

HIV in the United Kingdom: 2012 Report



This report from the Health Protection Agency summarises and interprets the current surveillance data and scientific evidence.

Data have been adjusted for missing information. Additionally, numbers presented in text are rounded and actual numbers can be found in the appendices.

More information on HIV in the UK can be found on the Health Protection Agency website:

www.hpa.org.uk/HIV.

Suggested Citation

Health Protection Agency. HIV in the United Kingdom: 2012 Report. London: Health Protection Services, Colindale. November 2012.

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Key findings

- An estimated 96,000 (90,800-102,500) people were living with HIV in the UK by the end of 2011, an increase from 91,500 (85,400-99,000) in 2010. The overall prevalence in 2011 was 1.5 per 1,000 population with the highest rates reported among men who have sex with men (MSM) (47 per 1,000) and the black African community (37 per 1,000).
- 24% (19%-28%) of people living with HIV were unaware of their infection in 2011, the same proportion as seen in 2010.
- In 2011, 6,280 people were newly diagnosed with HIV in the UK, a 21% decline from the peak in new diagnoses in 2005. The decrease is largely due to a reduction in the number of diagnoses reported among those born outside of the UK.
- New diagnoses among MSM have been increasing since 2007 with 3,010 reports in 2011, representing an all-time high. Direct and indirect measures of incidence show that the rate of HIV transmission in this population remains high.
- Over half of the 2,990 heterosexual men and women diagnosed in 2011 probably acquired their HIV infection in the UK, compared to 27% in 2002.
- Rates of new HIV diagnoses and HIV prevalence continue to be significantly higher in London than elsewhere in the UK. The city contains 18 of the 20 local authorities with the highest prevalence of HIV infection.
- Less than 1% of infants born to women diagnosed with HIV prior to delivery acquired perinatal infection in 2010/2011; the overall perinatal transmission rate, for infants born to both diagnosed and undiagnosed women, is estimated to be about 2%.
- There has been a slow but significant decline in the proportion of people diagnosed late (CD4 cell count <350 cells/mm³) over the past decade, particularly among MSM. Nevertheless, the overall proportion of late diagnoses remained high in 2011 (47%). People diagnosed late have a tenfold increased risk of dying within a year of diagnosis.
- 73,660 people living with a diagnosed HIV infection received care in 2011, representing a 58% increase since 2002. The most deprived areas in the UK also have the highest HIV prevalence; this health inequality is particularly evident in London where diagnosed HIV prevalence is as high as 8 per 1,000 in the most deprived areas and less than 1.5 per 1,000 in the least deprived areas.
- 88% of people for whom treatment was indicated were receiving antiretroviral therapy (ART) in 2011. Furthermore, 87% of people receiving HIV care were virally suppressed and were therefore unlikely to be infectious.
- The incidence of tuberculosis (TB) among people diagnosed with HIV has declined over the past decade. Nevertheless TB incidence among heterosexuals living with diagnosed HIV was substantially greater than that in the general population in 2010. Incidence rates were highest among those diagnosed late and those not on ART.
- In 2011, 70% of all sexually transmitted infection (STI) clinic attendees received an HIV test; with the highest coverage among MSM (83%).

- Almost two-thirds of MSM newly diagnosed as HIV-infected at an STI clinic had not attended that clinic for testing in the previous three years, which strongly suggests there is room for improvement in the frequency of testing by those at highest risk.
- There has been very little commissioning of routine HIV testing of general medical admissions and in the general practice setting.
- In the UK, a trial to investigate the public health effectiveness of pre-exposure prophylaxis (PrEP) in preventing HIV transmission among MSM has begun under the joint leadership of the Medical Research Council Clinical Trials Unit and the Health Protection Agency.

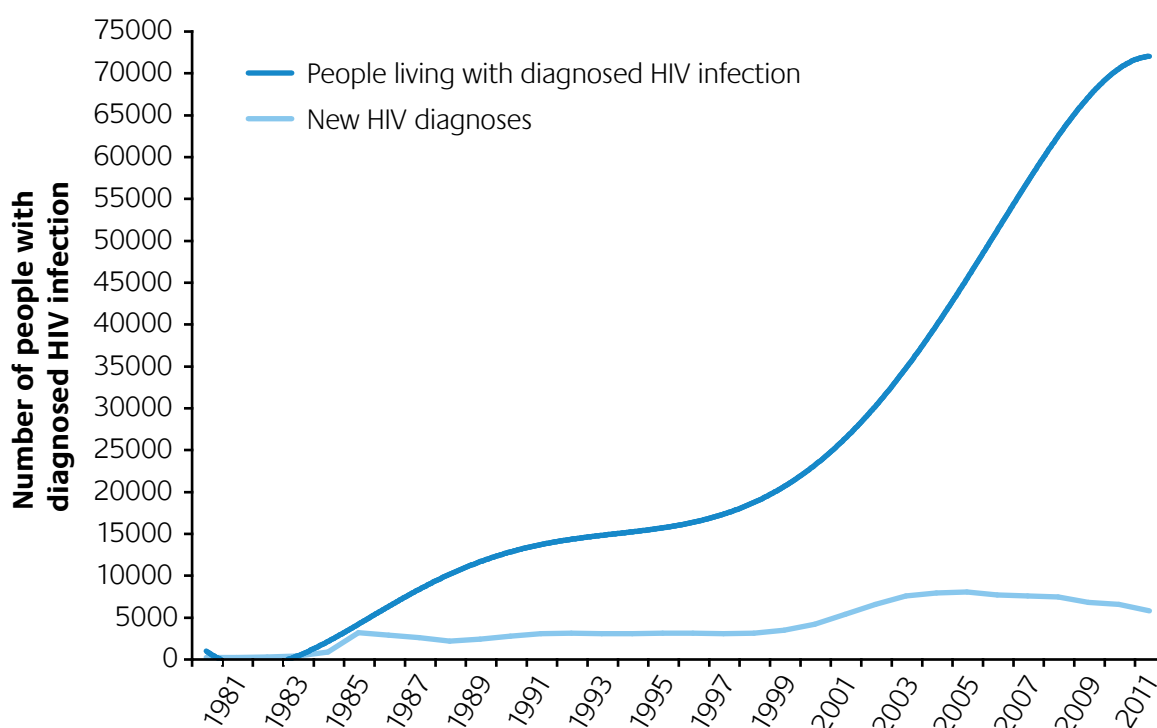
Recommendations

- Safe sex programmes promoting condom use and HIV testing remain a priority for MSM and black African and Caribbean communities to reduce ongoing transmission and undiagnosed infection.
- HIV testing, which is free and confidential at services such as STI clinics, should be promoted among higher risk groups to ensure individuals are aware of their HIV status. Specifically:
 - 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 and Caribbeans should have an HIV test and should have regular HIV/STI screening if having unprotected sex with new or casual partners.
- The Public Health Outcomes Framework includes the late HIV diagnosis indicator. All local authorities and National Health Service (NHS) bodies can reduce late HIV diagnoses through using their Joint Strategic Needs Assessment, to prioritise and inform the provision of appropriate HIV testing services.
- Local authorities and NHS bodies, with a diagnosed HIV prevalence greater than two per 1,000 population of 15-59 years, can implement routine HIV testing for all general medical admissions as well as new registrants in primary care.
- Clinicians should take every opportunity to offer and recommend HIV testing to those known to be at higher risk of HIV infection, such as MSM and people of black African and Caribbean ethnicity. Every effort should be made to reduce health service barriers to HIV testing. There is scope for further improvement in the rates of HIV testing of STI clinic attendees.
- A universal offer of an HIV test should be given to all patients diagnosed with TB and all people living with HIV should be routinely screened for TB.
- The evidence that ART reduces the risk of onward transmission should be discussed with all people receiving HIV care. ART should be started for those with a CD4 cell count >350 cells/mm³ who wish to reduce the risk of transmission to their sexual partners, in line with the 2012 BHIVA guidelines.
- Monitoring of key clinical indicators should continue in order to ensure the current high quality of HIV medical care is maintained.

Number of people living with HIV

HIV infection has been transformed from a fatal to chronic life-long infection due to the introduction of effective antiretroviral therapy (ART) in the mid-1990s. Consequently, the number of people living with diagnosed HIV has risen year on year, with an increase in number of new diagnoses among men who have sex with men (MSM) and people born in high prevalence countries (Figure 1).

Figure 1: Annual number of people living with diagnosed HIV infection and newly diagnosed with HIV: United Kingdom, 1980-2011



By the end of 2011, an estimated 96,000 (95% credible interval 90,800 – 102,500) people were living with HIV in the UK; approximately one quarter (22,600, 24% [19%- 28%]) of whom were undiagnosed and unaware of their infection (Figure 2) (Appendix 1). This is an increase from the 91,500 people estimated to have been living with HIV by the end of 2010. The estimated prevalence of HIV in 2011 was 1.5 per 1,000 (1.5-1.6) population of all ages, 2.1 per 1,000 (1.9 – 2.3) men and 1.0 per 1,000 (1.0 – 1.1) women.

40,100 (36,000 – 45,700) MSM were living with HIV in the UK in 2011, of whom 20% (11% - 30%) were undiagnosed. This corresponds to an overall prevalence rate of one in 20 MSM (47 per 1,000) (assuming that 3.4% of the adult male population are MSM), with nearly one in 12 in London (85 per 1,000) and one in 32 (32 per 1,000) living with HIV elsewhere in the UK [1].

An estimated 51,500 (48,700 – 54,800) heterosexual men and women were living with HIV, of whom 10,500 (9,600 – 11,700) were African-born men and 20,300 (19,100 – 21,700) were African-born women. HIV prevalence among black African men and women living in the UK was 25 per 1,000 among black African men and 50 per 1,000 among black African women, based on data from England and Wales.

