HIV in the United Kingdom

Valerie Delpech and Alison Brown on behalf of the HIV and AIDS Reporting Section
National Infection Service
Public Health England
Towards elimination of HIV transmission, AIDS and HIV-related deaths in the UK


Released 15 December 2017
ART is now so effective that those who are treated and have an undetectable viral load (<200 copies) have levels of virus that are untransmissible, even if having sex without condoms. This is sometimes referred to as U=U.
This year, there are 3 firsts in the 30 year history of the UK HIV epidemic..
In London, all the global UNAIDS 90:90:90 targets have been met with
90% of people living with HIV infection diagnosed, 
97% of people diagnosed receiving treatment and 
97% of those receiving treatment virally suppressed.
HIV transmission among gay and bisexual men has fallen

The observed decline in new diagnoses in gay and bisexual men is due to reduced transmission of HIV.

The estimated annual number of new infections acquired in gay and bisexual men has declined year on year from a peak of around 2,800 (95% credible interval (CrI) 2,300 to 3,200) in 2012 to 1,700 (CrI 900 to 2,700) in 2016.

Public Health England

- London
- North of England
- Wales
- Midlands and East of England
- South of England
- Scotland
- Northern Ireland

Year 2007 to 2016

Graph showing the number of new HIV diagnoses by geographical region, with London having the highest number and Northern Ireland having the lowest.

a) Clinic strata, England
- London - large fall clinic
- Other London clinics
- Outside London

b) Age group, London
- 15-24
- 25-34
- 35-49
- 50-64
- 65+

c) Ethnicity, London
- White
- Asian
- Other/Mixed
- Black

d) Country of birth, London
- UK
- Elsewhere in Europe
- Asia
- Latin America and the Caribbean
- Africa
Estimates of HIV incidence in gay and bisexual men: using CD4 back-calculation, England
Trend in new MSM HIV diagnoses at STI clinics London & Outside London

![Graph showing the trend in new MSM HIV diagnoses at STI clinics in London and Outside London from 2012 to 2017*. The graph indicates a peak in diagnoses around 2014, with slight fluctuations in subsequent years, leading to a decrease by 2017*.](image-url)
HIV prevalence (diagnosed and undiagnosed)
Estimated number of people living with HIV (diagnosed and undiagnosed) all ages: England, 2016

Total living with HIV = 89,400 (87,200 - 94,700)
Total diagnosed = 78,900 (78,400 - 79,500)
Total undiagnosed = 10,400 (8,400 - 15,700)
Estimated number of people living with undiagnosed HIV infection by exposure and age group: England, 2015-2016

- **Gay and bisexual men**
  - >35 years: 2200 (41%)
  - 15-34 years: 3600 (59%)

- **Heterosexual men**
  - >35 years: 1400 (26%)
  - 15-34 years: 2700 (74%)

- **Heterosexual women**
  - >35 years: 2000 (45%)
  - 15-34 years: 2500 (55%)
The death rate among people with HIV who are diagnosed promptly and on treatment is now comparable to the rest of the population.

Crude rates:
1.22 vs 1.39 per 1,000 population aged 15-59 yrs

However, people diagnosed late remain at high risk of death:
26.1 per 1,000 population aged 15 to 59 years in the first year of diagnosis.
One-year mortality (per 1,000) among adults newly diagnosed with HIV in 2015 by CD4 count at diagnosis:
United Kingdom, 2015
Decline in new HIV diagnoses in heterosexual men and women
There has been a continued decline in new HIV diagnoses among black African heterosexual men and women (4,060 in 2007 to 2,110 in 20163).

This decline is due to changing patterns of migration, with fewer people from high HIV prevalence countries coming to the UK. However, among white heterosexual women and men new HIV diagnoses have remained relatively stable but low at around 750 per year over the past decade.
New HIV diagnoses among heterosexuals by ethnicity: United Kingdom, 2007-2016

Values are adjusted for missing ethnicity
Number of new HIV diagnoses among heterosexual men and women, by region of diagnosis: UK, 2007-2016
Estimated number of new diagnoses probably acquired in the UK among heterosexual men and women, by country of birth: UK, 2007-2016

a) UK acquired
Estimated number of new diagnoses probably acquired abroad among heterosexual men and women, by country of birth: UK, 2007-2016
Challenges:
reducing late diagnosis
frequent testing
Adjusted number of people diagnosed late by exposure group: UK, 2007-2016

