



Public Health
England

Protecting and improving the nation's health

Annual Epidemiological Spotlight on HIV in Yorkshire and Humber 2017 data

About Public Health England

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Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe
Twitter: [@PHE_uk](https://twitter.com/PHE_uk)
Facebook: www.facebook.com/PublicHealthEngland

Prepared by Josh Forde, Paul Crook, Ivan Probert and Simon Padfield
For queries relating to this document, please contact: yhfes@phe.gov.uk



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1 Summary

The number of new diagnoses of HIV in Yorkshire and Humber has continued to fall in 2017 in line with the general trend over the past 10 years. HIV remains an important public health problem in Yorkshire and Humber and the percentage of new cases that are diagnosed late remains a concern.

New diagnoses

In 2017, an estimated 254 Yorkshire and Humber residents were newly diagnosed with HIV, accounting for 6% of new diagnoses in England. This represents a fall of 10% from 2016. Nationally, there has been a long term trend for a decline in the overall number of new diagnoses due in the main to a fall in the number of new diagnoses in black Africans who have acquired HIV abroad.

The new diagnosis rate for Yorkshire and Humber residents aged 15 years or older (5.6 per 100,000) was below that of England in 2017 (8.7 per 100,000). At local authority level the highest rate of new diagnoses occurred among residents of Leeds at 13/100,000 population. This is well above the regional average. Sheffield, Hull and Bradford were the next highest, although, with the exception of Leeds, all local authority areas reported rates within a reasonably close range and not significantly different to the Yorkshire and Humber average (between 3 and 7/100,000 population) (Figure 2).

In 2017, 49% of all new diagnoses in Yorkshire and Humber residents were in gay, bisexual and other men who have sex with men (MSM) (compared to 45% in 2016 and 29% in 2008). The trend in new diagnoses among MSM in Yorkshire and Humber was increasing up to 2014 but has decreased since this peak (Figure 4). The number of MSM resident in Yorkshire and Humber newly diagnosed with HIV (124, adjusted for missing information) was 5% lower than in 2008. Of the MSM newly diagnosed with HIV 74% were white and 70% were UK-born.

Heterosexual contact was the second largest infection route for new diagnoses in Yorkshire and Humber residents in 2017 (45%). Infections in African born persons accounted for 52% of all heterosexually acquired cases in 2017 (n=46), compared to 71% (n=192) in 2008. Infections in UK born persons accounted for 28% of all heterosexually acquired cases in 2017.

Injecting drug use accounted for 5% of new diagnoses in Yorkshire and Humber residents.

Black Africans represented 22% of all newly diagnosed Yorkshire and Humber residents in 2017 (compared to 26% in 2016 and 48% in 2008). A small proportion of new diagnoses in 2017 were in black Caribbeans (1%).

The number of new diagnoses was highest in the 45-54 year age group in males and the 35-44 year age group in females in 2017.

Late diagnoses

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.

It is of particular concern that a large proportion of Yorkshire and Humber residents with HIV are diagnosed late (47% from 2015 to 2017, compared to 41% in England), as defined by a CD4 count of less than 350 cells/mm³ at diagnosis.

In Yorkshire and Humber, heterosexuals were more likely to be diagnosed late (67% of males, 50% of females) than MSM (36%). By ethnic group black Africans were more likely to be diagnosed late than the white population (59% and 43% respectively).

People living with diagnosed HIV

The number of people living with diagnosed HIV in Yorkshire and Humber in 2017 (4,995) was 2% higher than 2016 and 61% higher than 2008. This increase is partly due to the effectiveness of HIV treatment which has reduced the number of deaths from HIV.

The diagnosed prevalence rate of HIV in Yorkshire and Humber in 2017 was 1.4 per 1,000 residents aged 15-59 years. This was lower than the 2.3 per 1,000 observed in England as a whole. One local authority in Yorkshire and Humber had a diagnosed HIV prevalence in excess of 2 per 1,000 population aged 15-59 which is the threshold for expanded HIV testing. This was Leeds (2.7/1,000 population aged 15-59).

The two most common probable routes of transmission for Yorkshire and Humber residents living with diagnosed HIV in 2017 were sex between men and women (58%) and sex between men (37%).

In 2017, 49% of those living with diagnosed HIV in Yorkshire and Humber were aged between 35 and 49 years, and 33% were aged 50 years and over (up from 15% in 2008). Males represented 63% of Yorkshire and Humber residents living with diagnosed HIV in 2017 and females represented 37%.

In 2017, 52% of Yorkshire and Humber residents living with diagnosed HIV were white and 38% were black Africans. However, due to the relative sizes of the white and black African populations the rate per 1,000 population aged 15-59 years was much higher in black Africans (54.0 per 1,000) than in the white population (0.8 per 1,000).

Continuum of HIV care

In Yorkshire and Humber in 2017, 96% of residents living with diagnosed HIV were receiving anti-retroviral treatment. Of these, 97% were virally suppressed (viral load <200 cells/mm³) and were very unlikely to pass on HIV, even if having sex without condoms (untransmissible virus).

For Yorkshire and Humber residents diagnosed in 2017, the proportion starting treatment within 91 days of diagnosis was 76%, compared to 72% in the UK.

People living with undiagnosed HIV

It is estimated that in 2017, 9% (Credible Interval (CrI) 6%-15%) of people living with HIV in the UK, excluding London, were undiagnosed. This equates to an estimated 5,800 (CrI 3,800-10,100) undiagnosed people.

It is estimated that 3,100 MSM in the UK, outside London, are undiagnosed (CrI 1,500-7,300) and 2,300 heterosexuals (CrI 1,800-3,700), including 1,000 black Africans.

In the UK, outside London, the proportion undiagnosed varied by exposure group with the highest proportion undiagnosed among people living with HIV who inject drugs (10%, CrI 5%-18%), who are MSM (9%, CrI 5%-16%) and who are non black African heterosexual men (10%, CrI 6%-25%).

HIV testing

A total of 81,853 HIV tests were conducted in specialist sexual health services (SHSs) in Yorkshire and Humber, a decrease of 1% since 2013. The HIV testing coverage at specialist SHSs in Yorkshire and Humber was 59%, which compares to 66% across England. HIV testing coverage in specialist SHSs in Yorkshire and Humber is higher in heterosexual men (73%) than heterosexual women (52%), and highest in MSM (86%).

Condom use

Condoms are crucial in the prevention of HIV and STIs. However, there is evidence of an increase in condomless anal sex with casual partners since the early 2000s.¹ Additionally, almost half of sexually active young people said they have had sex without condoms with a new partner.

Stigma

HIV-related stigma and discrimination can negatively impact quality of life and prevent people from being tested for HIV. In the survey *Positive Voices*, one in eight (13%) people in England with HIV said they had not told anyone, other than healthcare professionals, about their HIV status (16% of women and 11% of men).² A quarter of people said they had needed help disclosing their HIV status in the previous year (31% of women and 21% men). Of those who needed this help, 40% did not receive it. Stigma (including self-stigma) and discrimination also persist in healthcare settings. In the previous year, due to their HIV status, 16% were worried that they might be treated differently to other patients, 10% had avoided healthcare when they needed it and 5% felt they were refused healthcare or delayed a treatment or medical procedure.

Public health implications

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

There are a number of approaches to the prevention of HIV transmission and continued funding in prevention activities remains critical to curb the HIV epidemic. Prevention should be targeted at MSM and black African people who are the population groups most at risk of HIV.

The UK was one of the first countries in Europe to witness a substantive decline in HIV diagnoses in gay and bisexual men. A combination of HIV prevention efforts has been a key reason for the decline. Increased HIV testing has led to earlier diagnosis and once people know they have HIV, they can be linked into care and offered treatment. Successful HIV treatment means HIV diagnosed people with an undetectable viral load cannot pass on the infection to others. Alongside correct and consistent condom use,

¹ PHE. Progress towards ending the HIV epidemic: 2018 report. www.gov.uk/government/publications/hiv-in-the-united-kingdom

² PHE. Progress towards ending the HIV epidemic: 2018 report. www.gov.uk/government/publications/hiv-in-the-united-kingdom

early diagnosis through testing and treatment of HIV to stop onward transmission, we now have PrEP, an HIV prevention drug.