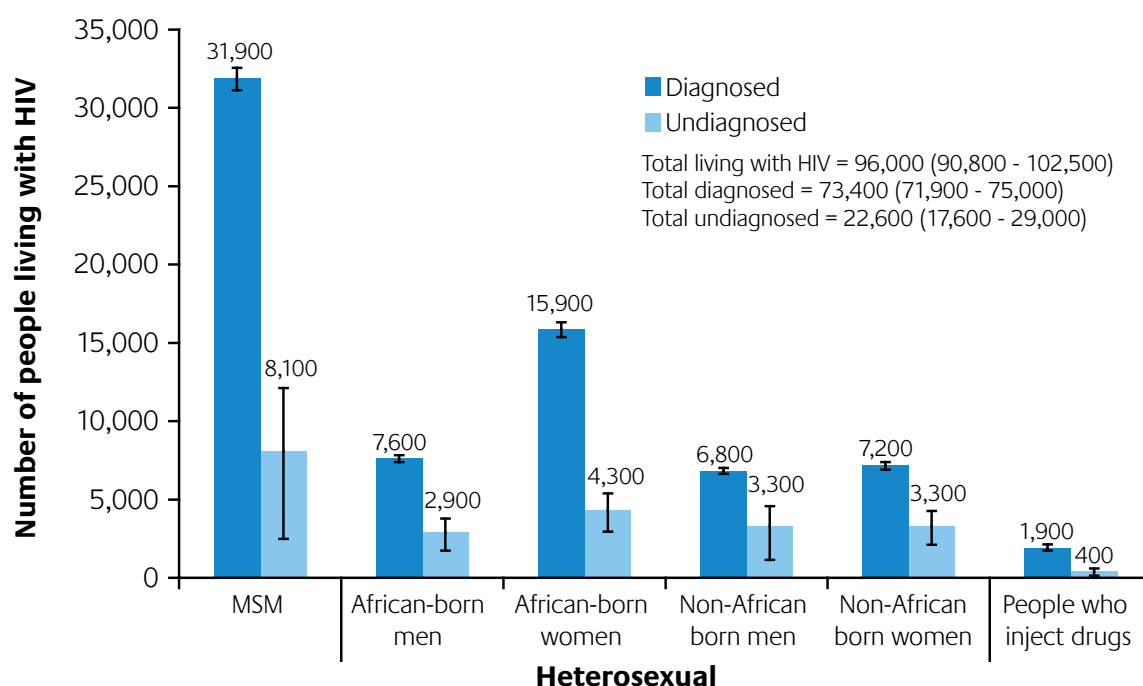
A lower proportion of heterosexual men were aware of their HIV infection with 30% (25%- 37%) undiagnosed, compared to women with 25% (21%- 29%) undiagnosed. The lower rate of undiagnosed HIV infection in women is a result of the effectiveness of the antenatal screening programme.

Prevalence among pregnant women in England in 2011 was 2.2 per 1,000, with London remaining the region of highest prevalence (3.5 per 1,000). Prevalence was highest among sub-Saharan African-born pregnant women (23 per 1,000), although there has been a small decline in this group over the past decade, from 25 per 1,000 in 2002. In contrast, the prevalence of HIV among UK-born women increased slowly over the same period, from 3 per 1,000 to 5 per 1,000. There has been a small but significant increase in HIV prevalence among pregnant women who gave birth outside London in recent years (1.6 per 1,000 pregnant women in 2011 compared to 1.5 per 1,000 in 2006) ($p < 0.001$).

In 2011, an estimated 2,300 (2,000–2,600) people who inject drugs (PWID) were living with HIV in the UK, of whom 400 (200–700) were unaware of their infection. Overall HIV prevalence among PWID in England, Wales and Northern Ireland remained relatively low in 2011 (1.2% 95% CI, 0.86%-1.7%) [2]. HIV prevalence among those who first injected drugs in the preceding three years, was 0.47% (95% CI: 0.01%-2.6%) in 2011. This is similar to the prevalence found in 2010, indicating transmission is ongoing, albeit at a low level [2].

Men who inject drugs who reported male sexual partners had a fourfold higher risk of being HIV-infected (3.2% vs. 0.79%; $p < 0.001$) (adjusted OR=4.08; 95% CI: 1.9 - 8.5) compared to male PWID who reported only sex with women [3].

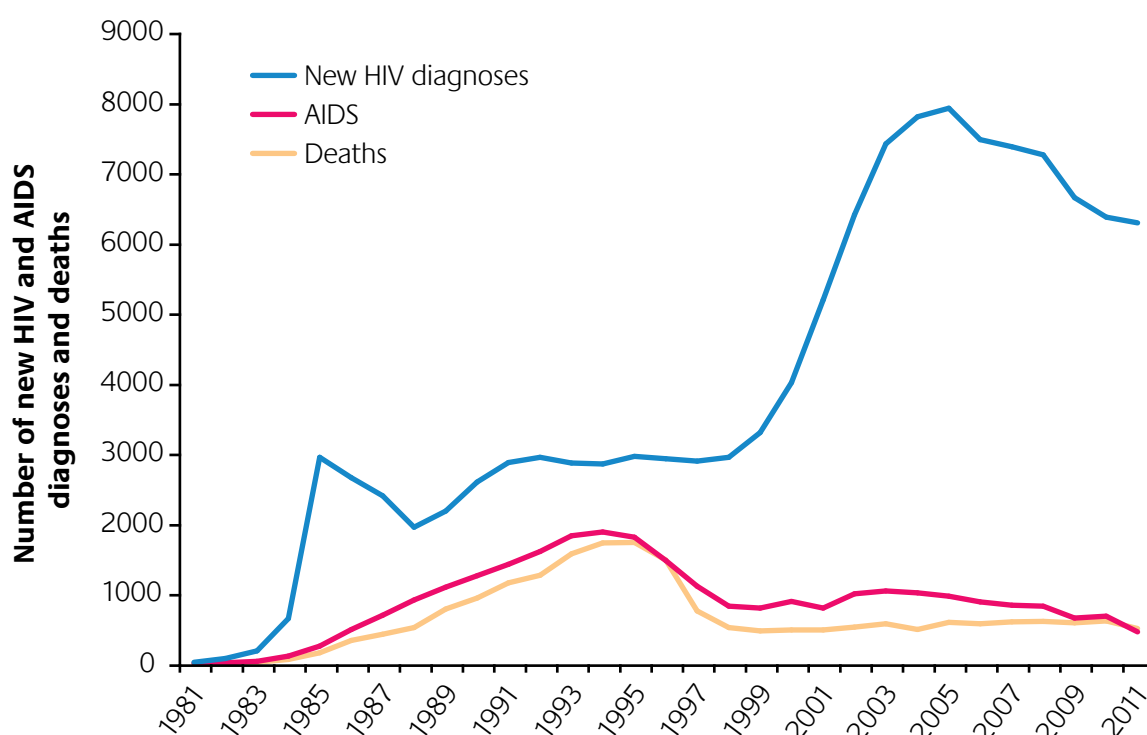
Figure 2: Estimated number of people living with HIV (both diagnosed and undiagnosed): United Kingdom, 2011



New HIV diagnoses

In 2011, 6,280 people (4,470 men and 1,810 women) were newly diagnosed with HIV in the UK, an estimated new diagnosis rate of 1.0 per 10,000 population (1.5 per 10,000 men and 0.60 per 10,000 women) (Appendices 2 and 3). New diagnoses have continued to decline since 2005 (7,910) largely due to a decrease in the number of diagnoses reported among heterosexuals born in countries with high HIV prevalence (Figure 3).

Figure 3: Annual new HIV and AIDS diagnoses and deaths: United Kingdom, 1981-2011



Infections acquired through heterosexual contact accounted for 2,990 (48%) of new diagnoses in 2011 after adjusting for missing risk information (Figure 4). Furthermore, 57% of heterosexuals diagnosed in 2011 were black African and 4% were black Caribbean.

A new method to assign probable country of infection suggests that 52% (1,560/2,990) of all heterosexuals diagnosed in 2011 acquired their infection in the UK, up from 27% (1,100/4,090) in 2002. This is indicative of increasing transmission within the UK and highlights the need for further prevention efforts, particularly among black African communities [4].

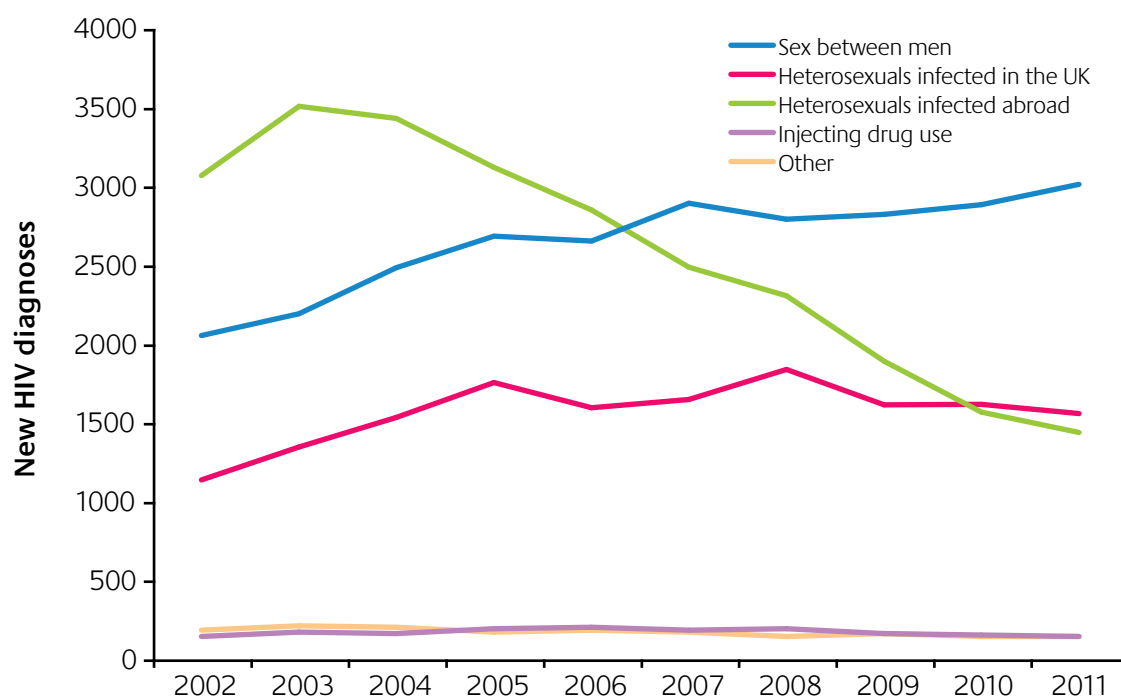
An analysis of UK-born adults diagnosed with HIV between 2002-2010 in England, Wales and Northern Ireland revealed that 15% had acquired their HIV infection abroad [5]. These individuals were likely to be older at diagnosis, report heterosexual contact, and report sex with a commercial sex worker. These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

New HIV diagnoses among MSM have surpassed the number of diagnoses made among heterosexuals for the first time since 1999, accounting for 3,010 (48%) of all new diagnoses made in 2011 after adjusting for missing information. Numbers have remained high since 2007 (Figure 4). 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 in the UK, and remains substantial.

Infections acquired through injecting drug use and through other routes have remained low over time, accounting for 140 new diagnoses each in 2011 after adjustment for missing information (Figure 4).

While regional variation exists, London continued to account for the largest proportion of new diagnoses reported in 2011 (42%; 2,640) (Appendix 4).

Figure 4: New HIV diagnoses by exposure group: United Kingdom, 2002 – 2011¹



¹ Data adjusted for missing exposure group information

Incidence and recently acquired infection

HIV incidence among MSM

Using a CD4-staged back-calculation approach, HIV incidence and trends in diagnosis patterns among MSM in England and Wales were estimated for the period 2001-2010 [6]. 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. No evidence of a decline in incidence among MSM was observed over the past decade, with between 2,300 and 2,500 new infections per year.