Adjusted for missing CD4 count at diagnosis.
HIV Testing Eligibility Cascade in gay & bisexual men of high risk (N= 14,650) attending services in London, 2015-16

*High-risk activity = bacterial STI diagnosis (excluding pharyngeal-only infections) in a HIV negative*
Number of HIV tests among gay & bisexual men of high risk in 2015 seen at the same STI clinic in 2016, London (n=7,117)

Recommendation: Men at high risk of HIV acquisition should be offered a test every 3 months.
Beyond viral suppression

Monitoring Health and Wellbeing

Quality of life and health inequalities
Quality of Life – EQ-5D-5L

“Below are some statements about your daily life and activities. Please tick the box that best describes how you feel TODAY.”

<table>
<thead>
<tr>
<th>Category</th>
<th>None</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Severely</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility (walking)</td>
<td>74%</td>
<td></td>
<td></td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>Self-care (washing and dressing)</td>
<td>87%</td>
<td></td>
<td></td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Usual Activities (e.g. work, study, housework, family or leisure activities)</td>
<td>72%</td>
<td></td>
<td></td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Pain and Discomfort</td>
<td>54%</td>
<td>24%</td>
<td></td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>Anxiety and Depression</td>
<td>51%</td>
<td>24%</td>
<td></td>
<td>16%</td>
<td>6%</td>
</tr>
</tbody>
</table>

PRELIMINARY ANALYSES ONLY
Mental health conditions

“Have you ever been diagnosed with any of the following...”

- Depression: 33%
- Anxiety: 26%
- Sleep disorder/insomnia: 15%
- Post-traumatic stress disorder: 3%
- Eating disorder: 3%
- Personality Disorder: 2%
- Psychosis or schizophrenia: 2%
- Bipolar disorder: 2%
“Overall, on a scale from 0 to 10, how would you rate your GP/HIV clinic?”

<table>
<thead>
<tr>
<th>GP services</th>
<th>6.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV services</td>
<td>9.2</td>
</tr>
</tbody>
</table>

**HIV Patient experience measures**
- The clinic provides enough information about my HIV
  - Strongly Agree: 67%
  - Agree: 31%
  - Disagree: 12%
  - Strongly Disagree: 1%

- I feel supported to self-manage my HIV
  - Strongly Agree: 65%
  - Agree: 30%
  - Disagree: 22%

- I am involved in decisions about my HIV treatment and care
  - Strongly Agree: 62%
  - Agree: 32%
  - Disagree: 26%

- At appointments, I feel I have enough time to cover everything I want to discuss
  - Strongly Agree: 67%
  - Agree: 29%
  - Disagree: 31%

- The staff listen carefully to what I have to say
  - Strongly Agree: 70%
  - Agree: 27%
  - Disagree: 13%

**GP Patient experience measures**
- In my opinion, my GP knows enough about my HIV condition and treatment
  - Strongly Agree: 24%
  - Agree: 40%
  - Disagree: 15%
  - Strongly Disagree: 8%
  - Don’t know or Not applicable: 13%

- I am comfortable asking my GP questions about my HIV
  - Strongly Agree: 25%
  - Agree: 33%
  - Disagree: 19%
  - Strongly Disagree: 14%
  - Don’t know or Not applicable: 9%

- My GP is as involved as I want them to be with my HIV care
  - Strongly Agree: 24%
  - Agree: 43%
  - Disagree: 13%
  - Strongly Disagree: 10%
  - Don’t know or Not applicable: 11%

- As far as I am aware, my HIV specialist and my GP communicate well regarding my health
  - Strongly Agree: 25%
  - Agree: 39%
  - Disagree: 9%
  - Strongly Disagree: 7%
  - Don’t know or Not applicable: 20%
With progressive strengthening of combination prevention (including condom use, expanded HIV testing, prompt ART and availability of pre-exposure prophylaxis (PrEP)), HIV transmission AIDS and HIV-related deaths could be eliminated in the UK. The recent encouraging changes are dependent upon sustained prevention efforts. The inconsistencies between groups and geographies demonstrate that combination prevention needs to be replicated for all those at risk of acquiring of HIV, whoever they are and wherever they live.