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

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

HIV testing is pivotal in reducing HIV transmission as it decreases the number of people living with HIV who are unaware of their infection. Due to the relatively high numbers of MSM and black Africans who remain undiagnosed, HIV testing is particularly important for these groups and in MSM, where the incidence remains high. Partner notification following the diagnosis of HIV infection remains a highly effective way to detect undiagnosed HIV infections: in 2017 in England, 4.3% of partners of people diagnosed with HIV were also positive for HIV.

Missed opportunities for testing remain in England. These are that:³

- less than half of MSM testing for HIV have had at least one HIV test at the same service during the previous year (2017)
- less than half of MSM who have had an ano-genital bacterial STI were tested during the year following their STI diagnosis (2017, 4.4% positivity)
- a third of heterosexual women attending sexual and reproductive health (SRH) services in were tested for HIV, even though their HIV test positivity was the same as for women attending specialist SHS (2017)
- uptake of testing at prisons is increasing but is low (71% of prisoners eligible were offered and 33% of these accepted a test in 2017/18)
- a high proportion of people who inject drugs in England who access a clinical service in the preceding year had not been tested for HIV (67%) (2017)

³ PHE. Progress towards ending the HIV epidemic: 2018 report.
www.gov.uk/government/publications/hiv-in-the-united-kingdom

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

HIV Pre Exposure Prophylaxis (HIV–PrEP) is the use of antiretroviral agents by people who do not have HIV prior to a potential exposure to HIV to prevent acquisition of infection. Studies have shown that consistent use of HIV-PrEP can be an efficacious and effective prevention intervention. HIV–PrEP has the potential, within a combination prevention approach, to have a significant role in the control of HIV transmission. The first phase of implementation is the 3-year clinical trial which launched in October 2017 which aims to recruit 13,000 participants in England.⁴ As of October 2018, almost 9,000 participants had been recruited.

It has been demonstrated that the advantages of ART extend beyond personal clinical benefit. It is now widely understood that effective HIV treatment results in an ‘undetectable’ viral load which protects individuals living with HIV from passing on the virus to others. The key message is that Undetectable = Untransmittable (U=U): medicines to treat HIV can eliminate the risk of sexual and mother-to-child HIV transmission.⁵ People with HIV who maintain an undetectable viral load for at least 6 months do not transmit HIV.

Revised guidelines from the British HIV Association and World Health Organization recommend that patients start ART at diagnosis regardless of CD4 count both for clinical benefits and preventing onward transmission.⁶ People living with HIV and their healthcare providers can discuss starting ART to reduce their risk of transmitting HIV to their sexual partners. The policy of immediate anti-retroviral therapy at HIV diagnosis is being implemented by NHS England which complements the current Treatment as Prevention policy. As a result, the proportion of newly diagnosed people in care starting treatment within 91 days of diagnosis has increased.

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

⁴ www.prepimpacttrial.org.uk

⁵ Prevention Access. *Risk of sexual transmission of HIV from a person living with HIV who has an undetectable viral load. Messaging Primer & Consensus Statement 2016*; Available from: www.preventionaccess.org/consensus.

⁶ British HIV Association, *Guidelines for the treatment of HIV-1-positive adults with antiretroviral therapy 2015*. (2016 interim update), BHIVA: London

The population of people living with diagnosed HIV is diversifying and growing older. It is critical that HIV and other services continue to evolve to meet the needs of older people living with HIV including the management of comorbidities and other complex health conditions.

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

Key messages⁷

Although there has been steady progression in implementing combination prevention measures to end the HIV epidemic and the efforts are having a major effect, there still remain opportunities for further improvements. These key messages have been drawn together to support efforts to reach those living with HIV who are undiagnosed and to maintain high treatment and care standards.

Sexual health services should consider how they can:

- increase HIV test coverage among heterosexual attendees with an STI related need, including black Africans and people born in countries with high HIV prevalence
- increase HIV test coverage among gay, bisexual and other MSM, particularly those who have not tested recently or who have recently had a bacterial STI
- increase quarterly testing, including an STI screen, in gay, bisexual and other MSM if they are having unprotected sex with new or casual partners
- improve notification and testing of partners of heterosexuals and gay and bisexual men newly diagnosed with HIV

General practices and hospitals in high and extremely high prevalence areas should consider how they can better implement NICE guidance on offering HIV tests to patients.

Healthcare and other professionals should offer and recommend HIV and HCV tests to any patient who has injected drugs.

Prisons should consider how they can increase their 'opt-out' blood-borne virus testing activity for new receptions and transfers.

⁷ PHE. Progress towards ending the HIV epidemic: 2018 report. 2018

Local authorities should consider how they can:

- ensure that their population groups at increased risk can access HIV testing online and in community settings
- ensure that all commissioned HIV testing programmes have a well-defined referral pathway to HIV care for all people with a reactive/positive test result
- take account of the combination HIV prevention perspective when commissioning

HIV care providers should:

- continue to monitor their key clinical indicators for HIV care, especially in people who inject drugs and people aged 15-24 years, to ensure the current high standard is maintained and to improve clinical outcomes
- discuss the individual and public health benefits of treatment with all people newly diagnosed with HIV, offering and recommending immediate ART, in line with the 2015 BHIVA guidelines
- adopt long-term condition care frameworks for the management of HIV to ensure the holistic needs of HIV patients are met, thereby supporting their general health and wellbeing – the focus should be on quality of life, prevention of comorbidities and incorporating principles of patient-centred care and self-management already in use for other long-term condition services
- continue to support comprehensive surveillance by reporting to PHE in a timely manner; high quality HIV public health data is essential to monitor progress towards the elimination of HIV in the UK

Recommendations to the public

All men who have ever had sex with another man should have an HIV test even if they consider themselves to be heterosexual.

Gay, bisexual and other men who have sex with men should have an HIV test at least annually.

Gay, bisexual and other men who have sex with men should test for HIV and have an STI screen every 3 months if they are having unprotected sex with new or casual partners.

Black African heterosexual men and women, and people born in countries where HIV is common, should have an HIV test, and repeat this every year if having unprotected sex with new or casual partners from countries where HIV is common.

Anyone who is diagnosed with HIV should accept the clinical recommendation that they start treatment immediately. Early treatment initiation enables people living with HIV to live a long and healthy life and minimises the risk of passing the infection to others. HIV treatment is free to all in the UK regardless of immigration or residency status.

A range of methods to prevent HIV acquisition is currently available in the UK. Resources are available that provide guidance on the combination of methods best suited to an individual's health and circumstances.

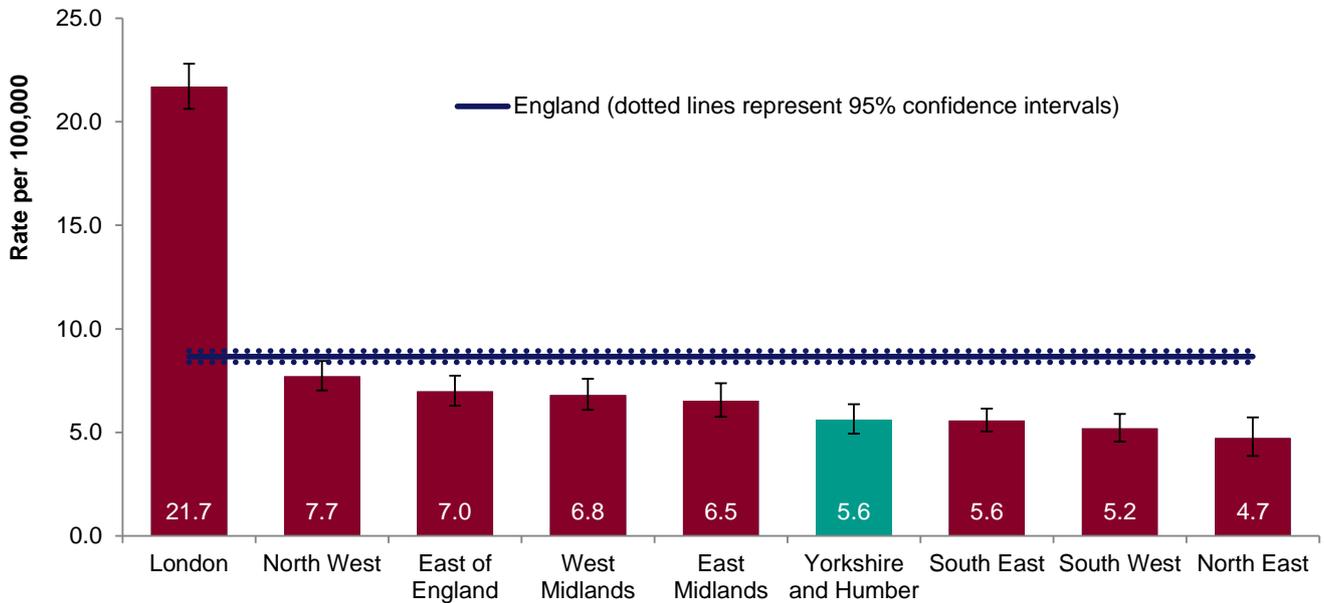
All HIV testing by the NHS is free and confidential for everyone, regardless of immigration or residency status.