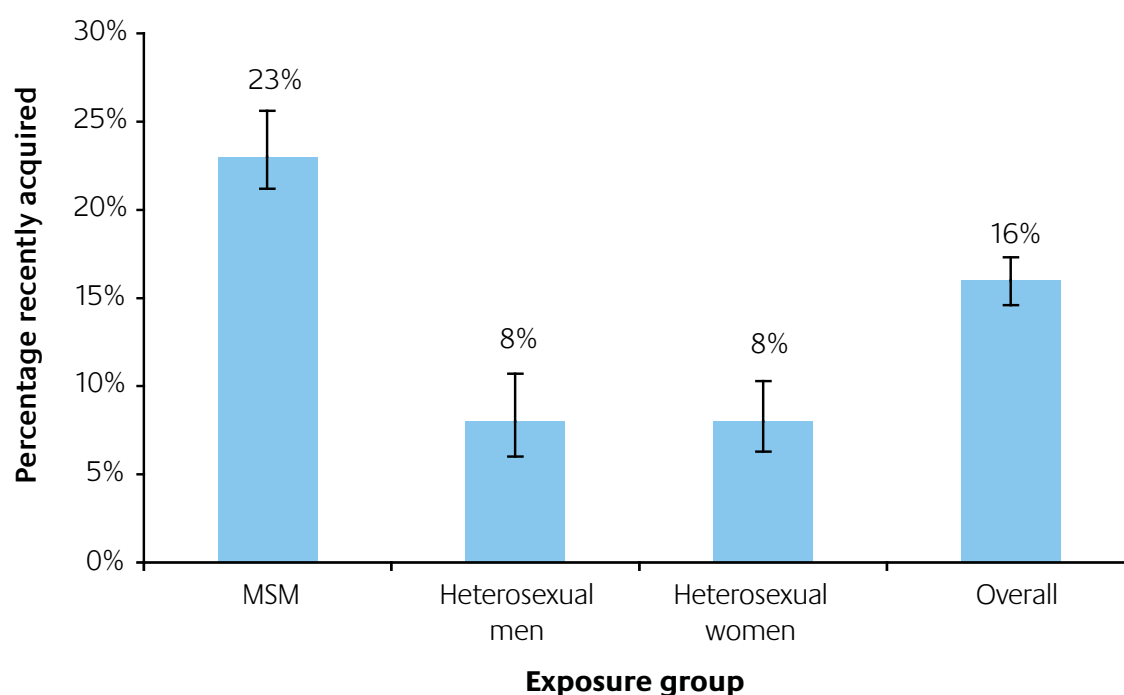
Recently acquired infection

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 51% (3,070/5,970) of all people newly diagnosed in England, Wales and Northern Ireland in 2011 (Appendix 5).

In 2011, an estimated 16% of people newly diagnosed had recently acquired their HIV infection (i.e. infected in the previous 4 to 6 months). The proportion of recent infection was higher among MSM (23%; 350/1,500), compared to heterosexual men (8%; 50/550) and women (8%; 60/770) (Figure 5).

The proportion of likely recent infections among people newly diagnosed varied with age. One in four (28%; 220/800) newly diagnosed MSM aged under 35 years were recently infected, compared to 15% (20/130) among MSM aged over 50 years.

Figure 5: Recently acquired infections among people newly diagnosed with HIV by exposure group: England, Wales and Northern Ireland, 2011



The highest proportions of likely recent infections among heterosexuals were observed among women (21%; 20/80) and men (14%; 3/20) aged 15-24 years. In contrast, less than 6% (40/590) of newly diagnosed heterosexuals aged 35-49 years had probably acquired their HIV infection recently.

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 populations. 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 time.

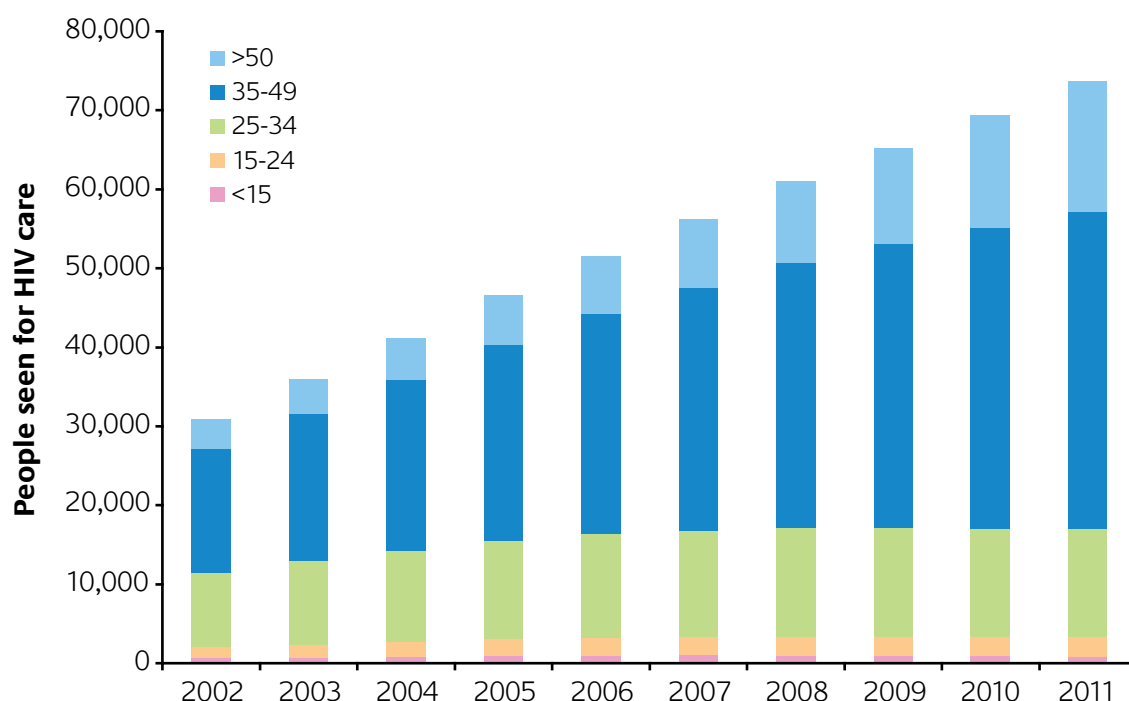
RITA results have been of value in the clinical setting, allowing patients and clinicians to discuss results alongside other routine baseline tests. Two recent studies [7;8] found that patients valued information about the likely timing of their infection and no negative outcomes were experienced by those receiving these results. A further study indicated that clinicians found the results were helpful and were comfortable discussing these with patients, particularly in the context of possible HIV seroconversion illness [9]. Work is on-going to evaluate the role of RITA as a tool to enable accelerated partner notification.

Treatment and outcomes

People receiving HIV care

In 2011, there were 73,660 people living with a diagnosed HIV infection who received care in the UK (49,080 men and 24,580 women) (Appendix 6). This represents a 6% increase from the 69,350 seen for care in 2010 and a 58% increase over the past decade (Figure 6, Appendix 6). This increase is due not only to continuing transmission of HIV, but also improved survival [10;11]. This has led to a shift in the age distribution, so that in 2011, one in five adults (22%; 16,550) accessing HIV care were aged 50 years and over, compared with one in nine (12%; 3,640) in 2002 (Figure 6).

Figure 6: People diagnosed with HIV infection seen for HIV care by age group¹: United Kingdom, 2002-2011



¹ Excludes people with age not reported

Half of the people accessing HIV care in 2011 had acquired HIV heterosexually (36,360; 13,650 men and 22,710 women), of whom 64% (23,210) were black African, 4% (1,490) were black Caribbean and 22% (8,080) were white. MSM made up 44% (31,830) of people accessing HIV care, of whom 87% (27,700) were white. People who acquired their HIV infection through injecting drug use and those infected through mother-to-child transmission each made up 2% of the cohort of people in HIV care (1,640 and 1,490 respectively).

Overall, 84% (61,510) of people accessing HIV care received ART, compared with 71% (21,770/30,850) in 2002 (Appendix 7).

Quality of care measures

Quality of care measures inform and monitor the success of key public health policies and guidance in the UK. Late diagnosis is the only HIV indicator in the Public Health Outcomes Framework [12]; the remaining indicators form the basis of the HIV clinical dashboard for monitoring the quality and standard of HIV care in England [13;14]. Table 1 presents results for the UK in 2011.

Table 1: Quality of care indicators for adult HIV patients: United Kingdom, 2011

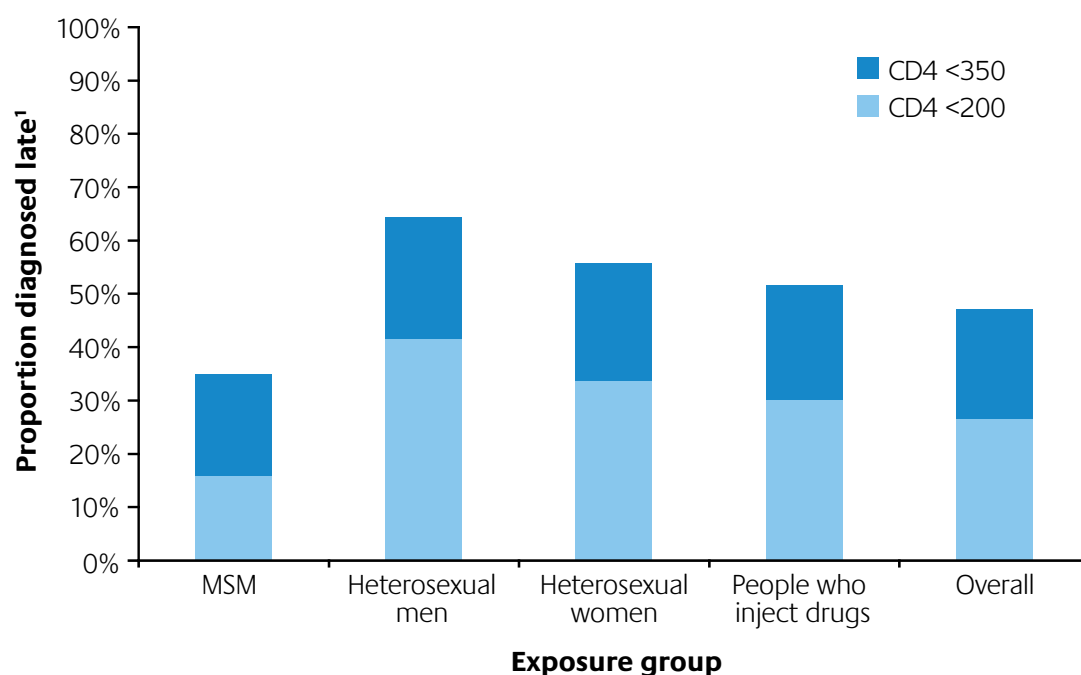
Indicators	Aim	Result
Late diagnosis	To monitor timeliness of diagnosis <i>CD4 cell count <350 cells/mm³ within 3 months of diagnosis</i>	47%
Link to care	To monitor prompt integration into care following HIV diagnosis: <i>CD4 cell count taken within 2 weeks of diagnosis</i>	76%
	<i>CD4 cell count taken within 1 month of diagnosis</i>	88%
	<i>CD4 cell count taken within 3 months of diagnosis</i>	97%
Retention in care - new patients	To monitor the retention in care among newly-diagnosed adults: <i>12 months after HIV diagnosis</i>	86%
	<i>24 months after diagnosis</i>	81%
Retention in care - all patients	To monitor the retention in care among adults seen for care in the last 12 months <i>Adults seen for HIV care in 2010 and also seen in 2011</i>	96%
Viral load outcome	To monitor the effectiveness of ART after initiating treatment <i>Viral load <50 copies/ml within 12 months of starting ART</i>	87%
ART coverage	To monitor the coverage of ART among adults in line with clinical guidelines <i>CD4 cell count <350 cells/mm³ prescribed ART</i>	88%
CD4 outcome	To monitor immune status of adults regardless of treatment status <i>CD4 cell count ≥350 cells/mm³ after at least 12 months in care</i>	83%