The HIV PrEP Impact Trial is a new component of PHE's HIV Prevention Programme. Beginning in October 2017, the 3-year trial of 10,000 participants will address outstanding questions on PrEP need, uptake and duration of use in those at high risk of HIV acquisition in England. Almost 200 sexual health clinics are being recruited as trial sites with 1,000 participants receiving PrEP by early November 2017.

A new policy of immediate ART at HIV diagnosis is currently being considered by NHS England which would complement current Treatment as Prevention (TasP) policy. Swift implementation would ensure all people diagnosed with HIV achieve untransmissible levels of HIV. As people with HIV continue to age, it is critical that HIV and other services continue to evolve to meet the needs of people living with HIV including the management of comorbidities and other complex health conditions.
1. Sexual health services should consider how they can ensure that:
- all gay and bisexual men are offered and recommended regular (ie annual) HIV tests
- all gay and bisexual men at high risk of HIV acquisition (eg a recent anogenital STI diagnosis), are offered and recommended frequent (ie every 3 months) HIV tests
- all black African men and women are offered and recommended regular HIV tests
- HIV partner notification improves for heterosexuals and gay and bisexual men
- all other attendees are offered and recommended to have HIV tests

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

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

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

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

6. Antenatal service providers and blood, tissue and organ donation services should continue to maintain current high levels of HIV testing.
“We celebrate these extraordinary findings which are the result of many years of work involving many key players and organisations from the whole HIV sector. By continuing to invest in effective preventative measures including condom use, expanded HIV testing, prompt treatment and the use of PrEP, HIV transmission, AIDS and HIV-related deaths could well be eliminated in the UK in the next few years.”
Prince Harry plays shopkeeper as he hands out free HIV testing kits

Prince Harry hands out self-testing kits at HIV charity
guilty of infecting men with HIV

A man has been convicted of trying to infect 10 men with HIV in a "campaign" to infect as many as possible.

Daryll Rowe infected five men he had unprotected sex with and sabotaged the condoms of another five in Brighton and Northumberland.

After sex with some of the men he texted mocking messages, including "I have HIV. LOL. Oops!" and "I'm riddled".

During the trial hairdresser Rowe, 27, claimed to believe months of drinking his own urine cured him of the virus.
HIV clinical dashboard

Laura Waters & PHE HIV team
(especially Zheng Yin)
# HIV dashboard: a history

<table>
<thead>
<tr>
<th>Time</th>
<th>Developed by</th>
<th>Geography</th>
<th>Details</th>
</tr>
</thead>
</table>
| Past 2008-2012 | London HIV consortium             | London    | 1) % linkage to care after Dx  
2) % ART coverage in pts with CD4 <350  
3) % VL <200 among pts receiving ART for more than 12 months  
4) One year mortality by CD4 at dx |
| Present 2013-present | Clinical Reference Group         | England   | Nine indicators                                                        |
| Future 2018 plus | Clinical Reference Group         | England   | Time to treatment? Patient satisfaction measure from Positive Voices?    |
# National 2015 HIV Dashboard Indicators

<table>
<thead>
<tr>
<th>Description</th>
<th>Proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Late HIV diagnosis</strong>: Proportion of adults who were diagnosed at a late stage of HIV infection (CD4&lt;350 cells/mm³).</td>
<td>38%</td>
</tr>
<tr>
<td><strong>Very late HIV diagnosis</strong>: Proportion of adults who were diagnosed at a very late stage of HIV infection (CD4&lt;200 cells/mm³).</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Newly diagnosed adults seen for care within 1 month</strong>: Proportion of newly diagnosed adults with an attendance date within one month of diagnosis date.</td>
<td>89%</td>
</tr>
<tr>
<td><strong>Virological success in people established on ART</strong>: Proportion of adults achieving an undetectable viral load (&lt;200 copies/ml) at least one year after starting ART.</td>
<td>95%</td>
</tr>
<tr>
<td><strong>Virological success in people newly starting ART</strong>: Proportion of adults achieving an undetectable viral load (&lt;200 copies/ml) between 6-12 months after starting ART.</td>
<td>95%</td>
</tr>
<tr>
<td><strong>ART coverage (all adults)</strong>: Proportion of adults seen for HIV care and receiving ART.</td>
<td>92%</td>
</tr>
<tr>
<td><strong>ART coverage (adults with the last CD4 count &lt;350)</strong>: Proportion of HIV diagnosed adults with last CD4&lt;350 receiving ART.</td>
<td>93%</td>
</tr>
<tr>
<td><strong>Retention in care (newly diagnosed)</strong>: Proportion of newly diagnosed adults retained in care in the following year of diagnosis</td>
<td>88%</td>
</tr>
<tr>
<td><strong>Retention in care (all adults)</strong>: Proportion of adults retained in care in the following year</td>
<td>94%</td>
</tr>
</tbody>
</table>
Late HIV diagnosis
Proportion of HIV diagnoses made at a late stage of infection*, by risk group: UK, 2016