There are many ways to get tested for HIV, including:

- going to an STI clinic or a community testing site (www.nhs.uk/Service-Search/HIV-testing/) (www.aidsmap.com/hiv-test-finder)
- asking your GP for an HIV test
- requesting a self-sampling kit online (www.test.hiv/) or obtaining a self-testing kit

2 Charts, tables and maps

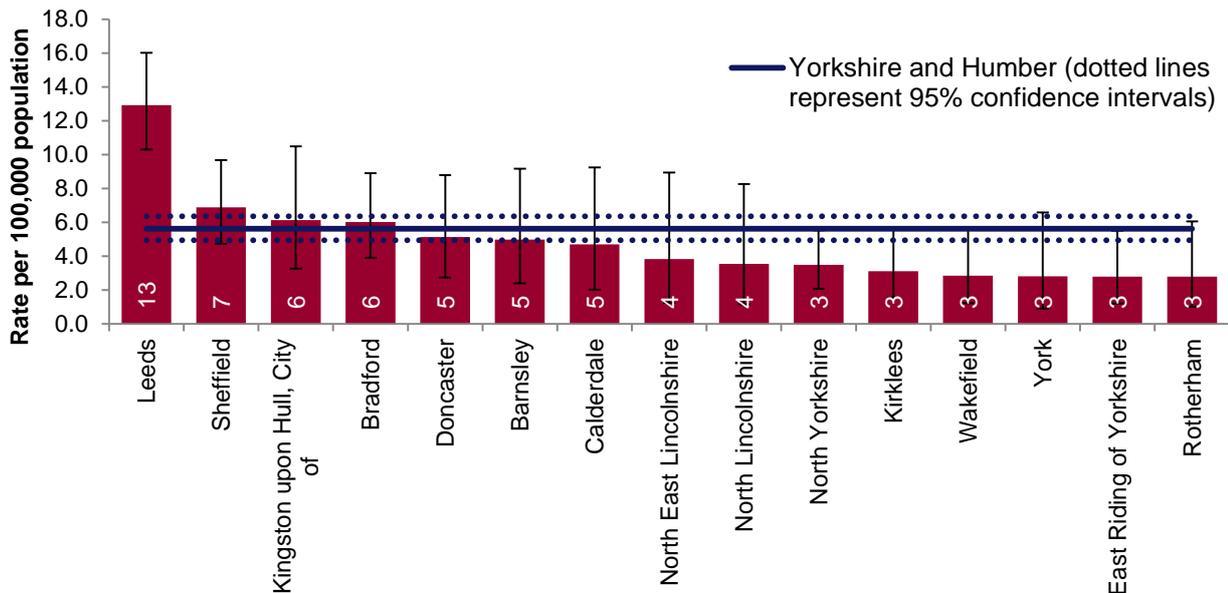
Figure 1: New HIV diagnoses per 100,000 population aged 15 years or older by PHE centre of residence, 2017



Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD).

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

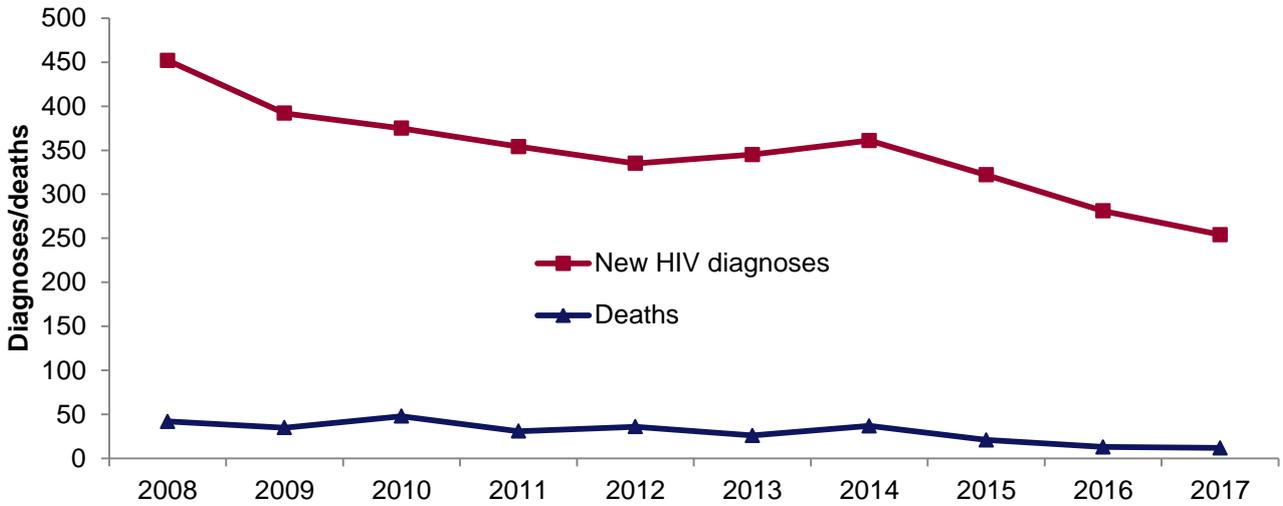
Figure 2: New HIV diagnoses per 100,000 population aged 15 years or older by upper tier local authority of residence, Yorkshire and Humber residents, 2017



Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD).

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

Figure 3: New HIV diagnoses and deaths, Yorkshire and Humber residents, 2008-2017

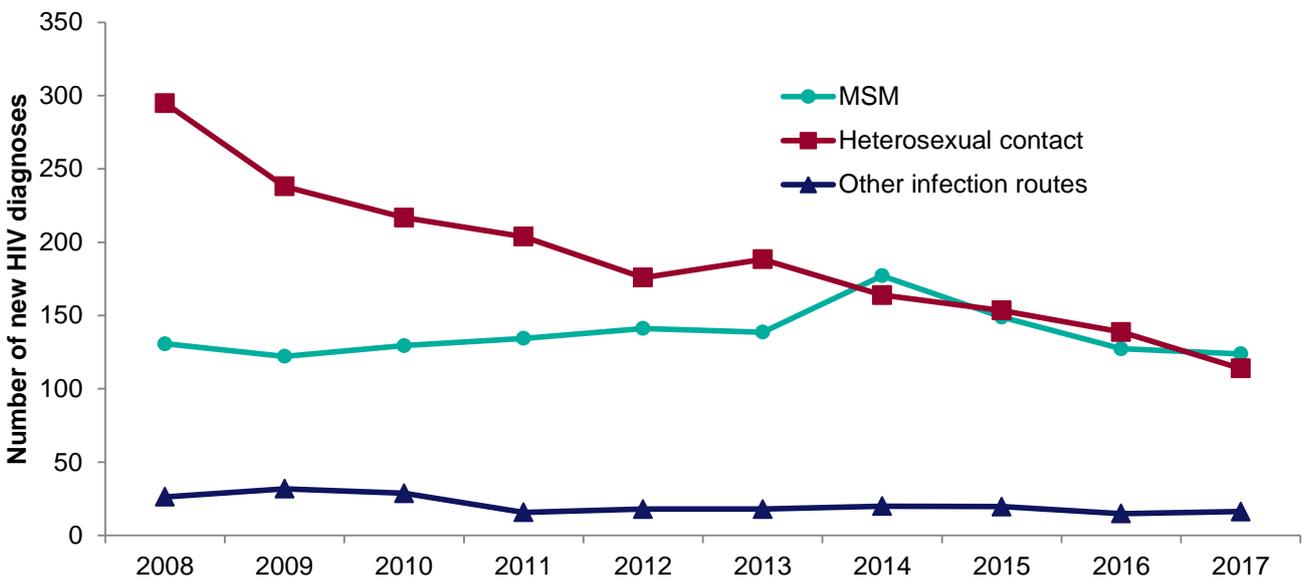


Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD).

