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The HIV epidemic: global and United Kingdom trends

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Abstract

Even before the coronavirus disease (COVID-19) pandemic, progress in the global AIDS response was not on track to reach the 2020 UNAIDS HIV targets. In 2019 an estimated 38 million people were living with HIV, 12.6 million remained untreated and 690,000 people died of AIDS. In that year, 1.7 million people acquired HIV, a 23% drop from the figure in 2010. In the UK, successful combination prevention efforts (condoms, early testing and treatment, pre-exposure prophylaxis) have resulted in rapid declines in transmissions, particularly among men who have sex with men. Sustained efforts could lead to elimination of local transmission of HIV.

Keywords HIV epidemiology; incidence; MRCP; new diagnoses; prevalence; UK

Global trends

Despite great strides in the availability of prevention tools and effective treatment, the response to the global human immunodeficiency virus (HIV) health crisis remains suboptimal and continues to impact some of the world's most vulnerable populations. The coronavirus disease (COVID-19) pandemic is increasing health inequalities even further. Of the estimated 38 million (31.6–44.5 million) people living with HIV globally in 2019,¹ 81% (68–95%) knew their HIV status and two-thirds (67% (54–79%)) were taking antiretroviral therapy (ART), equal to an estimated 25.4 million (24.5–25.6 million). Although the number of people living with HIV on treatment has tripled since 2010, only a small number of countries reached the 90-90-90 Joint United Nations Programme on HIV/AIDS (UNAIDS) targets² by the end of 2020. As a result, in more than a quarter (28%) of countries, less than half of people living with HIV had suppressed viral loads in 2019, meaning they are at risk of premature death and transmitting the virus.

The global prevalence of varies widely by world region. The highest burden is concentrated in sub-Saharan Africa, home to over two-thirds of people living with HIV, representing a country prevalence of 5%. The Caribbean, Eastern Europe and central Asia also have generalized epidemics with a prevalence >1%. Although

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Key points

- Important sociopolitical and economic dimensions of the epidemic mean that HIV continues to disproportionately impact vulnerable populations, including young women and girls, gay and bisexual men and other men who have sex with men, sex trade workers, people who inject drugs and migrant populations
- In the UK there have been large declines in new HIV diagnoses among gay, bisexual and other men who have sex with men because of the successful combination prevention measures (condoms, test and treat, pre-exposure prophylaxis); smaller declines are seen among heterosexual men and women from both reduced transmission and changing migration patterns
- In the UK HIV-related deaths and AIDS continue to decline. In 2019 the mortality rate among people diagnosed promptly was in line with that of the general population of the same age
- Ending HIV transmission in the UK will depend on sustained prevention efforts and high quality of HIV care regardless of a person's sexuality, ethnicity or geography

prevalence rates remain relatively low in South and South-East Asia, >5 million people there were living with HIV in 2019.

HIV transmission remains largely sexual, with evidence of a decline in other modes of transmission. The scaling-up of antiretroviral prophylaxis to prevent mother-to-child transmission (MTCT) has produced a decline in the number of children acquiring HIV, from a peak of half a million in 2003 to 160,000 in 2019. However, treatment coverage among children living with HIV lags behind adult treatment coverage. This particularly seen in sub-Saharan African countries with large HIV epidemics where in 2019 only half of children were on treatment; this represents a global failure to provide life-sustaining care to 840,000 children. Importantly, in addition to preventing MTCT, ART greatly reduces the risk of developing active tuberculosis, which is 10 times higher among HIV-positive than HIV-negative pregnant women.³

The epidemic is shaped by inequalities resulting from discrimination based on income, race, age, ethnicity, disability, immigration status or sexual orientation as well as unequal access to health and social services. This means that HIV continues disproportionately to impact vulnerable populations; this includes young women and girls, gay, bisexual and other men who have sex with men (GBM), sex trade workers, people who inject drugs and migrant populations. Prevalence rates in these groups reach 15–25% in most low- and middle-income countries where data are available.¹ Although some countries report improvements in resources and expanded programmes, the lack of legal and social protection continues to hinder potential health gains among these vulnerable populations.