*Adjusted for missing CD4 count at diagnosis.
Late HIV diagnosis 2015 by clinic size

Proportion of adults who were diagnosed at a late stage of HIV infection (CD4<350 cells/mm³)

*clinic size: number of people seen for care (sites that provide care) or number of diagnoses in last 10 years (non-care sites)
Proportion of adults who were diagnosed at a very late stage of HIV infection (CD4<200 cells/mm$^3$)
Newly diagnosed adults seen for care within 1 month
Linkage to care: proportion of adults with a CD4 count within one and three months of diagnosis: UK, 2015
Newly diagnosed adults seen for care within 1 month by clinic size

Proportion of newly diagnosed adults with an attendance date within one month of diagnosis

National: 89%
ART coverage
### ART coverage among people accessing HIV care, UK, 2016

<table>
<thead>
<tr>
<th>Region</th>
<th>Total</th>
<th>Outside London</th>
<th>London</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gay/bisexual men</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual women</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual men</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PWID</td>
<td>93%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black African</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-24</td>
<td>89%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-34</td>
<td>93%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-49</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50+</td>
<td>97%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>95%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>96%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ART coverage (all adults) by clinic size

National: 92%

Proportion of adults seen for HIV care and receiving ART
ART coverage (adults with the last CD4 count <350) by clinic size

National: 93%

Proportion of HIV diagnosed adults with last CD4<350 receiving ART
Virological success
Proportion of people receiving ART with virological suppression (<200 copies/mL: UK, 2012-2016)
Virological success in people established on ART by clinic size

Proportion of adults achieving an undetectable viral load (<200 copies/ml) at least one year after starting ART

National: 95%

67%-100%  86%-100%  89%-99%

69%-99%
Proportion of adults achieving an undetectable viral load (<200 copies/ml) between 6-12 months after starting ART
Retention in care
Retention in care (newly diagnosed) by clinic size

Proportion of newly diagnosed adults retained in care in the following year of diagnosis

- National: 88%

- 0% - 100%
- 59% - 100%
- 76% - 96%

Public Health England
Retention in care (all adults) by clinic size

Proportion of adults retained in care in the following year

National: 94%

0%-100%
72%-98%
87%-98%
86%-97%

Proportion of adults retained in care in the following year

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 100-499 500-999 1000+
## 2016 HIV dashboard process and timeline

<table>
<thead>
<tr>
<th>Process</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016 HIV data released</td>
<td>October 2017</td>
</tr>
<tr>
<td>HIV report published</td>
<td>November 2017</td>
</tr>
<tr>
<td>HIV dashboard indicators produced and checked (site level)</td>
<td>December 2017</td>
</tr>
<tr>
<td>Dashboard summary and follow-up sent to clinics for review</td>
<td>January 2018</td>
</tr>
<tr>
<td>HIV dashboard indicators finalised and sent to NHSE/Methods (trust level)</td>
<td>February 2018</td>
</tr>
<tr>
<td>HIV Dashboard indicators published on Methods SSQD web portal to gatekeeper at each trust for review</td>
<td>March 2018</td>
</tr>
<tr>
<td>HIV dashboard indicators finalised and published on SSQD web portal</td>
<td>April 2018 (provisional)</td>
</tr>
</tbody>
</table>
Time to treatment
Proportion of patients newly diagnosed starting ART within 90 days of diagnosis, by anonymised HIV services: UK, 2016
A new indicator?
Voting question

Should we have a time to treatment indicator for newly diagnosed people?

- Yes
- No
- Don't know
What should the indicator be?

- 90% by 48 hours
- 90% by 30 days
- 90% by 90 days
- Other
We gratefully acknowledge the continuing collaboration of people living with HIV, as well as clinicians, microbiologists, immunologists, public health practitioners, occupational health doctors, nurses and other colleagues who contribute to the surveillance of HIV and STIs in the UK.