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

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

Figure 4: New HIV diagnoses by probable route of infection (adjusted for missing route of infection information), Yorkshire and Humber residents, 2008-2017 (please see footnote on interpreting trends)*

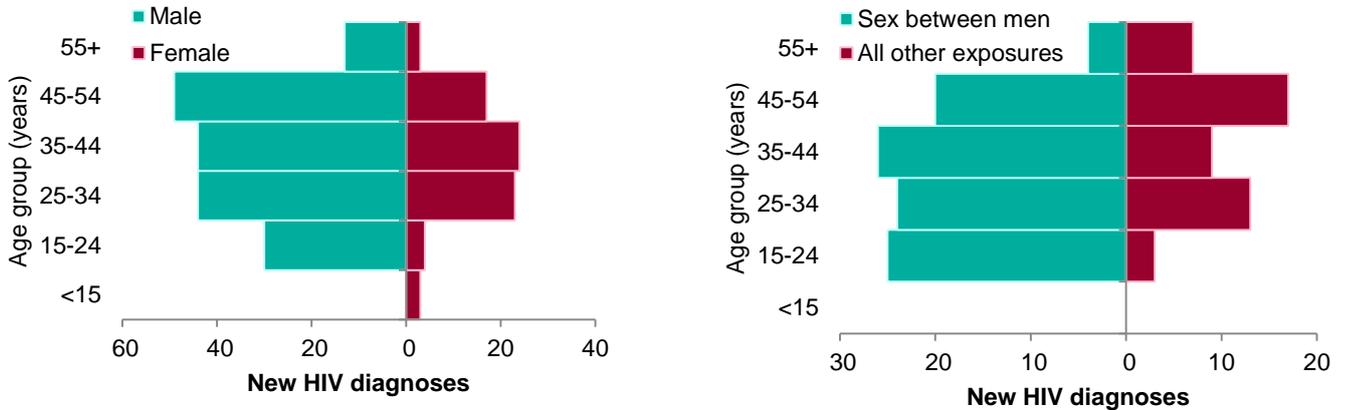


Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD).

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

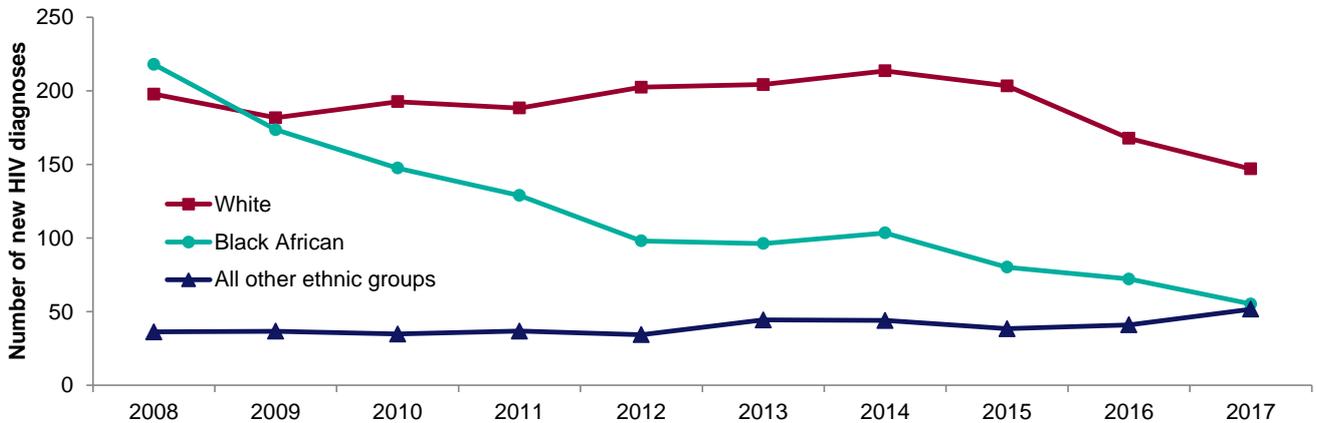
*Numbers may rise as further reports are received and more information is obtained on area of residence of those diagnosed. This is more likely to affect more recent years, particularly 2017. Please see important note on data earlier in this report. This will impact on interpretation of trends in more recent years.

Figure 5: Number of new HIV diagnoses by age group and gender (A) and probable route of infection in males (B), Yorkshire and Humber residents, 2017



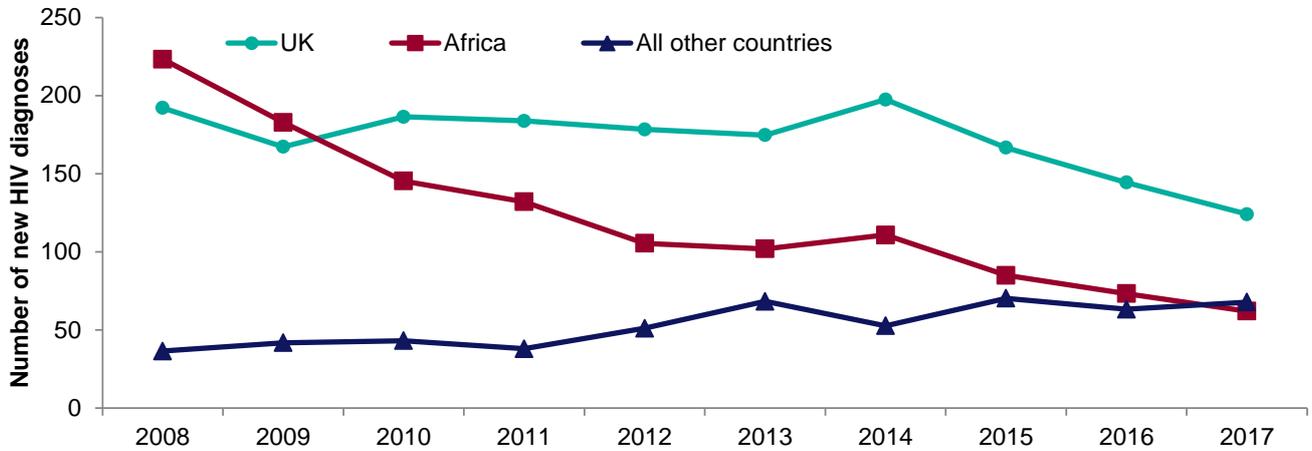
Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD).
 The number of new diagnoses will depend on accessibility of testing as well as infection and transmission.

Figure 6: Number of new HIV diagnoses by ethnic group (adjusted for missing ethnic group information), Yorkshire and Humber residents, 2008-2017 (please see footnote on interpreting trends)*



Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD).
 The number of new diagnoses will depend on accessibility of testing as well as infection and transmission.
 *Numbers may rise as further reports are received and more information is obtained on area of residence of those diagnosed. This is more likely to affect more recent years, particularly 2017. Please see important note on data earlier in this report. This will impact on interpretation of trends in more recent years.