Late HIV diagnoses

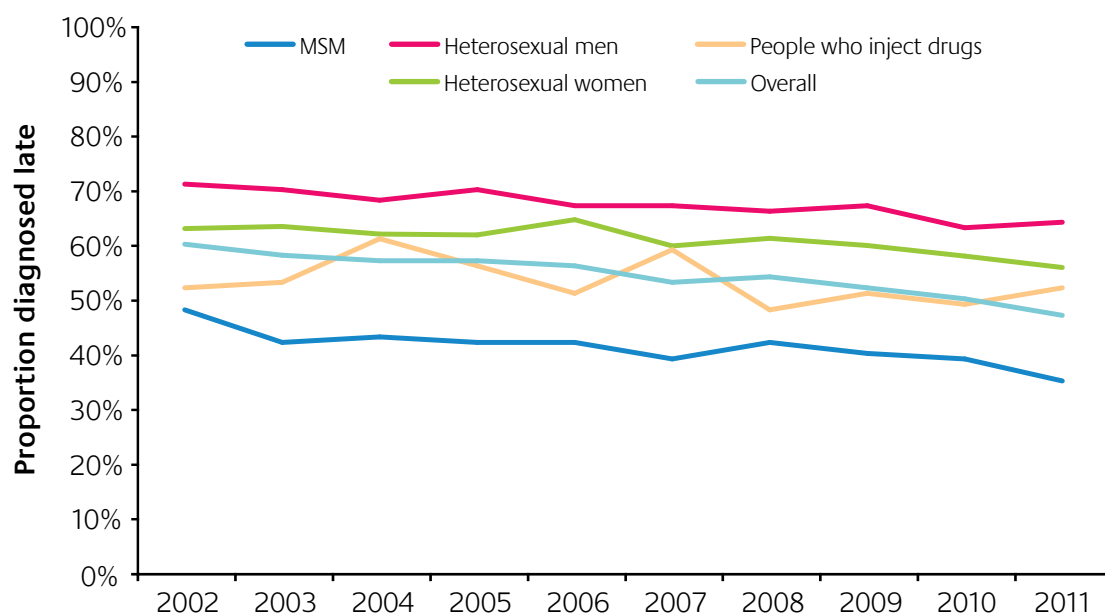
Late diagnosis is the most important predictor of morbidity and short-term mortality among those with HIV infection. It is a critical component of the Public Health Outcomes Framework and monitoring is essential to evaluate the success of HIV expanded testing (Appendix 8).

In 2011, 47% (2,950) of HIV diagnoses were made at a late stage of infection (with a CD4 cell count <350 cells/mm³ within three months of diagnosis) including 26% (1,630) who were severely immunocompromised at diagnosis (CD4 cell count <200 cells/mm³) (Appendix 9). Late diagnoses were lowest among MSM (35%; 1,050), while 56% (941) of heterosexual women and 64% (840) of heterosexual men were diagnosed late (Figure 7). The proportions diagnosed late among heterosexuals by ethnicity were as follows: black African men 68% (400/580), black African women 61% (600/990), black Caribbean men 64% (30/50), black Caribbean women 43% (30/60), white men 61% (270/440) and white women 41% (130/310).

A higher proportion of older adults (aged 50 years and over) were diagnosed late (61%; 530/870) compared with younger adults (45%; 2,430/5,410).

Figure 7: Late diagnosis¹ of HIV infection by exposure group: United Kingdom, 2011¹ CD4 <350 cells/mm³ within three months of diagnosis

Over the last decade, the proportion of individuals diagnosed late has declined significantly, from 60% (3,840/6,400) in 2002 to 47% (2,950/6,280) in 2011 ($p < 0.0001$ for trend), and across all exposure groups (Figure 8). The decline in late diagnosis among MSM is particularly noteworthy, 48% (960/2,000) in 2002 compared to 35% in 2011 (1,050/3,010).

Figure 8: Trends in late diagnosis¹ by exposure group: United Kingdom, 2002-2011¹ CD4 <350 cells/mm³ within three months of diagnosis

Quality of clinical care

The quality of HIV medical care in the UK is excellent (Table 1).

In 2011, 76% and 88% of adults newly diagnosed with HIV had a CD4 cell count performed within two weeks and one month of diagnosis respectively whilst almost all (97%) had a CD4 cell count within three months, indicating prompt entry into HIV care.

Eighty-six percent and 81% of 6,350 adults newly diagnosed in 2009 were retained in HIV care within 12 and 24 months of their diagnosis respectively. The 12 month retention rate of all 67,990 adults seen for HIV care in 2010 was 96%. These proportions exclude patients reported to have died between 2009 and 2011.

The proportion of individuals with an undetectable viral load (<50 copies/ml) within one year of starting ART is monitored as a marker of successful treatment. In 2011, 87% of 5,270 adults had an undetectable viral load one year after beginning ART, compared to 85% in 2010.

In 2011, 88% of adults with a CD4 cell count <350 cells/mm³ were prescribed ART in line with clinical guidelines. This represents a year-by-year increase from 76% in 2007.

The final indicator, the proportion of individuals who have a CD4 cell count ≥350 cells/mm³ after at least one year in HIV care, is used to monitor immune system recovery. Eighty-three percent of adults in care for more than a year up to the end of 2011 (48,330/58,380), had a CD4 cell count ≥350 cells/mm³.

Quality of care standards need to be responsive to changes in treatment and care guidelines and require further development to capture outcomes in patients who change service providers or who are lost to follow up.

AIDS and death

The number of AIDS cases reported each year has remained relatively stable since 2005 (Figure 3). There were 460 AIDS diagnoses reported in 2011, the vast majority among people diagnosed late (Appendix 3).

Between 2009 and 2011 there were 1,790 reported AIDS diagnoses; the most commonly reported AIDS-defining illnesses were: *Pneumocystis jirovecii* pneumonia (previously known as *Pneumocystis carinii* pneumonia) (35%; 632), *Mycobacterium tuberculosis* (TB) (20%; 354), Kaposi's sarcoma (10%; 182) and oesophageal candidiasis (10%; 171).

In 2011, there were 500 deaths among people diagnosed with HIV infection (370 men and 130 women), (Figure 3) (Appendix 3). Nearly half (46 %; 230) died aged 50 years or older, compared to just over a third in 2010 (230/600).

Despite a decline in deaths since the introduction of ART, short-term mortality among people diagnosed late is high, with a ten-fold increase in death within the first year of diagnosis, compared with those diagnosed with a CD4 cell count above 350 cells/mm³ [15]. Furthermore, 43% (1,990/4,600) of deaths among HIV-diagnosed adults over the past decade were AIDS-related [16].

HIV and co-infection

Tuberculosis

The majority of heterosexuals newly diagnosed with HIV in the UK were born abroad, originating from areas with a high prevalence of both HIV and TB. A recent study linking the national HIV and TB databases showed a decline in the annual TB incidence among heterosexual adults living with HIV, from 30.2 per 1,000 in 2002 to 8.8 per 1,000 in 2010 [17]. Tuberculosis incidence rates in 2010 were highest among those diagnosed late and those not receiving ART and remain substantially higher than TB incidence rates among the general population (0.14 per 1,000 population). These data highlight the importance of the universal offer of an HIV test to all patients diagnosed with TB and screening for TB among people living with HIV [18].

Sexually transmitted infections

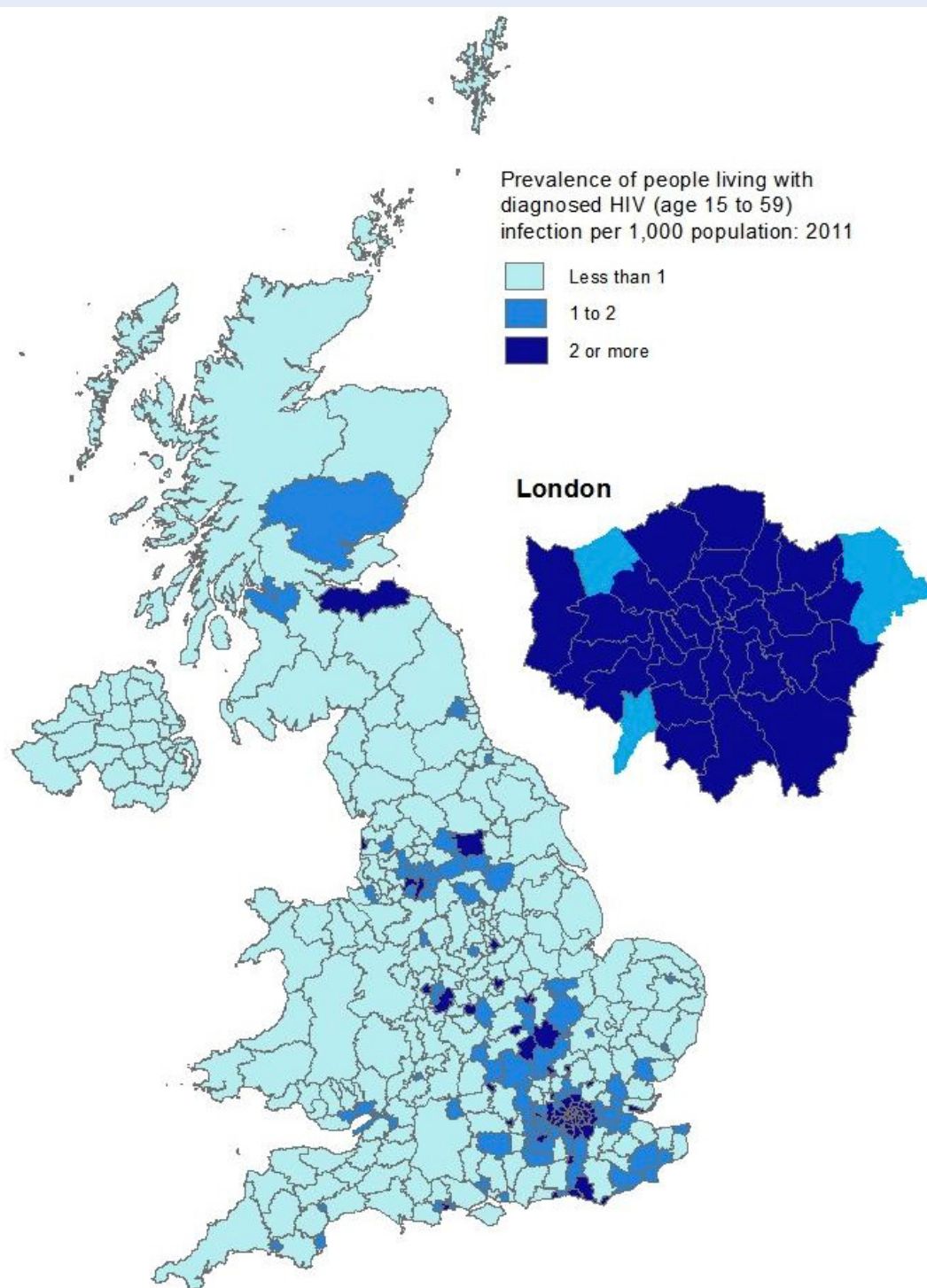
People co-infected with HIV and sexually transmitted infections (STIs) are more likely to transmit HIV during sex [19]. Data collated from STI clinics show that of the 5,290 people newly diagnosed with HIV in an STI clinic in England in 2011, one in eight (13%) were simultaneously diagnosed with an acute STI. One in four (21%) MSM diagnosed with HIV infection were simultaneously diagnosed with an acute STI compared to one in 25 heterosexual men (4%) and one in 30 women (3%).

