new diagnoses in City of London, but 70% in Bexley⁴.





Age, sex and sexual orientation

Among black Africans, more females were diagnosed than males $(ratio 1.4:1)^4$. The highest numbers of new diagnoses were made in those aged 35 to 39 years (Figure 6.4).



Figure 6.4: Age and sex of new diagnoses in black Africans in London in 2011⁴

Only 3% of black Africans newly diagnosed with HIV in 2011 were thought to have acquired HIV through sex between men.

County of birth

The country of birth of black Africans newly diagnosed with HIV between 2007 and 2011 is displayed in Figure 6.5⁴. Those born in Nigeria, Zimbabwe, Ghana and Uganda made up half of new diagnoses in this group. For these countries, the majority were infected outside the UK (69% to 75%). This is likely to reflect recent migration patterns and the prevalence of HIV in the country of birth.

Figure 6.5: Proportion of total number of black Africans newly diagnosed with HIV in London between 2007 and 2011 born in particular countries (only countries with more than 100 diagnoses were included)⁴



Only 5% of black Africans newly diagnosed with HIV between 2007 and 2011 were born in the UK⁴. Of these, the majority acquired their infection in the UK, although around a fifth (22%) acquired their infection outside the UK.

Proportion infected abroad

The number of black Africans newly diagnosed with HIV who may have acquired their infection in the UK has declined slightly since 2006 (2006: 316 (adj.); 2011: 264 (adj.)) (Figure 6.6)⁴. However, these make up a greater proportion of diagnoses among black Africans. Over a third of black Africans newly diagnosed with HIV in 2011 may have been infected in the UK (24% infected in the UK, 12% possibly infected in the UK). This compares to only a sixth in 2002 (6% infected in the UK, 10% possibly infected in the UK).





Black Africans living with diagnosed HIV

Burden and trend

In 2011, black Africans accounted for a third of Londoners living with diagnosed HIV $(34\%, 10,602)^5$. This was a three per cent increase from 2010 and an 80% increase since 2002.

Larger numbers of black Africans living with HIV resided in Newham, Southwark, Lewisham, Lambeth and Croydon (Figure 6.6)⁵.





The general trend was for black Africans to comprise a higher proportion of all people living with diagnosed HIV in the outer London LA (Figure 6.7)⁵.

Nearly one in 50 black Africans living in London in 2011 were living with diagnosed HIV (rate 18.5 per 1,000)⁵. Several LAs had significantly higher rates among black Africans than London overall; Kingston upon Thames, Richmond upon Thames, Sutton, Merton, Redbridge, Newham, Haringey, Croydon and Lewisham (Figure 6.8). This is likely to reflect geographical variation in different communities of black Africans born in different countries and the different HIV prevalence rates in those countries.





Figure 6.6: Rate of diagnosed HIV per 1,000 black Africans by London LA in 2011⁵



Age and sex

Among black Africans living with diagnosed HIV, there are nearly twice as many females than males (ratio 1.9:1) (Figure 6.7)⁵. This may relate to the success of antenatal screening. The highest numbers are aged between 40 and 44 years.





Late diagnoses

UK data indicates that black Africans are diagnosed later than white population groups and MSM^{8, 20}. In 2011, in London, 63% of black Africans were diagnosed late, a slight improvement from the 66% diagnosed late in 2007 (Figure 5.11). Overall, in the UK, 68% per cent of black African men (white men 61%) and 61% of black African women (white women 41%) were diagnosed late in 2011.

Proportion undiagnosed

Nationally, an estimated 27% of African born men and 21% of African born women with HIV are undiagnosed^{9, 20}. This is lower than for other heterosexuals with HIV (UK figures) but higher than in MSM (20%).

Sexually transmitted infections

People co-infected with HIV and sexually transmitted infections (STIs) are more likely to transmit HIV during \sec^{28} . Black Africans have higher rates of acute STIs compared to Londoners overall (1,471 per 100,000 vs. 1,245 per 100,000)^{6, 29}. Rates are higher than in white (923 per 100,000) and Chinese populations (639 per 100,000), but lower than in black Caribbeans (2,808 per 100,000).

7. HIV testing

Expanding and normalising HIV testing is an important measure to prevent HIV. The aim is to increase the proportion of those with HIV who know their diagnosis and who are diagnosed early. This will enable more people with HIV to have earlier access to effective treatment which not only provides great health benefits to the infected individual, but as described previously, decreases the transmission of HIV to others.