Figure 7: Number of new HIV diagnoses by world region of birth (adjusted for missing world region of birth information), Yorkshire and Humber residents, 2008-2017 (please see footnote on interpreting trends)*

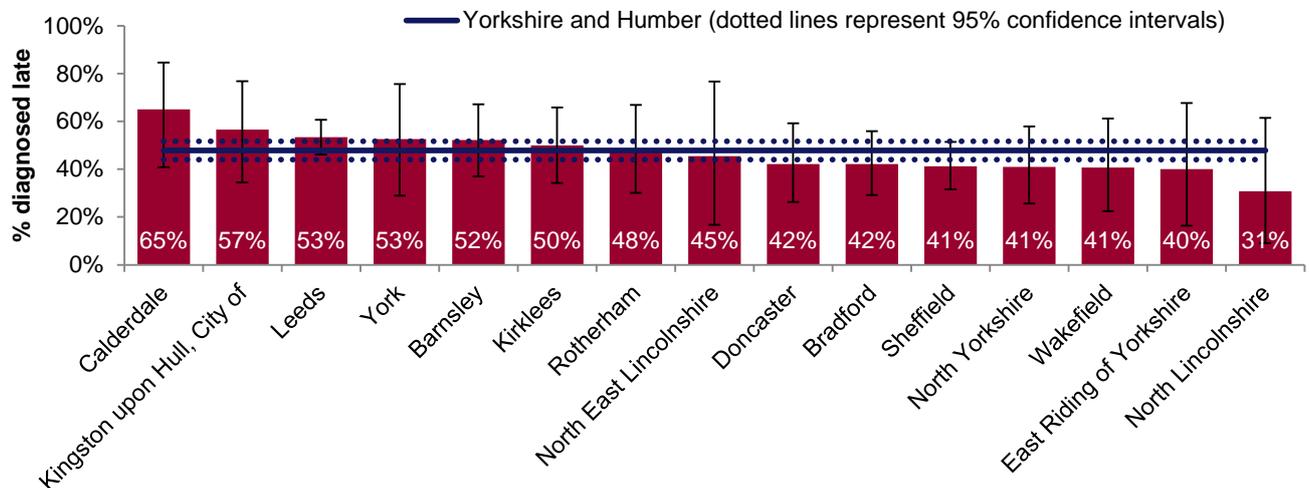


Source: Public Health England, HIV & AIDS New Diagnoses and Deaths (HANDD).

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

*Numbers may rise as further reports are received and more information is obtained on area of residence of those diagnosed. This is more likely to affect more recent years, particularly 2017. Please see important note on data earlier in this report. This will impact on interpretation of trends in more recent years.

Figure 8: Percentage of new HIV diagnoses that were diagnosed late by upper tier local authority of residence, Yorkshire and Humber, aged 15 years and over, 2015-2017 *

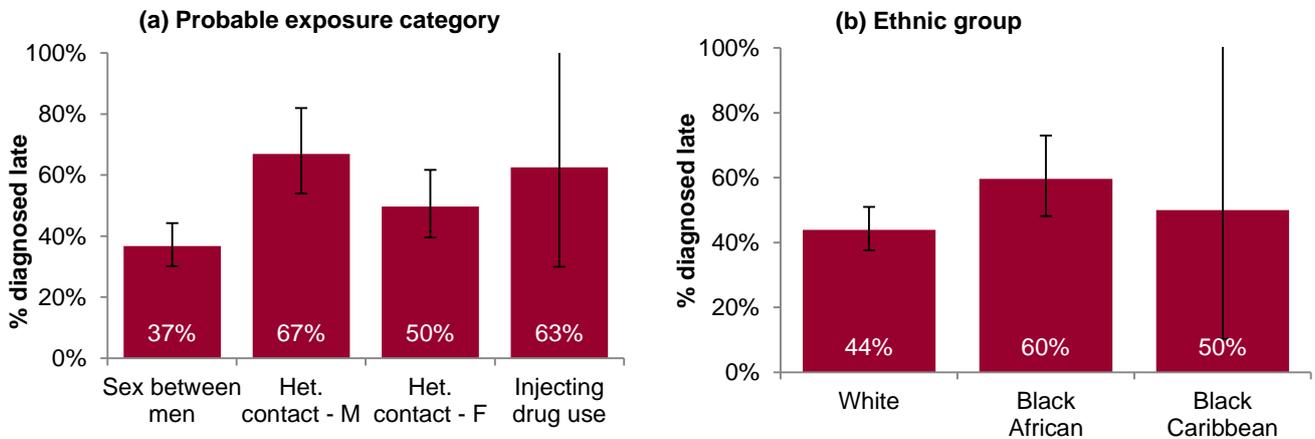


Source: Public Health England, HIV and AIDS New Diagnosis Database/System, HIV & AIDS Reporting System (HARS).

* Only includes new diagnoses for which CD4 count was reported within 91 days of diagnosis; late diagnosis defined as CD4 count <350 cells/mm³. Percentages for ULAs with fewer than 5 late diagnoses are excluded as the denominator for this calculation is new HIV diagnoses which will always be lower than 10,000 (PHE small number data policy).

The underlying population will impact on the proportion diagnosed late, for example. MSM are less likely to be diagnosed late.

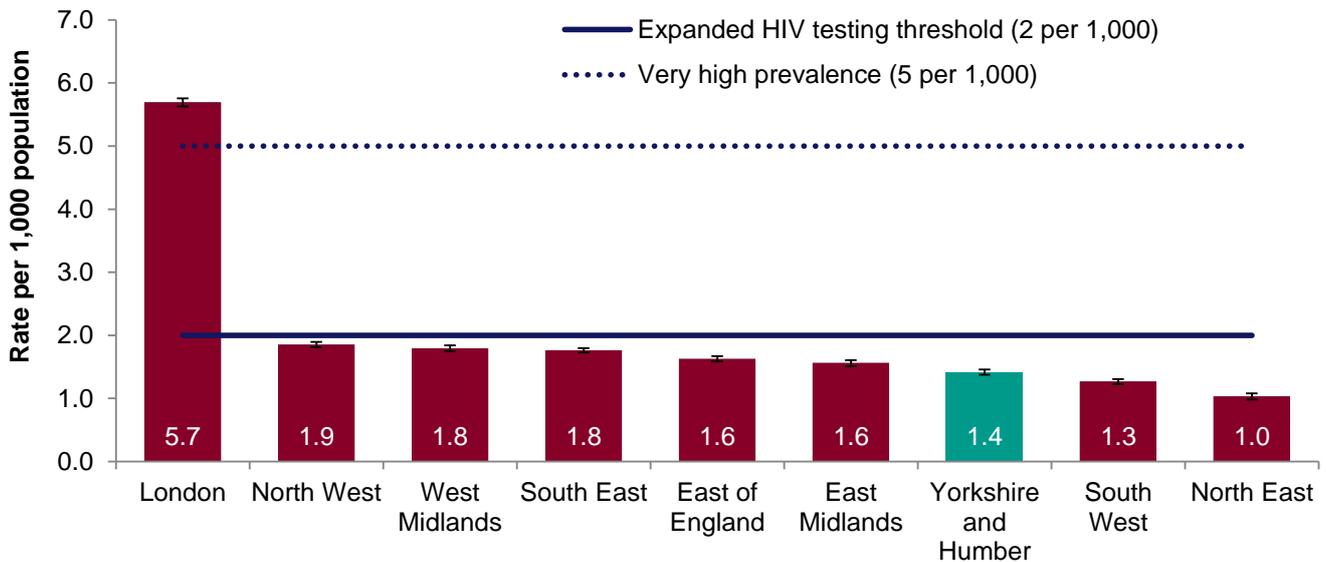
Figure 9: Percentage of new HIV diagnoses that were diagnosed late by probable route of infection (A) and ethnic group (B), Yorkshire and Humber residents, ages 15 years and over, 2015-2017*



Source: Public Health England, HIV and AIDS New Diagnosis Database/System, HIV & AIDS Reporting System (HARS).