Prevention and Control

HIV testing

In areas with a high prevalence of diagnosed HIV infection (>2 per 1,000 population aged 15-59 years) UK national guidelines recommend expanding HIV testing among people admitted to hospital and new registrants to general practice [20]. In 2011, 58 English local authorities had a diagnosed prevalence above 2 per 1,000, of which 30 were in London (Figure 9) (see Appendix 10 for full listing).

Figure 9: Prevalence of diagnosed HIV infection by region of residence among population aged 15-59 years: United Kingdom, 2011



A synthesis of testing pilot projects undertaken in hospital services and general practice across England demonstrated that the offer and recommendation of a routine HIV test was feasible and acceptable to both patients and staff [21]. An audit undertaken with 40 sexual health commissioners in high prevalence primary care trusts (PCTs) in June 2012 showed that 31% (11/35) had commissioned HIV testing for some new patient registrations in general practice, but only 14% (5/35) had commissioned routine HIV testing as part of general medical admissions to hospitals [22].

Surveys of populations most at-risk from HIV have shown an increase in the percentage of people who have tested for HIV since the early 2000s. Among MSM surveyed at community venues in 2008, 51% (640/1,240) reported having had an HIV test in the last year, an increase from 48% in 2006 (840/1,760) [23;24].

Antenatal screening

In 2011, 684,510 pregnant women were screened for HIV in England, comprising an uptake rate of 97%. Of all children born to diagnosed and undiagnosed HIV infected women in the UK between 2005 and 2011, an estimated 2% were HIV-infected. However, the HIV transmission rate to children born to women with diagnosed HIV infection was under 1% [25].

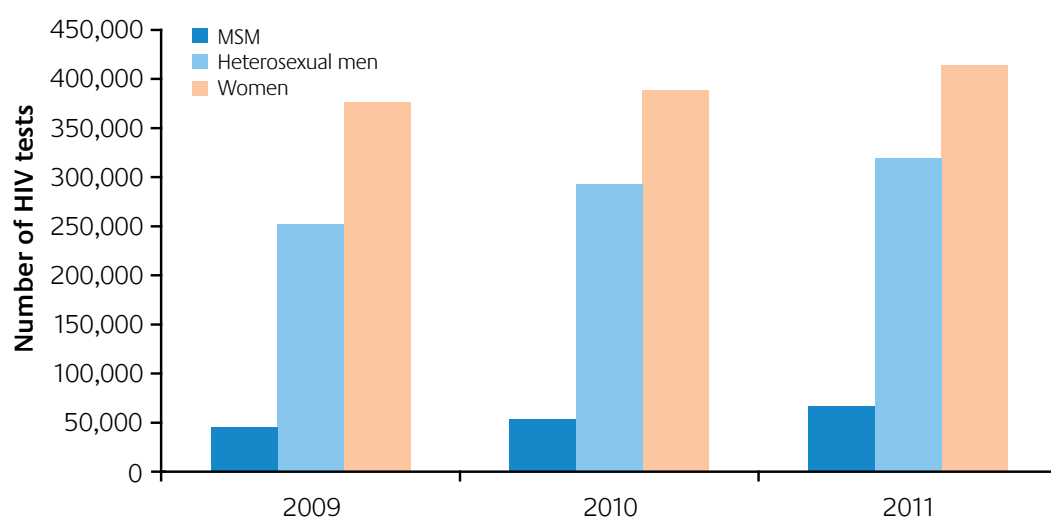
HIV screening in STI clinics

In 2011, 886,370 HIV tests were performed in STI clinics in England, a continuation of the increase in testing seen in recent years (Figure 10). Of those who attended an STI clinic in 2011, 70% (886,370/1,264,600) received an HIV test. Testing coverage was higher among MSM (84%; 66,950/80,170) than among heterosexual men (74%; 319,520/432,360) and women (66%; 413,070/622,580) (Appendix 11).

Almost two-thirds (63%; 1,160/1,840) of MSM newly diagnosed with HIV at an STI clinic had not attended that clinic for testing in the previous three years, which strongly suggests there is much room for improvement in the frequency of testing by those at highest risk.

Not all STI attendees are offered or accept an HIV test at every visit. Of the 1,548,000 new visits in 2011 among people not previously diagnosed with HIV, 77% included the offer of an HIV test. One in five people (20%) declined the offer of a test (Appendix 12). A higher proportion of men (80%) were offered tests than women (75%), and the highest testing uptake was seen in MSM (93%). However, there is scope for further improvement in HIV testing, as there is considerable variation in uptake from clinic to clinic.

Figure 10: HIV tests among STI clinic attendees: England, 2009-2011



A new unlinked-anonymous survey of undiagnosed HIV infection among STI clinic attendees is currently underway. This survey involves the collection of urine specimens and demographic data from men who declined an HIV test at their attendance and were not known to be positive. As of September 2012, a total of 872 samples from 762 heterosexuals, 85 MSM and 25 people with unknown sexual behaviour data had been received, tested and matched to demographic data. Of these, seven (0.80%) were antibody positive for HIV (5.9% for MSM and 0.13% for heterosexuals).

In order to measure non-disclosure of known HIV infections and increase the accuracy of undiagnosed prevalence estimates, positive samples will also be tested for evidence of ART. Complete data will be available in 2013.

HIV screening of blood donors

Since 1985, all blood donors are screened for HIV infection to prevent onward transmission of infection. There have been no reported cases of HIV acquisition through blood transfusion in the UK since 2002. In 2011, 23 donors tested positive for HIV infection at screening, representing 0.9 detected infections per 100,000 donations. The majority of infections were detected among men (15/23) and most likely infected through heterosexual transmission (15/19). The majority of infections were detected in repeat donors all of whom had probably acquired their HIV infection within the previous three years (13/23) [26].

Treatment as prevention

People living with diagnosed HIV in the UK can expect a near-normal life expectancy, particularly if they are diagnosed promptly [15]. This is a consequence of effective ART. The increasing numbers of people living with HIV means that the costs of providing HIV specialist treatment and care are substantial and rising.

As a consequence, continued investment in prevention should remain a priority not only to reduce transmission but also because of its potential for cost savings. The estimated annual cost for treatment and care is £858 million [27]. If the estimated 4,000 UK-acquired infections diagnosed in 2011 had been prevented, £1.9 billion in lifetime treatment and clinical care costs would have been saved.

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 (both diagnosed and undiagnosed) had a viral load over 1500 copies/ml and were consequently at significant risk of passing their HIV infection onwards [28]. 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.

There has also been increasing interest in the role of pre-exposure prophylaxis (PrEP) since the results of a trial which showed PrEP reduced the risk of sexually acquired HIV-1 infection [29]. Recently the US Food and Drug Administration’s Antiviral Drug Advisory Committee recommended the approval of the antiretroviral combination drug Truvada (tenofovir and emtricitabine) for prevention. This decision paves the way for formal licensing of ART to prevent HIV transmission in populations most-at-risk, such as MSM.

In the UK, a trial to investigate the public health effectiveness of PrEP in preventing HIV transmission among MSM is underway under the joint leadership of the Medical Research Council Clinical Trials Unit and the Health Protection Agency. The initial phase of the trial aims to recruit approximately 500 MSM

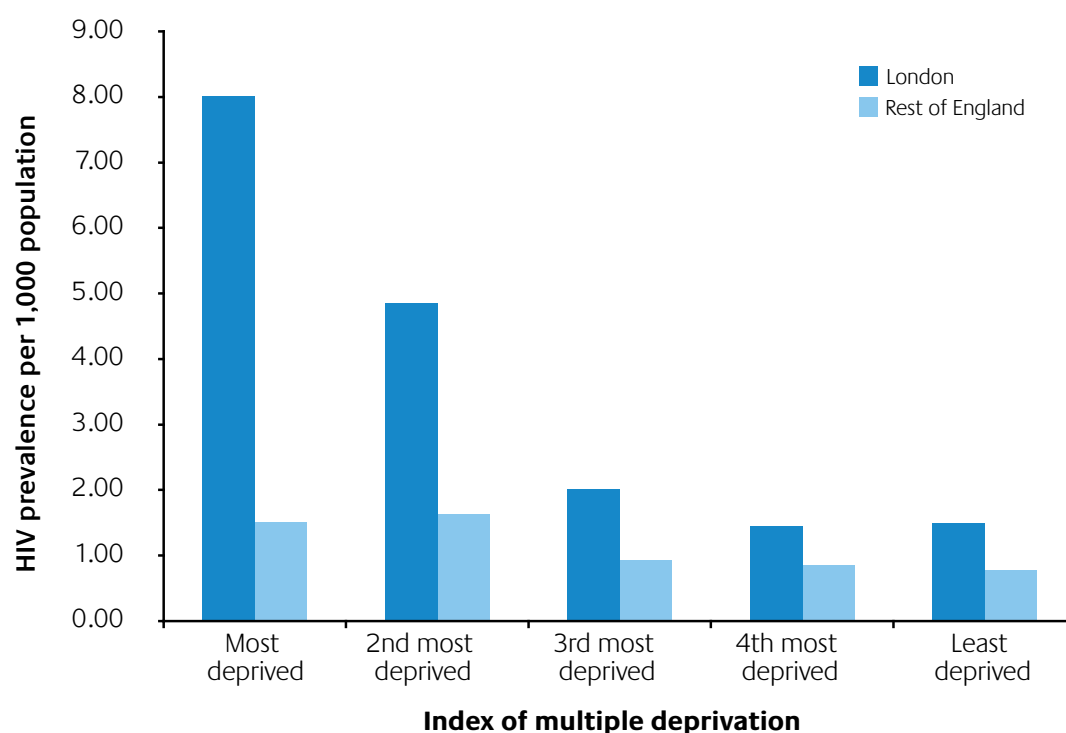
from 12 STI clinics in England. Information from this phase will inform the application for a full-scale trial and provide crucial evidence for any future decisions on the public health benefit of PrEP in the UK.

HIV and health inequality

HIV is an infection that disproportionately affects two key populations: black Africans, and MSM. In 2011, HIV prevalence was approximately 30 times higher for these groups than the general population in England. Factors such as acquiring infection abroad [4], HIV-related stigma and discrimination contribute to this disparity [30].