Background

Much progress has been made in recent years in changing attitudes to HIV testing. National testing guidelines for the UK were issued in 2008³³ and endorsed by the National Institute of Health and Care Excellence (NICE) in 2011³⁴. These recommended the expansion of HIV testing in high prevalence areas in order to reduce levels of undiagnosed infection. The settings recommended for the introduction of a routine universal offer of HIV testing in high prevalence areas (over two per 1,000 adults) include general medical admissions and new registrants in general practice, as well as the expansion of targeted outreach testing in community settings. All but three LAs in London have a high prevalence of HIV.

Further evidence for HIV testing was published in 2011 in a report by the former Health Protection Agency (HPA) which looked at Department of Health pilots of expanded HIV testing, and showed the feasibility, acceptability and effectiveness of expanded HIV testing in a variety of settings³⁵.

In 2012, the HPA published 'Evidence and resources to commission expanded HIV testing in priority medical services in high prevalence areas' which provided a concise overview of the evidence of acceptability, feasibility, clinical benefit and cost-effectiveness of expanding HIV testing, in order to support commissioners to implement routine HIV testing in general medical services³⁶.

Cost benefit of HIV prevention

Investing in measures to prevent HIV infection, such as increased HIV testing to decrease the pool of undiagnosed HIV infection and diagnose HIV earlier, has the potential for long term cost savings.

The prevention of one new HIV infection saves between £280,000 and £360,000 in direct lifetime healthcare costs²⁰. This figure arises from a study conducted by the HPA and the National AIDS Trust, working with a group of stakeholders, of the economic implications of a new HIV infection and does not include social costs. There would be

further additional savings as a result of preventing onward transmission because people who know their diagnosis can access effective treatment, which in turn reduces the chance of them infecting others.

There are also financial benefits of early diagnosis with one study showing a tripling of healthcare costs in the first year for those diagnosed late. The increased costs persist five years into care²³.

An estimated £354 million would have been saved in future HIV-related costs by preventing the 1,110 infections acquired in the UK and subsequently diagnosed during 2011 in London.

Treatment as prevention²⁰

People living with diagnosed HIV in the UK can expect a near-normal life expectancy, particularly if they are diagnosed promptly. This is a consequence of effective ART.

It is already possible to examine the impact of the high treatment coverage among the HIV-diagnosed population, as access to HIV care and treatment is universally provided by the NHS. In 2010, it was estimated that 35% (14,000) of 40,000 MSM living with HIV infection in the UK (both diagnosed and undiagnosed) had a viral load over 1,500 copies/ml and were consequently at significant risk of passing their HIV infection onwards^{20, 37}. Of the 14,000 "infectious" MSM, 62% (8,680) were undiagnosed and only 5% (700) were receiving ART. This demonstrates that treatment has been effective at reducing infectivity at a population level. However, the high numbers of infectious MSM who remain undiagnosed shows that 'treatment as prevention' may only reduce HIV transmission if it is combined with very frequent HIV testing alongside primary prevention programmes.

Information sources on HIV testing

At present, the only routine London-wide information collected on HIV testing relates to GUM, antenatal clinics and TB services^{6, 14, 15}. Some information is available from a PHE run sentinel surveillance system that operates at a small number of laboratories in London and provides information on testing in primary and secondary care, including trends and source of tests¹⁶. To gain an insight into the commissioning of expanded HIV testing, a PHE audit of expanded HIV testing in high prevalence areas was completed in 2012¹³.

Overall trends in testing

HIV testing in London is increasing. Sentinel surveillance data shows that testing has increased by 19% in participating London laboratories from 2008 to 2011¹⁶.

Testing in primary care

Expanded HIV testing in primary care as recommended in the national guidelines (ie routine testing of new registrations), has not been implemented widely across London (Figure 7.1) ¹³. In 2012, four years after the national guidelines had been published, an audit showed that only one in three high prevalence PCTs in London (n=7/21, 33%) had commissioned HIV testing for new primary care registrations¹⁵. Even in these PCTs, the proportion of GP practices routinely testing ranged from <10% to 50% (information only available for four PCTs). Overall, half of PCTs had implemented expanded HIV testing in primary care in some fashion (i.e. new registrations or other means, 11/22).