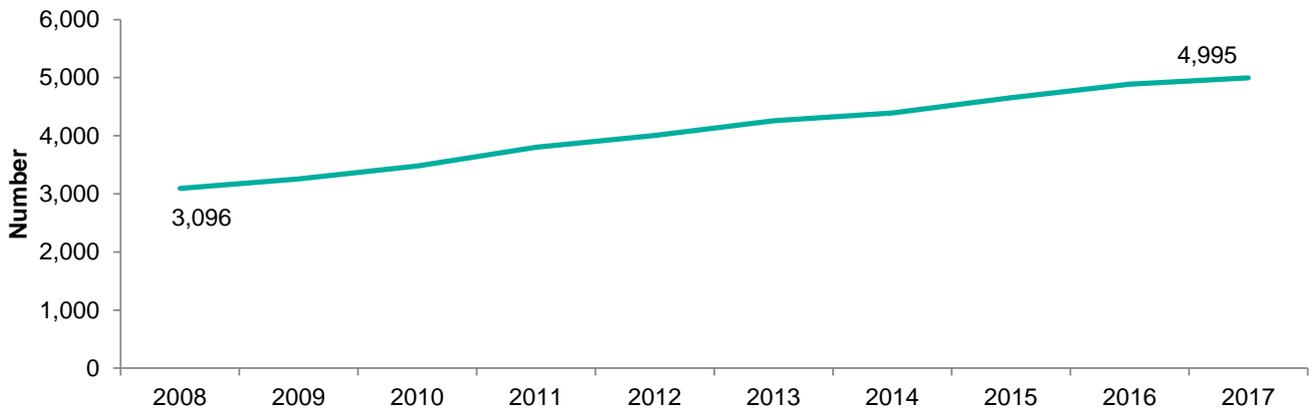
* Only includes new diagnoses for which CD4 count was reported within 91 days of diagnosis; late diagnosis defined as CD4 count <350 cells/mm³.

Figure 10: Diagnosed HIV prevalence per 1,000 residents aged 15-59 years by PHE centre, 2017



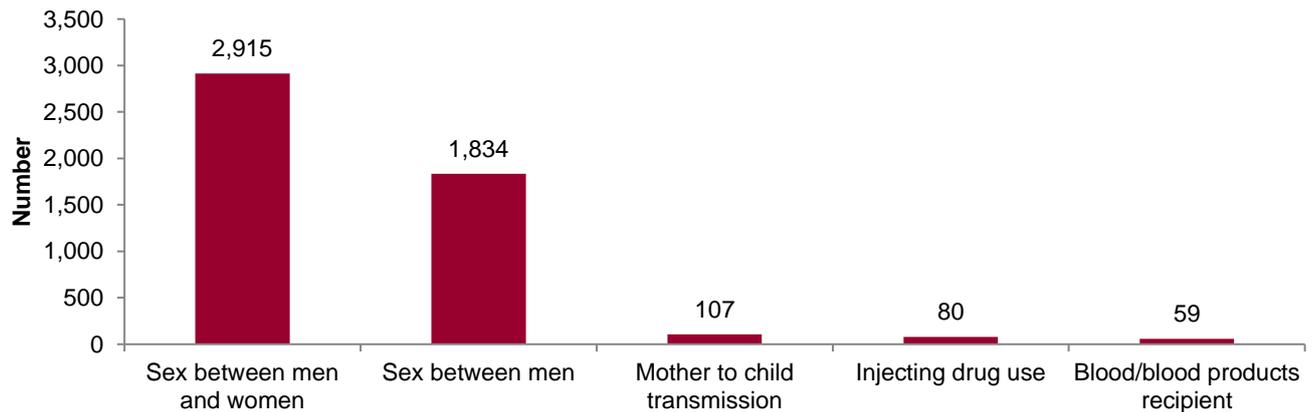
Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 11: Number of residents living with diagnosed HIV and accessing care, Yorkshire and Humber, 2008-2017



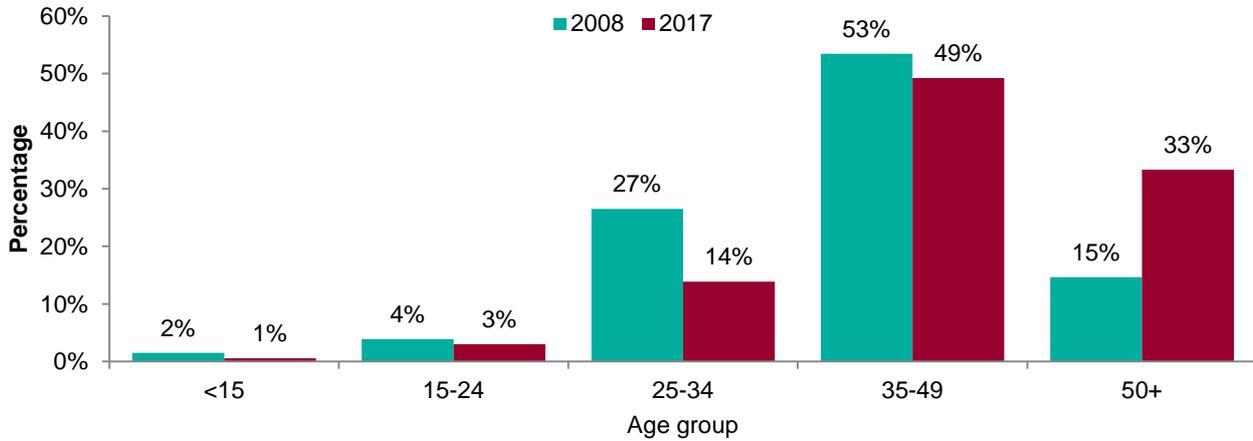
Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 12: Number of residents living with diagnosed HIV and accessing care by probable route of transmission (adjusted for missing information), Yorkshire and Humber, 2017



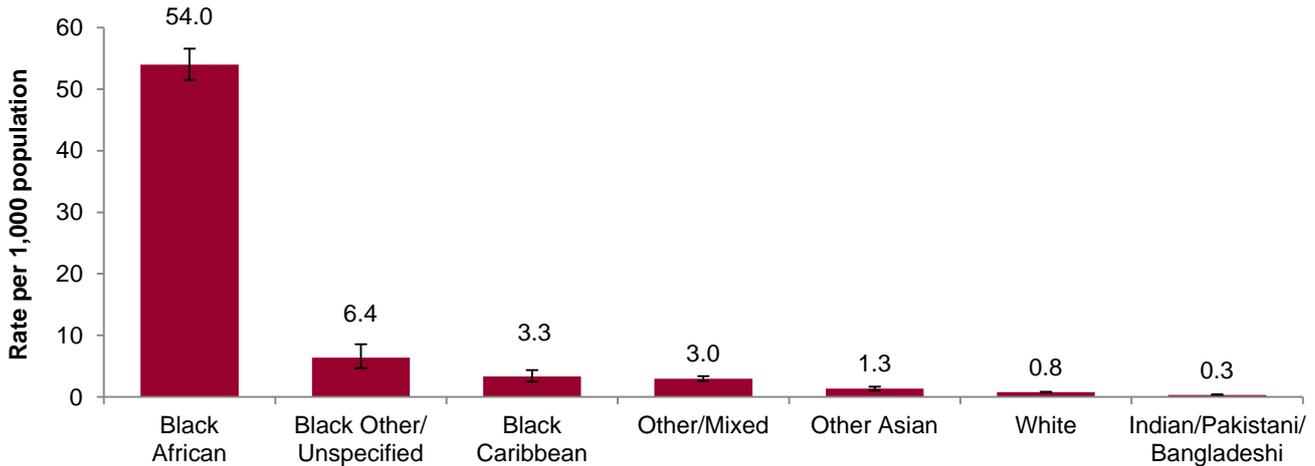
Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 13: Percentage of residents with diagnosed HIV and accessing care by age group, Yorkshire and Humber, 2008 and 2017