The most deprived areas in England also have the highest HIV prevalence; this is particularly evident in London where diagnosed HIV prevalence is as high as 8.0 per 1,000 in the most deprived areas and less than 1.5 per 1,000 in the least deprived areas (Figure 11). Living with HIV can be associated with an individual's ability to work, financial difficulties [31] and social challenges such as residential status [32]. The wider social determinants of health should be addressed in order to reduce these inequalities and furthermore, reduce transmission among these populations [33].

Figure 11: Prevalence of diagnosed HIV infection among adults aged 15-59 years by residential deprivation: England, 2011



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Collaborators and useful links

We gratefully acknowledge the continuing collaboration of clinicians, microbiologists, virologists, immunologists, public health practitioners, and other colleagues who contribute to the surveillance of HIV in the UK.

Collaborator links

HPA HIV home page: www.hpa.org.uk/hiv

Local level HIV and STI data: Sexual Health Profiles www.hpa.org.uk/sexualhealthprofiles

Virus Reference Department: www.hpa.org.uk/cfi/vrd/default.htm

Sexually Transmitted Bacteria Reference Laboratory: www.hpa.org.uk/cfi/stbrl/default.htm

National Study of HIV in Pregnancy and Childhood, University College London Institute of Child Health: www.ucl.ac.uk/nshpc

Health Protection Scotland: www.hps.scot.nhs.uk/

Department of Health, Social Services and Public Safety (DHSS&PS) Northern Ireland

An Roinn Sláinte, Seirbhísí Sóisialta agus Sábháilteachta Poiblí

www.dhsspsni.gov.uk/

Public Health Wales: www.nphs.wales.nhs.uk/

Other useful links

HIV and AIDS Reporting System (HARS) dataset

www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/HIV/HIVandAIDSReportingSystem

BHIVA Guidelines for HIV testing: www.bhiva.org/HIVTesting2008.aspx

BHIVA Guidelines for the treatment of HIV-1-positive adults with antiretroviral therapy 2012: www.bhiva.org/TreatmentofHIV1_2012.aspx

BHIVA Guidelines for management of HIV infection in pregnant women:

www.bhiva.org/PregnantWomen2008.aspx

BHIVA Standards of care for people living with HIV in 2012:

www.bhiva.org/standards-of-care-2012.asp

Appendices

Appendix 1: Estimated number¹ of people living with HIV (both diagnosed and undiagnosed): United Kingdom, 2011

Exposure group		Number diagnosed	Number undiagnosed	Total	% Undiagnosed
Men who have sex with men		31,900 (31,300-32,700) ²	8,100 (4,100-13,700)	40,100 (36,000-45,700)	20% (11-30%)
People who inject drugs		1,900 (1,700-2,100)	400 (200-700)	2,300 (2,000-2,600)	17% (10-26%)
Heterosexuals		37,600 (36,700-38,500)	13,900 (11,300-17,300)	51,500 (48,700-54,800)	27% (23-32%)
	Men	14,400 (14,000-14,700)	6,300 (4,700-8,600)	20,600 (19,000-22,900)	30% (25-37%)
	<i>African born</i>	7,600 (7,400-7,800)	2,900 (2,000-4,100)	10,500 (9,600-11,700)	27% (21-35%)
	<i>Non-African born</i>	6,800 (6,600-7,000)	3,300 (2,000-5,500)	10,100 (8,800-12,200)	33% (23-45%)
	Women	23,200 (22,600-23,900)	7,600 (6,200-9,200)	30,800 (29,300-32,500)	25% (21-29%)
	<i>African born</i>	15,900 (15,500-16,400)	4,300 (3,200-5,700)	20,300 (19,100-21,700)	21% (17-26%)
	<i>Non-African born</i>	7,200 (7,000-7,500)	3,300 (2,300-4,500)	10,500 (9,500-11,800)	31% (24-38%)
Total³		73,400 (71,900-75,000)	22,600 (17,600-29,000)	96,000 (90,800-102,500)	24% (19-28%)

¹ National estimates of the number of individuals living with HIV in the UK are obtained from a complex statistical model fitted to an ensemble of surveillance and survey-type prevalence is available (1).

² Lower bound, upper bound

³ Numbers may not add to total due to rounding and exclusion of data relating to HIV acquired through mother to child transmission and blood contact.

Appendix 2: Adjusted number of HIV diagnoses by year of diagnosis, probable exposure group, and percentage of infections acquired in the United Kingdom, 2002-2011

Probable exposure category ¹		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Sex between men	Adjusted	2,000	2,190	2,480	2,680	2,650	2,890	2,790	2,820	2,880	3,010
	Observed	1,974	2,152	2,445	2,644	2,604	2,818	2,651	2,636	2,694	2,771
	% UK-acquired ²	81%	81%	83%	80%	82%	79%	79%	79%	80%	79%
Heterosexual contact	Adjusted	4,090	4,850	4,960	4,870	4,440	4,130	4,140	3,500	3,180	2,990
	Observed	4,042	4,774	4,887	4,804	4,353	4,026	3,928	3,276	2,973	2,753
	% UK-acquired ²	27%	28%	31%	36%	36%	40%	44%	46%	51%	52%
Injecting drug use	Adjusted	140	170	160	190	200	180	190	160	150	140
	Observed	133	167	156	185	195	177	179	148	144	132
	% UK-acquired ²	64%	75%	62%	70%	64%	64%	70%	68%	54%	52%
Other exposure categories	Adjusted	170	210	200	170	180	170	140	160	140	140
	Observed	169	203	193	168	180	161	133	153	135	124
	% UK-acquired ²	41%	42%	50%	54%	47%	47%	53%	42%	50%	38%
Not Reported	Observed	77	113	111	113	138	183	363	429	418	500
Total		6,395	7,409	7,792	7,914	7,470	7,365	7,254	6,642	6,364	6,280

¹ Data are adjusted for exposure group not reported.

² Based on probable country of infection among those UK-born and estimates of CD4 decline in those born abroad.

Note: Appendices show actual numbers. Numbers presented in text are rounded.

Appendix 3: Annual new HIV and AIDS diagnoses and deaths by year of diagnosis or death: United Kingdom, 1982-2011

Report type and sex	1996 or earlier	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Cumulative total ^{1,2,3}	
HIV diagnoses	Men	28,021	2,180	2,152	2,262	2,553	3,172	3,679	4,118	4,504	4,671	4,496	4,705	4,607	4,449	4,338	4,471	84,378
	Women	4,976	705	789	1,032	1,449	2,013	2,716	3,291	3,288	3,243	2,974	2,660	2,647	2,193	2,026	1,809	37,811
Total ¹		33,031	2,886	2,942	3,296	4,002	5,186	6,395	7,409	7,792	7,914	7,470	7,365	7,254	6,642	6,364	6,280	122,228
First AIDS diagnoses	Men	13,240	878	619	586	626	531	636	584	592	609	525	548	506	447	450	321	21,698
	Women	1,592	225	202	204	262	262	359	451	417	355	353	285	313	205	229	136	5,850
Total		14,832	1,103	821	790	888	793	995	1,035	1,009	964	878	833	819	652	679	457	27,548
Deaths ²	Men	10,988	600	416	391	386	359	417	402	340	443	417	425	454	418	444	375	17,275
	Women	1,136	150	97	79	98	119	106	164	149	148	150	172	152	163	168	129	3,180
Total ³		12,126	751	513	470	484	478	523	566	489	591	567	597	606	581	612	504	20,458

Will include some records for the same individuals which are unmatchable because of differences in the information supplied.

Numbers will rise as further reports are received, particularly for recent years.

¹ Includes 39 HIV diagnoses of individuals with sex not reported (the majority of which are in earlier years).

² Includes all reported deaths (all cause) in HIV diagnosed individuals.

³ Includes 3 death reports of individuals with sex not reported.

Note: Appendices show actual numbers. Numbers presented in text are rounded.

Appendix 4: New HIV diagnoses by country and Strategic Health Authority of diagnosis: United Kingdom, 1980-2011

Country and SHA of diagnosis		1996 or earlier	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Total
ENGLAND	North East	461	38	23	34	40	52	96	148	142	156	135	151	126	129	147	127	2,005
	Yorkshire and The Humber	1,044	87	91	102	111	204	332	446	483	514	431	452	452	386	379	368	5,882
	East Midlands	647	48	62	89	99	205	269	342	378	409	389	352	351	309	284	304	4,537
	East of England	837	77	100	111	195	331	504	551	607	529	526	501	437	401	430	338	6,475
	London	19,825	1,799	1,795	2,037	2,367	2,801	3,013	3,259	3,279	3,254	3,098	3,023	3,028	2,833	2,740	2,637	60,788
	South Central	1,093	74	78	101	153	263	373	450	394	440	411	419	409	325	309	295	5,587
	South East Coast	1,605	150	135	139	236	242	353	419	476	473	399	431	437	359	369	371	6,594
	South West	1,125	102	123	127	129	162	214	260	298	340	315	296	299	306	244	303	4,643
	West Midlands	1,025	115	121	117	188	227	448	518	532	529	566	517	492	472	445	440	6,752
	North West	1,932	160	194	218	252	424	448	572	666	729	675	615	648	589	498	534	9,154
ENGLAND (Total)		29,594	2,650	2,722	3,075	3,770	4,911	6,050	6,965	7,255	7,373	6,945	6,757	6,679	6,109	5,845	5,717	112,417
Wales		491	44	34	33	46	66	81	110	107	112	158	176	146	141	151	169	2,065
Northern Ireland		162	11	9	18	19	20	26	38	64	61	57	61	93	69	80	82	870
Scotland		2,719	173	169	169	166	177	227	286	362	363	299	364	331	316	284	302	6,707
Channel Islands and Isle of Man		44	8	7	0	1	5	8	4	4	4	8	7	5	4	4	8	121
UK Total¹		33,031	2,886	2,942	3,296	4,002	5,186	6,395	7,409	7,792	7,914	7,470	7,365	7,254	6,642	6,364	6,280	122,228

Will include some records for the same individuals which are unmatchable because of differences in the information supplied.
Numbers will rise as further reports are received, particularly for recent years.

¹ Includes 51 cases where region is not known.

Appendix 5: Number and proportion of recently acquired infections at diagnosis “ascertained through the Recent Infection Testing Algorithm programme” by exposure and age group: England, Wales and Northern Ireland, 2011¹

		15-24 years	25-34 years	35-49 years	50+ years	Total
MSM	Recent infections	71	153	108	19	351
	# RITA tested	215	589	574	126	1504
	%	33%	26%	19%	15%	23%
	95% CI	26.7-39.7	22.4-29.7	15.7-22.3	9.3-22.5	21.2-25.6
Heterosexual men	Recent infections	3	15	16	11	45
	# RITA tested	22	119	277	135	553
	%	14%	13%	6%	8%	8%
	95% CI	2.9-34.9	7.2-19.9	3.3-9.2	4.1-14.1	6.0-10.7
Heterosexual women	Recent infections	16	19	19	8	62
	# RITA tested	76	284	309	97	766
	%	21%	7%	6%	8%	8%
	95% CI	12.5-31.9	4.1-10.3	3.7-9.4	3.6-15.6	6.3-10.3
All Heterosexuals	Recent infections	19	34	35	19	107
	# RITA tested	98	403	586	232	1319
	%	19%	8%	6%	8%	8%
	95% CI	12.1-28.6	5.9-11.6	4.2 - 8.2	5.0-12.5	6.7-9.7
Total	Recent infections	95	200	156	38	489
	# RITA tested	345	1070	1258	396	3069
	%	28%	19%	12%	10%	16%
	95% CI	22.9-32.6	16.4-21.2	10.6-14.3	6.9-12.9	14.6-17.3

¹ Overall, 51% of new HIV diagnoses had a test for recent infection and this was similar across exposure groups
 Note: Appendices show actual numbers. Numbers presented in text are rounded.