There is evidence that testing in primary care is increasing. Between 2008 and 2011, a near doubling in tests was reported from general practice (91% increase, sentinel surveillance)¹⁶. In 2008, HIV testing in general practice accounted for 10% of HIV tests done outside antenatal clinics in London, but in 2011, this had increased to 15% in the context of an overall increase in testing across the board. From 2008 to 2011, testing in general practice accounted for 8% of positive tests. Of those tested in general practice, one in 125 (0.8%) were positive for HIV.



Figure 7.1: Commissioning of expanded HIV testing in high prevalence areas of London (2012 Audit)¹³

Testing in hospitals

Expanded HIV testing of hospital admissions as recommended in the national guidelines (ie routine testing) has not been implemented widely in London¹³. The 2012

audit showed that only four out of 21 high prevalence PCTs (19%) had implemented routine testing of hospital admissions. However, nine had commissioned testing in their emergency departments and four in their medical assessment units. This means that, overall, nearly half of high prevalence PCTs (10/21) had commissioned routine testing in emergency departments, medical assessment units or new admissions.

HIV testing in secondary care appears to be increasing in London¹⁶. Sentinel surveillance data showed an 85% increase in secondary care testing (not including A&E) from 2008 to 2011. Testing in secondary care accounted for 17% of all tests outside antenatal clinics, but 27% of all positive tests (2008-11). Of those tested, one in 45 (2.2%) was positive for HIV. Outside HIV services, higher positivity rates were found in those from general medical and surgical wards (3.1%) and infectious disease services, hepatology departments and gastroenterology departments (3.2%).

Testing is also increasing in accident and emergency departments (A&E) in London¹⁶. From 2008 to 2011 there was a 75% increase in testing in A&E. Testing here accounted for one per cent of overall testing outside antenatal clinics, and two per cent of all positive tests (2008-11). Of those testing in A&E, one in 30 (3.4%) were positive for HIV.

Testing at GUM clinics

HIV testing in GUM clinics continues to increase⁶. The majority of HIV tests take place in GUM clinics, accounting for an estimated 66% of all HIV tests outside the antenatal setting and 63% of positive tests (2008 to 2011 data)¹⁶.

In 2011, 347,092 HIV tests were offered to London residents in GUM⁶. This represents a seven per cent increase on the number offered in 2010 (323,645). Three clinics, Dean Street, St Mary's Hospital and the Mortimer Market Centre conducted over 20,000 HIV tests, accounting for more than one in five of all HIV tests conducted in GUM clinics in London (Figure 7.2).



Figure 7.2: Number of HIV tests conducted by London GUM clinics, 2011⁶

The majority of clinics saw an increase in the number of HIV tests they conducted from 2010 to 2011⁶ (Figure 7.3).





There was wide variation in the proportion of GUM attendees who accepted the offer of a HIV test by clinic, ranging from 60% to 90% (Figure 7.4)⁶.





Uptake also varied by risk group and was highest among MSM. There was a 94% uptake of HIV tests amongst MSM who attended London GUM clinics in 2011 (92% in 2010)⁶. Among heterosexual male attendees of London clinics, there was an 87% uptake of HIV tests (86% in 2010). The uptake of HIV testing among women attending London GUM clinics is lower than that of either MSM or heterosexual men. In 2011 it was 83%, the same proportion as in 2010.

Antenatal testing

Antenatal clinics continue to be successful in screening for HIV, providing an example of how routine testing can be implemented. In 2011, 99% of women attending antenatal clinics in London in 2011 took up the offer of an HIV test, slightly up from the 98% seen in 2010. Uptake by clinic ranged from 92% to 100% (Figure 7.5)¹⁵.



In 2011, 3.9 per 1,000 women screened in London antenatal clinics tested positive for HIV, which is slightly higher than in 2010 (3.7 per 1,000). Positivity varied from 0.2 per 1,000 to 9.6 per 1,000 by clinic (Figure 7.6)¹⁵.

Figure 7.6: HIV test positivity per 1,000 women attending antenatal clinic in London in 2011(no accurate data is available for Queen Elizabeth, South London Trust)¹⁵



Testing tuberculosis patients

In 2011, the proportion of tuberculosis cases in London offered an HIV test or whose HIV status was already known was 92%, while 87% were tested or their status was already known¹⁴. Although proportions of those tested or whose status was already known were very high in most areas, in Havering, Lewisham, Bexley and Bromley LAs the proportion was 75% or less (Figure 7.7).