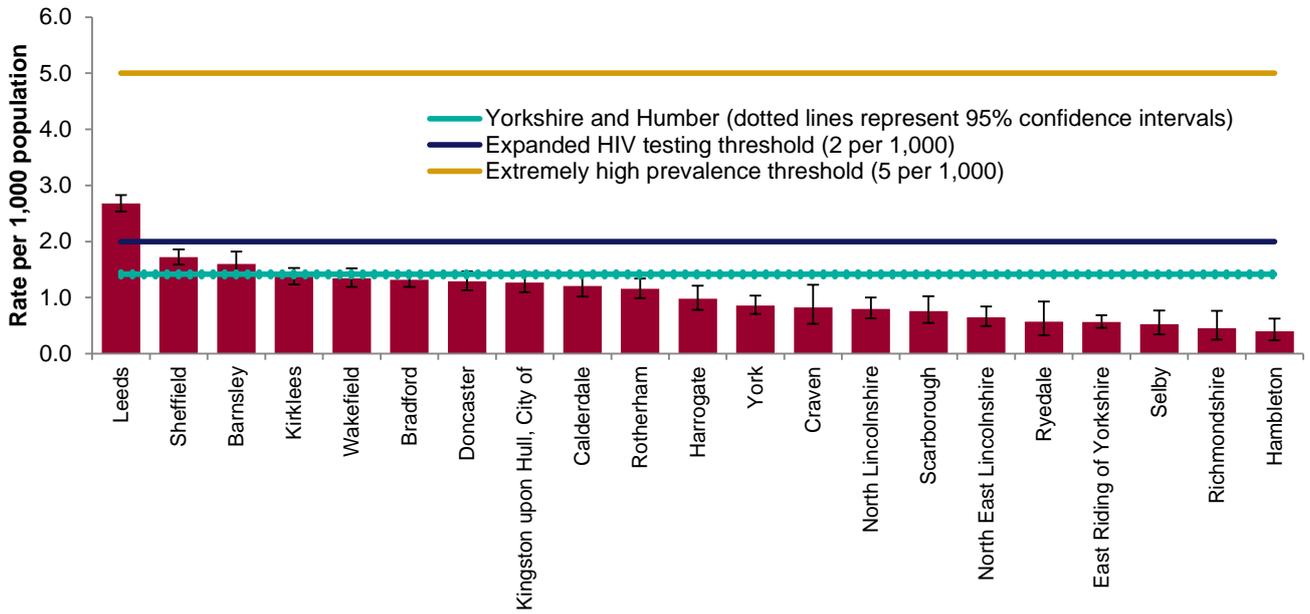
Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 14: Diagnosed HIV prevalence per 1,000 residents by ethnic group aged 15-59 years, Yorkshire and Humber, 2017



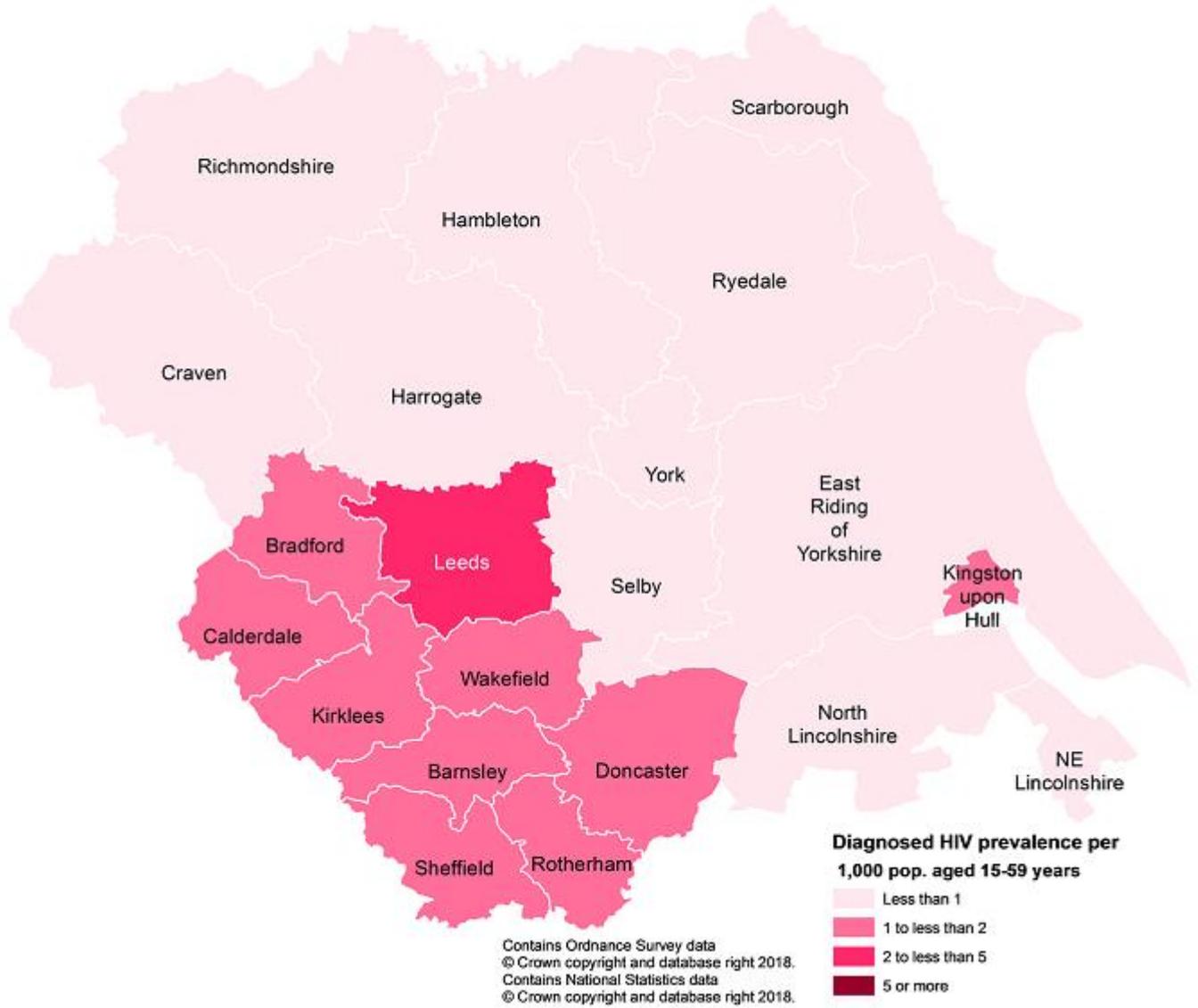
Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 15: Diagnosed HIV prevalence per 1,000 residents aged 15-59 years by local authority, Yorkshire and Humber, 2017