Appendix 6: Number of people living with diagnosed HIV infection by age group: United Kingdom, 2002-2011

Gender ¹	Age group ¹	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Males	<15	338	375	424	482	459	470	472	442	405	375
	15-24	606	680	743	889	1,043	1,102	1,162	1,204	1,313	1,414
	25-34	5,638	5,996	6,324	6,559	6,831	7,111	7,378	7,548	7,704	7,940
	35-49	12,023	13,752	15,680	17,597	19,501	21,240	22,776	24,217	25,212	26,279
	>50	3,147	3,708	4,422	5,152	5,981	7,076	8,288	9,653	11,343	13,075
	Total	21,752	24,511	27,593	30,679	33,815	36,999	40,076	43,064	45,977	49,083
Females	<15	348	392	424	473	482	503	499	454	449	434
	15-24	724	913	1,077	1,205	1,233	1,198	1,195	1,140	1,127	1,035
	25-34	3,750	4,647	5,301	5,903	6,342	6,437	6,507	6,331	6,013	5,793
	35-49	3,760	4,854	5,926	7,204	8,332	9,488	10,783	11,839	12,868	13,840
	>50	497	655	863	1,092	1,342	1,600	1,988	2,397	2,914	3,474
	Total	9,079	11,461	13,591	15,877	17,731	19,226	20,972	22,161	23,371	24,576
	Total	30,834	35,972	41,184	46,556	51,546	56,225	61,048	65,225	69,348	73,659

Note: Numbers doesn't include individuals where sex was not reported.

Appendix 7: Proportion of people living with diagnosed HIV infection receiving antiretroviral therapy by CD4 count: United Kingdom, 2002-2011

		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Proportion receiving antiretroviral therapy		71%	68%	69%	69%	71%	71%	76%	78%	82%	84%
Adjusted ¹	n	21,767	24,556	28,246	32,030	36,686	40,058	46,140	50,783	56,610	61,511
	N	30,849	35,974	41,184	46,556	51,547	56,225	61,048	65,225	69,348	73,659
Observed ²	n	20,577	24,090	27,803	31,606	35,566	39,575	45,837	50,224	56,008	61,275
	N	29,162	35,291	40,538	45,940	49,973	55,547	60,647	64,507	68,610	73,376
Proportion with CD4 <350 receiving antiretroviral therapy		77%	75%	75%	74%	75%	76%	81%	83%	87%	88%
<i>Adjusted¹</i>	n	9,020	9,640	11,474	12,452	12,683	12,567	13,346	12,572	12,467	13,392
	N	11,697	12,901	15,364	16,767	16,993	16,574	16,423	15,127	14,375	15,237
<i>Observed²</i>	n	8,623	9,526	11,305	12,344	12,413	12,518	13,250	12,524	12,412	13,341
	N	11,176	12,751	15,144	16,623	16,624	16,511	16,305	15,069	14,311	15,179

¹ Adjusted for missing treatment information.² People living with a diagnosed HIV infection are matched to the CD4 surveillance scheme. In 2011, 82% had a CD4 count available.

Note: Appendices show actual numbers. Numbers presented in text are rounded.

Appendix 8: Late diagnosis (CD4<350/mm³ within three months of diagnosis) by upper-tier local authority: England, 2009-2011

	Upper-tier Local Authority	% Diagnosed Late	95% CI
East Midlands	Derby	53.3%	41.4 - 64.9
	Derbyshire	59.4%	46.4 - 71.5
	Leicester	63.3%	54.3 - 71.6
	Leicestershire	50.7%	38.2 - 63.2
	Lincolnshire	33.3%	20.0 - 49.0
	North Lincolnshire	66.7%	22.3 - 95.7
	Northamptonshire	64.8%	56.8 - 72.2
	Nottingham	67.2%	58.3 - 75.2
	Nottinghamshire	63.0%	50.9 - 74.0
	Rutland	0.0%	N/A
East of England	Bedford	66.7%	49.8 - 80.9
	Cambridgeshire	45.1%	34.1 - 56.5
	Central Bedfordshire	57.1%	39.4 - 73.7
	Essex	55.6%	48.7 - 62.3
	Hertfordshire	55.5%	48.6 - 62.2
	Luton	59.3%	49.9 - 68.3
	Norfolk	43.0%	32.4 - 54.2
	Peterborough	47.1%	29.8 - 64.9
	Southend-on-Sea	58.7%	45.6 - 71.0
	Suffolk	46.5%	34.5 - 58.7
	Thurrock	53.8%	39.5 - 67.8
London	Barking and Dagenham	58.3%	49.6 - 66.6
	Barnet	53.6%	45.0 - 62.0
	Bexley	59.0%	47.7 - 69.7
	Brent	50.4%	43.7 - 57.1
	Bromley	40.5%	29.9 - 51.7
	Camden	40.9%	34.6 - 47.5
	City of London	31.8%	13.9 - 54.9
	Croydon	44.1%	37.9 - 50.4
	Ealing	53.4%	45.4 - 61.3
	Enfield	54.4%	45.3 - 63.3
	Greenwich	54.4%	48.0 - 60.7
	Hackney	44.5%	38.8 - 50.2
	Hammersmith and Fulham	37.7%	30.5 - 45.3
	Haringey	48.4%	41.8 - 55.2
	Harrow	51.2%	40.0 - 62.3
	Havering	55.8%	39.9 - 70.9
	Hillingdon	56.5%	46.6 - 66.0
	Hounslow	56.4%	46.9 - 65.6
	Islington	34.2%	28.0 - 40.9
	Kensington and Chelsea	39.0%	31.9 - 46.5
	Kingston upon Thames	47.4%	34.0 - 61.0
	Lambeth	37.6%	34.0 - 41.4
	Lewisham	51.4%	45.8 - 56.9

continued

continued

	Upper-tier Local Authority	% Diagnosed Late	95% CI
London continued	Merton	46.4%	37.0 - 56.1
	Newham	59.6%	53.7 - 65.4
	Redbridge	62.2%	51.4 - 72.2
	Richmond upon Thames	38.5%	25.3 - 53.0
	Southwark	45.2%	41.2 - 49.3
	Sutton	49.0%	34.8 - 63.4
	Tower Hamlets	32.6%	27.3 - 38.4
	Waltham Forest	51.6%	43.5 - 59.7
	Wandsworth	43.5%	36.7 - 50.6
	Westminster	34.2%	28.9 - 39.9
North East	County Durham	48.0%	33.7 - 62.6
	Darlington	37.5%	15.2 - 64.6
	Gateshead	58.1%	39.1 - 75.5
	Hartlepool	55.6%	21.2 - 86.3
	Middlesbrough	33.3%	14.6 - 57.0
	Newcastle upon Tyne	48.6%	36.9 - 60.6
	North Tyneside	62.5%	40.6 - 81.2
	Northumberland	44.4%	13.7 - 78.8
	Redcar and Cleveland	0.0%	N/A
	South Tyneside	55.6%	21.2 - 86.3
	Stockton-on-Tees	40.0%	21.1 - 61.3
	Sunderland	52.8%	35.5 - 69.6
North West	Blackburn with Darwen	52.0%	31.3 - 72.2
	Blackpool	29.4%	17.5 - 43.8
	Bolton	54.0%	39.3 - 68.2
	Bury	65.7%	47.8 - 80.9
	Cheshire East	51.4%	34.4 - 68.1
	Cheshire West and Chester	73.9%	51.6 - 89.8
	Cumbria	50.0%	31.9 - 68.1
	Halton	56.3%	29.9 - 80.2
	Knowsley	66.7%	38.4 - 88.2
	Lancashire	48.6%	38.7 - 58.5
	Liverpool	64.1%	54.0 - 73.3
	Manchester	52.8%	47.0 - 58.4
	Oldham	61.5%	40.6 - 79.8
	Rochdale	67.7%	48.6 - 83.3
	Salford	50.9%	41.4 - 60.3
	Sefton	54.8%	38.7 - 70.2
	St. Helens	47.4%	24.4 - 71.1
	Stockport	44.7%	28.6 - 61.7
	Tameside	63.9%	46.2 - 79.2
	Trafford	36.7%	23.4 - 51.7
	Warrington	46.7%	21.3 - 73.4
	Wigan	55.8%	39.9 - 70.9
	Wirral	61.3%	42.2 - 78.2

continued

continued

	Upper-tier Local Authority	% Diagnosed Late	95% CI
South Central	Bracknell Forest	50.0%	29.1 - 70.9
	Buckinghamshire	47.9%	36.1 - 60.0
	Hampshire	55.9%	47.4 - 64.1
	Isle of Wight	16.7%	0.42 - 64.1
	Milton Keynes	66.7%	55.3 - 76.8
	Oxfordshire	43.3%	33.3 - 53.7
	Portsmouth	54.7%	40.4 - 68.4
	Reading	50.0%	38.0 - 62.0
	Slough	56.2%	44.1 - 67.8
	Southampton	50.0%	36.3 - 63.7
	West Berkshire	45.5%	24.4 - 67.8
	Windsor and Maidenhead	61.9%	38.4 - 81.9
	Wokingham	75.0%	55.1 - 89.3
South East Coast	Brighton and Hove	33.7%	28.0 - 39.8
	East Sussex	50.0%	37.8 - 62.2
	Kent	49.2%	42.0 - 56.5
	Medway	42.9%	29.7 - 56.8
	Surrey	53.7%	47.0 - 60.4
	West Sussex	53.6%	45.7 - 61.4
South West	Bath and North East Somerset	50.0%	29.9 - 70.1
	Bournemouth	30.0%	20.3 - 41.3
	Bristol, City of	52.6%	43.1 - 61.9
	Cornwall	65.8%	48.6 - 80.4
	Devon	44.6%	31.3 - 58.5
	Dorset	57.1%	39.4 - 73.7
	Gloucestershire	52.8%	40.7 - 64.7
	North Somerset	60.0%	36.1 - 80.9
	Plymouth	44.2%	30.5 - 58.7
	Poole	48.7%	32.4 - 65.2
	Somerset	56.3%	37.7 - 73.6
	South Gloucestershire	46.7%	21.3 - 73.4
	Swindon	55.6%	38.1 - 72.1
	Torbay	69.2%	38.6 - 90.9
	Wiltshire	42.6%	28.3 - 57.8
West Midlands	Birmingham	50.0%	44.9 - 55.1
	Coventry	61.5%	52.2 - 70.1
	Dudley	36.7%	19.9 - 56.1
	Herefordshire, County of	59.1%	36.4 - 79.3
	Sandwell	62.9%	52.0 - 72.9
	Shropshire	47.1%	23.0 - 72.2
	Solihull	36.4%	17.2 - 59.3
	Staffordshire	64.6%	53.3 - 74.9
	Stoke-on-Trent	65.9%	49.4 - 79.9
	Telford and Wrekin	37.5%	15.2 - 64.6
	Walsall	58.9%	45.0 - 71.9
	Warwickshire	50.0%	35.5 - 64.5
	Wolverhampton	54.8%	42.7 - 66.5
	Worcestershire	37.0%	23.2 - 52.5

continued

continued

	Upper-tier Local Authority	% Diagnosed Late	95% CI
Yorkshire and The Humber	Barnsley	70.4%	49.8 - 86.2
	Bradford	53.4%	42.5 - 64.1
	Calderdale	64.9%	47.5 - 79.8
	Doncaster	54.5%	40.6 - 68.0
	East Riding of Yorkshire	58.3%	27.7 - 84.8
	Kingston upon Hull, City of	58.1%	39.1 - 75.5
	Kirklees	50.0%	38.3 - 61.7
	Leeds	51.1%	44.5 - 57.6
	North East Lincolnshire	50.0%	1.26 - 98.7
	North Yorkshire	45.5%	30.4 - 61.2
	Rotherham	58.6%	38.9 - 76.5
	Sheffield	48.2%	39.7 - 56.8
	Wakefield	62.9%	49.7 - 74.8
	York	47.6%	25.7 - 70.2