The UK epidemic

In 2019 an estimated 105,200 (95% credible interval (CrI) 103,300 to 108,500) people were living with HIV infection in the

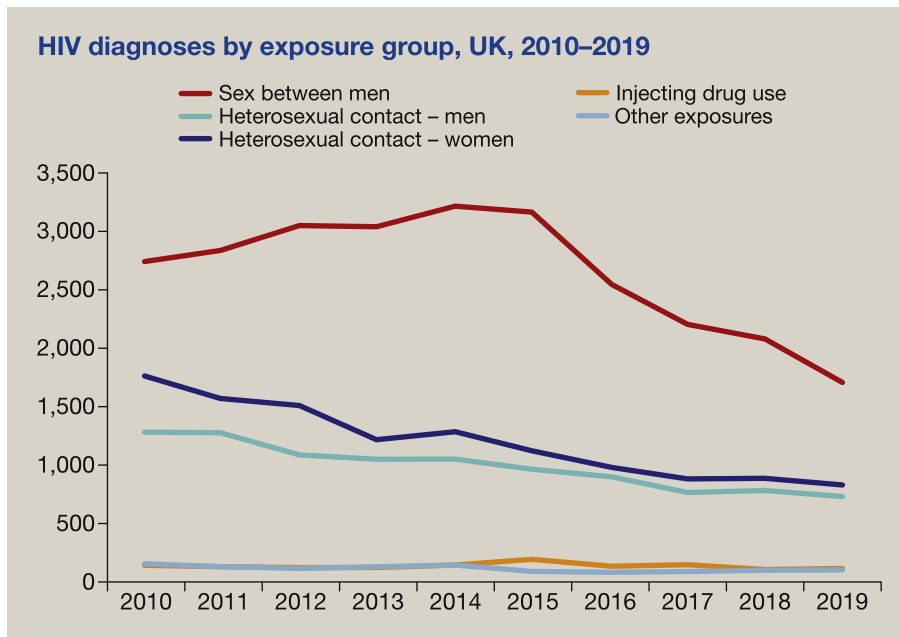


Figure 1 HIV diagnoses by exposure group, UK, 2010–2019. From <https://www.gov.uk/government/publications/hiv-in-the-united-kingdom>. Reproduced with kind permission of UK Health Security Agency.

UK; of these, 6600 (95% CrI 4900 to 9800) were estimated to be undiagnosed, equivalent to 6% (95% CrI 5% to 9%).⁴ The UK met the UNAIDS 90-90-90 targets for the third consecutive year: 94% of people living with HIV were diagnosed, 98% of those diagnosed were on treatment and 97% of those on treatment had an undetectable viral load and were therefore not infectious. The proportion of viral suppression was very similar by geography (range 97 to 98 through the country and regions), probable exposure category (such as GBM 98%, heterosexual contact 97%) and ethnicity (white 98%, Black African 97%, Black Caribbean 96%, Black other 96%, Asian 98%, other mixed 97%).

New diagnoses of HIV continue to decline in the UK because of lower transmission rates (Figure 1). This receding of the epidemic is the result of the combination prevention programme, particularly among GBM – the group most affected by HIV. In addition, MTCT in the UK is extremely rare because of an effective antenatal screening programme. Deaths resulting from acquired immunodeficiency syndrome (AIDS) are uncommon and occur almost exclusively among persons who present late with immunosuppression (CD4 count <350 copies/ml). The life expectancy of people living with HIV is near that of the general population in the UK.

People living with HIV in the UK are a diverse group and come from a range of countries and regions. Of 45,692 men living with HIV in the UK who identify as GBM 84% are of white ethnicity; this includes GBM from ethnic minorities born abroad, particularly in Europe. In contrast, among 45,514 heterosexual persons living with HIV in the UK, 73% (33,225) were from an ethnic minority, of which 85% were persons of Black African ethnicity.

There has been good progress in preventing HIV transmission in the UK in recent years. Among GBM a 47% decline in new diagnoses was observed from a peak of 3214 in 2014 to 1700 in

2019. The steepest declines observed were among GBM of white ethnicity (2550 in 2014 to 1107 in 2019) and those born in the UK (1869 in 2014 to 715 in 2019). Declines among GBM of colour or born abroad have been slower – noting that new diagnoses among men of white ethnicity remain higher (72% of all new diagnoses among GBM in 2019). In contrast to GBM, new diagnoses among persons who probably acquired HIV through heterosexual transmission began to decline in the mid-2000s, largely because of fewer reports among persons of Black African ethnicity born in Zimbabwe. The decline has stabilized, and in the past 5 years new diagnoses among heterosexuals declined from 2336 in 2014 to 1559 in 2019 (a 33% decrease).

The UK has made good progress towards ending HIV transmission by bringing together prevention interventions such as high levels and frequency of HIV testing, pre-exposure prophylaxis, rapid linkage to care and treatment, and support so that people with diagnosed HIV attain viral suppression. Sustaining combination prevention efforts has been particularly challenging during the COVID-19 pandemic given the pressures on health and social care services, and government and non-government agencies. ◆

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