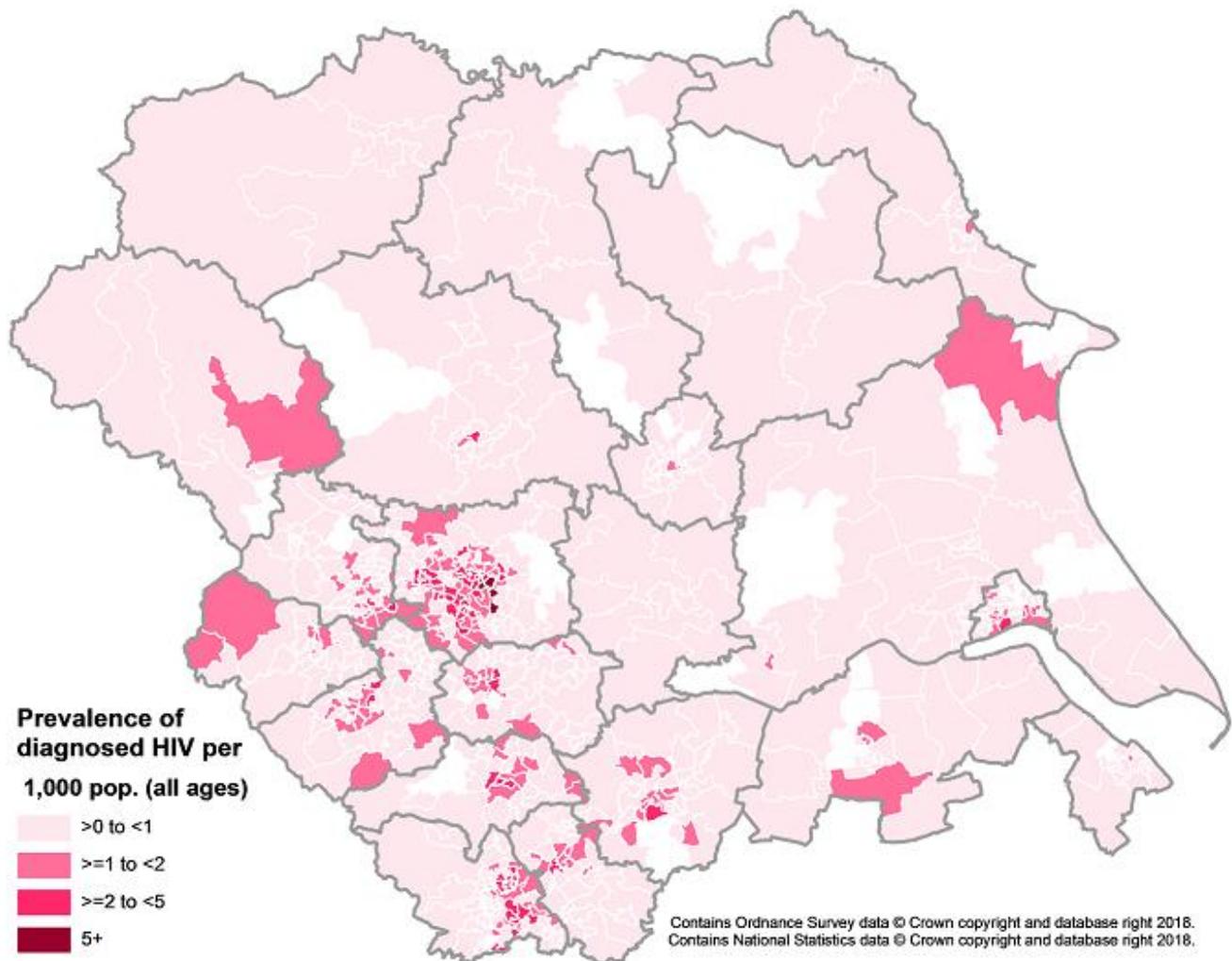
Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 16: Diagnosed HIV prevalence per 1,000 residents aged 15-59 years by local authority, Yorkshire and Humber, 2017



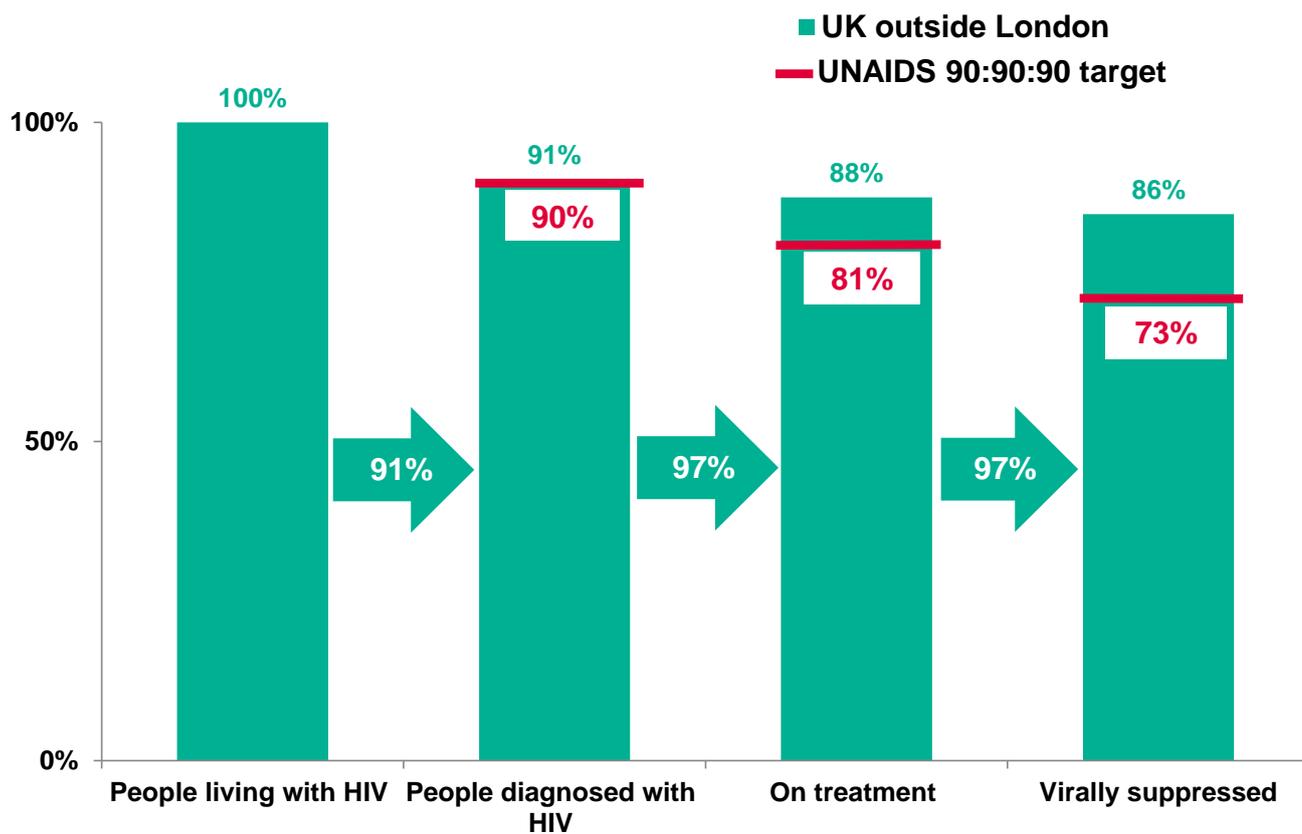
Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 17: Diagnosed HIV prevalence per 1,000 residents (all ages) by middle super output area of residence, Yorkshire and Humber, 2017



Source: Public Health England, HIV & AIDS Reporting System (HARS).

Figure 18: The continuum of HIV care, UK excluding London, 2017



3 Information on data sources

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

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

Date of data extract: September 2018. Updates to HANDD and SOPHID/HARS made after this date will not be reflected in this report.

Confidence intervals for rates in the figures have been calculated to the 95% level using the Byar's method; confidence intervals for percentages have been calculated to the 95% level using the Wilson Score method (see www.apho.org.uk/resource/item.aspx?RID=48457). Confidence intervals presented in the text are produced by Bayesian analysis.

ONS mid-year estimates for 2017 were used as a denominator for rates for 2017.

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

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

With the exception of Figure 3, all analyses in this report are residence-based. Information about a patient's place of residence is not collected by HANDD. Reports to this database are cross-linked to the database of people accessing care for HIV, HARS.

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

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

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

4 Further information

Please access the online 'Sexual and Reproductive Health Profiles' for further information on a whole range of sexual health indicators:

<http://fingertips.phe.org.uk/profile/sexualhealth>

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

www.gov.uk/government/uploads/system/uploads/attachment_data/file/576052/PHE_S_H_data_guide_December_2016_FINALNB081216.pdf

For the annual epidemiological spotlight on STIs in Yorkshire and Humber: 2017 data, please access:

www.gov.uk/government/publications/sexually-transmitted-infections-yorkshire-and-humber-data

For the national HIV report: 2017 data, please access:

www.gov.uk/government/publications/hiv-in-the-united-kingdom

Local authorities have access to local authority HIV, sexual and reproductive health epidemiology reports (LASERs) and other HIV and STI intelligence via the HIV and STI portal. They should contact yhfes@phe.gov.uk if they do not have access to this information.

5 About the Field Service

The Field Service (FS) supports PHE centres and partner organisations through the application of epidemiological methods to inform public health action.

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

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

You can contact your local FS team at yhfes@phe.gov.uk

If you have any comments or feedback regarding this report or the FS, please contact yhfes@phe.gov.uk.

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