Appendix 9: Proportion of newly HIV diagnosed people diagnosed late (CD4<350/mm³ within three months of diagnosis) by exposure group: United Kingdom, 2002 - 2011

Exposure group		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
MSM	%<350	48%	42%	43%	42%	42%	39%	42%	40%	39%	35%
	Adjusted <350 ¹	960 / 2,000	920 / 2,190	1,066 / 2,480	1,126 / 2,680	1,113 / 2,650	1,127 / 2,890	1,172 / 2,790	1,128 / 2,820	1,123 / 2,880	1,054 / 3,010
	Observed <350 ²	727 / 1,508	730 / 1,740	857 / 1,981	930 / 2,196	862 / 2,069	949 / 2,414	953 / 2,251	938 / 2,357	940 / 2,433	862 / 2,464
Heterosexual men	%<350	71%	70%	68%	70%	67%	67%	66%	67%	63%	64%
	Adjusted <350 ¹	1,065 / 1,500	1,197 / 1,710	1,238 / 1,820	1,232 / 1,760	1,085 / 1,620	1,085 / 1,620	1,043 / 1,580	951 / 1,420	825 / 1,310	838 / 1,310
	Observed <350 ²	769 / 1,081	886 / 1,263	952 / 1,392	964 / 1,370	833 / 1,246	809 / 1,204	795 / 1,197	745 / 1,110	674 / 1,068	641 / 995
Heterosexual women	%<350	63%	63%	62%	62%	64%	60%	61%	60%	58%	56%
	Adjusted <350 ¹	1,632 / 2,590	1,978 / 3,140	1,947 / 3,140	1,928 / 3,110	1,805 / 2,820	1,506 / 2,510	1,562 / 2,560	1,248 / 2,080	1,085 / 1,870	941 / 1,680
	Observed <350 ²	1,165 / 1,854	1,512 / 2,390	1,527 / 2,469	1,512 / 2,451	1,374 / 2,132	1,107 / 1,854	1,184 / 1,938	1,002 / 1,676	881 / 1,523	699 / 1,255
People who inject drugs	%<350	52%	53%	61%	56%	51%	59%	48%	51%	49%	52%
	Adjusted <350 ¹	73 / 140	90 / 170	98 / 160	106 / 190	102 / 200	106 / 180	91 / 190	82 / 160	74 / 150	73 / 140
	Observed <350 ²	45 / 86	59 / 112	66 / 108	68 / 122	72 / 142	72 / 122	64 / 134	58 / 114	59 / 120	48 / 93
Overall	%<350	60%	58%	57%	57%	56%	53%	54%	52%	50%	47%
	Adjusted <350 ¹	3,837 / 6,395	4,297 / 7,409	4,441 / 7,792	4,511 / 7,914	4,183 / 7,470	3,903 / 7,365	3,917 / 7,254	3,454 / 6,642	3,182 / 6,364	2,952 / 6,280
	Observed <350 ²	2,733 / 4,572	3,230 / 5,567	3,437 / 5,999	3,522 / 6,208	3,197 / 5,677	3,013 / 5,700	3,135 / 5,767	2,884 / 5,541	2,666 / 5,344	2,391 / 5,069

¹ Adjusted for missing exposure information and missing CD4 counts.

² New diagnoses are matched to the CD4 surveillance scheme and 82% had a CD4 count available within 14 days prior to and 91 days after diagnosis date.

Note: Appendices show actual numbers. Numbers presented in text are rounded.

Appendix 10: Local authorities where prevalence of diagnosed HIV infection is greater than 2 per 1,000 population (aged 15-59 years): England, 2011

Local Authority	Number living with diagnosed HIV infection	Estimated resident population ¹	Diagnosed HIV prevalence per 1,000 population
London			
Lambeth	3,049	220.2	13.85
Southwark	2,422	206.7	11.72
City of London	57	5.3	10.75
Kensington and Chelsea	950	107.6	8.83
Westminster	1,345	154.6	8.70
Camden	1,296	153.1	8.47
Islington	1,266	149.9	8.45
Lewisham	1,448	186.7	7.76
Hackney	1,291	174.0	7.42
Hammersmith and Fulham	967	131.1	7.38
Haringey	1,136	174.8	6.50
Newham	1,336	215.0	6.21
Tower Hamlets	1,112	186.8	5.95
Greenwich	928	166.5	5.57
Barking and Dagenham	629	114.9	5.47
Croydon	1,094	228.7	4.78
Wandsworth	1,055	221.1	4.77
Waltham Forest	764	171.9	4.44
Enfield	776	195.2	3.98
Merton	504	131.6	3.83
Brent	793	207.7	3.82
Hounslow	577	168.3	3.43
Ealing	719	223.4	3.22
Barnet	633	222.7	2.84
Redbridge	481	175.5	2.74
Hillingdon	439	173.3	2.53
Bexley	325	138.3	2.35
Bromley	428	182.8	2.34
Sutton	270	117.8	2.29
Richmond upon Thames	261	116.8	2.23

continued

Local Authority	Number living with diagnosed HIV infection	Estimated resident population	Diagnosed HIV prevalence per 1,000 population
Outside London			
Brighton and Hove	1,387	182.7	7.59
Manchester	1,889	344.7	5.48
Salford	635	146.5	4.33
Luton	534	127.1	4.20
Blackpool	297	81.7	3.64
Slough	313	90.6	3.45
Leicester	706	212.7	3.32
Reading	295	102.5	2.88
Coventry	558	196.2	2.84
Watford	162	57.8	2.80
Northampton	368	131.6	2.80
Bournemouth	319	114.1	2.80
Southend-on-Sea	281	101.7	2.76
Crawley	185	67.5	2.74
Nottingham	533	203.2	2.62
Harlow	127	49.9	2.55
Milton Keynes	385	156.2	2.46
Lewes	126	52.2	2.41
Wolverhampton	347	149.6	2.32
Birmingham	1,515	658.9	2.30
Oxford	228	103.9	2.19
Worthing	129	59.0	2.19
Leeds	1,008	471.5	2.14
Stevenage	109	52.1	2.09
Woking	126	60.3	2.09
Corby	78	37.8	2.06
Bedford	193	94.2	2.05
Eastbourne	111	54.8	2.03

¹ Office for National Statistics

Appendix 11: HIV testing coverage among STI clinics attendees not known to be HIV positive, by sexual orientation and ethnicity: England, 2011

Population		Number of people attending STI clinics	Number of people offered an HIV test	Number of people tested	HIV test coverage % (tested/attending)
MSM		80,166	71,259	66,946	84%
Heterosexual men	Black African	19,729	17,343	15,421	78%
	Black Caribbean	18,896	16,986	14,429	76%
	White	341,909	302,284	249,123	73%
	Other ethnicities	52,272	46,310	40,550	78%
Women	Black African	25,723	21,212	18,344	71%
	Black Caribbean	26,785	23,197	19,812	74%
	White	498,755	412,345	326,214	65%
	Other ethnicities	73,424	60,037	50,119	68%
Not Known ¹		126,938	100,608	85,409	67%
Total		1,264,597	1,071,581	886,367	70%

¹ Includes people where any of the following variables were not known: ethnicity, sexual orientation, gender, or area of residence

Note: Appendices show actual numbers. Numbers presented in text are rounded.

Appendix 12: HIV test uptake in STI clinics by gender, male sexual orientation, and age group: England, 2011

			HIV testing				
			New GUM episode ¹	Offered	Tested	Offered %	Uptake %
Gender	Age group						
Men (by sexual orientation)	Heterosexual	<15	473	314	190	66	61
		15-19	50,018	42,000	33,337	84	79
		20-24	150,334	126,487	103,220	84	82
		25-34	194,699	160,784	132,470	83	82
		35-44	79,090	62,018	50,619	78	82
		45+	60,745	43,930	35,741	72	81
		Total ²	535,409	435,567	355,601	81	82
	MSM	<15	48	32	28	67	88
		15-19	5,396	4,294	4,002	80	93
		20-24	19,400	15,892	14,959	82	94
		25-34	39,492	32,040	30,119	81	94
		35-44	24,295	18,597	17,026	77	92
		45+	19,545	13,927	12,574	71	90
		Total ²	108,204	84,802	78,725	78	93
	All	<15	636	391	247	61	63
		15-19	60,874	50,258	40,696	83	81
		20-24	184,900	154,201	128,454	83	83
		25-34	257,464	210,491	177,885	82	85
		35-44	115,456	88,326	74,176	77	84
		45+	90,621	63,295	52,820	70	83
		Total ²	710,366	567,199	474,426	80	84
Women	<15	4,438	2,637	1,676	59	64	
	15-19	154,590	114,124	80,363	74	70	
	20-24	260,366	204,689	159,829	79	78	
	25-34	258,074	198,104	158,462	77	80	
	35-44	100,052	71,515	55,941	71	78	
	45+	59,470	38,777	30,381	65	78	
	Total ²	837,572	630,137	486,824	75	77	
Total	<15	5,076	3,029	1,923	60	63	
	15-19	215,486	164,393	121,067	76	74	
	20-24	445,330	358,932	288,316	81	80	
	25-34	515,685	408,695	336,436	79	82	
	35-44	215,551	159,872	130,141	74	81	
	45+	150,125	102,095	83,221	68	82	
	Total ²	1,548,252	1,197,545	961,424	77	80	

¹ Defined as a visit to an STI clinic including all subsequent STI attendances during the following six weeks.

² Totals include where age is not known.

Note: Appendices show actual numbers. Numbers presented in text are rounded.

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November 2012

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HPA Gateway reference: HPA12-06

This publication is also available in large print