Figure 7.7: Proportion of TB patients with HIV test or status known in 2011 by London LA¹⁴

Testing by ethnicity

There is some evidence that HIV testing among black ethnic groups is increasing in London. Sentinel surveillance data suggests that testing black or black British groups has increased faster than that overall (36% vs. 19% overall) in the four years from 2008 to 2011 (antenatal clinics excluded)¹⁶. Black or black British groups accounted for 7% of tests outside antenatal clinics (where ethnicity was recorded). These groups were more likely to test positive (4.0% vs. 1.4% overall).

Testing by age group

Laboratory surveillance information provides evidence that of those tested for HIV outside antenatal clinics, males aged 35 to 54 years old are most likely to test positive (Figure 7.8)¹⁶.





Selected data sources

- 1. HIV and AIDS New Diagnoses and Deaths Patient Reporting System (HARS)^{4, 8}: Clinicians and microbiologists report information about new diagnoses of HIV/AIDS to the Centre for Infectious Disease Surveillance and Control (CIDSC) on a voluntary basis. This surveillance system collects detailed demographic and epidemiological data (via the clinician's report) but does not collect information about the patient's place of residence. Geographical analyses are based on the clinic of diagnosis. This is one of the three surveillance systems cross-linked to measure the proportion of late HIV diagnoses.
- Survey of Prevalent Diagnosed HIV Infections (SOPHID)⁵: SOPHID is an annual survey of individuals seen for HIV-related care. It collects information about the individual's place of residence along with epidemiological data including clinical stage and antiretroviral (ART) regime. This is another of the three surveillance systems cross-linked to measure the proportion of late HIV diagnoses.
- 3. Unlinked anonymous (UA) prevalence surveys¹⁰⁻¹²: There are three unlinked anonymous prevalence surveys. One is a sentinel survey measuring HIV prevalence, including undiagnosed HIV prevalence, among GUM clinic attendees (UA GUM). A second UA survey measures HIV prevalence in women giving birth. A third monitors HIV prevalence among people who inject drugs. Differing amounts of demographic and epidemiological data are retained by the three surveys after the specimens have been unlinked.
- 4. CD4 surveillance⁸: Longitudinal CD4 cell count data are collected to monitor trends in immunosuppression among HIV-infected adults. This is another of the three surveillance systems cross-linked to measure the proportion of HIV diagnoses made late.
- ^{5.} GUMCAD⁶: This statistical return from GUM clinics collects disaggregated data on the number of episodes of STIs and sexual health services provided including HIV testing. This has superseded the quarterly KC60 aggregated data returns.
- 6. Antenatal Infection Screening Surveillance (AISS)¹⁵: This system collects aggregate data at the level of antenatal clinic or trust on the number of women booked for antenatal care and on the offer and uptake of screening for HIV, hepatitis B, syphilis and rubella susceptibility.

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Please note that the section on treatment as prevention was taken directly from the HPA HIV in the UK report, 2012.

Data for 2011 was provided by the Health Protection Agency. These surveillance systems are now run by Public Health England.

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Acknowledgements and further information

Acknowledgements

We would like to thank the following:

- local sexual health clinics and laboratories for supplying the HIV data
- the Antenatal Screening Co-ordinators for supplying the AISS data
- TB clinics and the London TB Register team for supplying information about HIV testing in TB patients
- UCL Institute of Child Health
- PHE Centre for Infectious Disease Surveillance and Control (CIDSC) HIV and STI surveillance teams for collection, analysis and distribution of data
- Emma Robinson and Paul Steinberg, Lambeth LA, for guidance
- Alison Brown, PHE CIDSC for comments on the May 2013 epidemiology report
- Sarah Collins and Sam Lattimore, PHE CIDSC, for supplying the HIV Sentinel Surveillance data
- Adamma Aghaizu, PHE CIDSC for the RITA data
- Nicholas Cooper, PHE CIDSC for the late diagnosis data
- colleagues at PHE Field Epidemiology Services (Victoria): Mandy Wright for comments and Chantil Sinclair for mapping

Suggested citation

Review of HIV epidemiology in London. Public Health England Field Epidemiology Services (Victoria Office). November 2013

Further information

If you would like further information you can visit the Public Health England website (www.hpa.org.uk). We would recommend you download the Health Protection Agency and Public Health England HIV reports which can be found on the website.

For an introductory guide to STI and HIV data please use the following link:

http://www.hpa.org.uk/Publications/InfectiousDiseases/HIVAndSTIs/1301Anintroductory guidetoHPAlocalSTIandHIVdata/

For further information about this report contact: Josh Forde (josh.forde@phe.gov.uk).