

HIV testing: increasing uptake among people who may have undiagnosed HIV

NICE guideline

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Your responsibility

The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals and practitioners are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or the people using their service. It is not mandatory to apply the recommendations, and the guideline does not override the responsibility to make decisions appropriate to the circumstances of the individual, in consultation with them and their families and carers or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

Local commissioners and providers of healthcare have a responsibility to enable the guideline to be applied when individual professionals and people using services wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with complying with those duties.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should [assess and reduce the environmental impact of implementing NICE recommendations](#) wherever possible.

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This guideline replaces PH33 and PH34.

This guideline is the basis of QS157 and QS178.

Overview

This guideline covers how to increase the uptake of HIV testing in primary and secondary care, specialist sexual health services and the community. It describes how to plan and deliver services that are tailored to the local prevalence of HIV, promote awareness of HIV testing and increase opportunities to offer testing to people who may have undiagnosed HIV.

NICE worked with Public Health England to develop this guidance.

Who is it for?

- Local authority and NHS commissioners of HIV testing services
- Providers of HIV testing services
- Practitioners working in services that offer HIV testing
- The general public

Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in [NICE's information on making decisions about your care](#).

[Making decisions using NICE guidelines](#) explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

1.1 Offering and recommending HIV testing in different settings

Local prevalence

- 1.1.1 Offer and recommend HIV testing based on local prevalence and how it affects different groups and communities. Use [Public Health England's sexual and reproductive health profiles](#) and local data to establish:
- local HIV prevalence, including whether an area has [high prevalence](#) or [extremely high prevalence](#)
 - rates of HIV in different groups and communities. **[new 2016]**

Specialist sexual health services (including genitourinary medicine)

- 1.1.2 Offer and recommend an HIV test to everyone who attends for testing or treatment. **[2011, amended 2016]**
- 1.1.3 Ensure both [fourth-generation serological testing](#) and [point-of-care testing \(POCT\)](#) are available. **[2011, amended 2016]**

Secondary and emergency care

1.1.4 Routinely offer and recommend an HIV test to everyone attending their first appointment (followed by repeat testing in line with [recommendation 1.2.6](#)) at drug dependency programmes, termination of pregnancy services, and services providing treatment for:

- hepatitis B
- hepatitis C
- lymphoma
- tuberculosis.

Antenatal HIV testing is covered by the UK National Screening Committee and is outside the remit of this guideline. **[2011, amended 2016]**

1.1.5 In all areas, offer and recommend HIV testing on admission to hospital, including emergency departments, to everyone who has not previously been diagnosed with HIV and who:

- has symptoms that may indicate HIV or HIV is part of the differential diagnosis (for example, infectious mononucleosis-like syndrome), in line with [HIV in Europe's HIV in indicator conditions](#)
- is known to be from a country or group with a high rate of HIV infection (see recommendation 1.1.1)
- if male, discloses that they have sex with men, or is known to have sex with men, and has not had an HIV test in the previous year
- is a trans woman who has sex with men and has not had an HIV test in the previous year
- reports sexual contact (either abroad or in the UK) with someone from a country with a high rate of HIV
- discloses high-risk sexual practices, for example the practice known as '[chemsex](#)'
- is diagnosed with, or requests testing for, a sexually transmitted infection

- reports a history of injecting drug use
 - discloses that they are the sexual partner of someone known to be HIV positive, or of someone at high risk of HIV (for example, female sexual contacts of men who have sex with men). **[2011, amended 2016]**
- 1.1.6 In areas of high and extremely high prevalence, also offer and recommend HIV testing on admission to hospital, including emergency departments, to everyone who has not previously been diagnosed with HIV and who is undergoing blood tests for another reason. **[new 2016]**
- 1.1.7 Additionally, in areas of extremely high prevalence, offer and recommend HIV testing on admission to hospital, including emergency departments, to everyone who has not previously been diagnosed with HIV. **[new 2016]**

GP surgeries

- 1.1.8 In all areas, offer and recommend HIV testing to everyone who has not previously been diagnosed with HIV and who:
- has symptoms that may indicate HIV or HIV is part of the differential diagnosis (for example, infectious mononucleosis-like syndrome), in line with [HIV in Europe's HIV in indicator conditions](#)
 - is known to be from a country or group with a high rate of HIV infection (see recommendation 1.1.1)
 - if male, discloses that they have sex with men, or is known to have sex with men, and has not had an HIV test in the previous year
 - is a trans woman who has sex with men and has not had an HIV test in the previous year
 - reports sexual contact (either abroad or in the UK) with someone from a country with a high rate of HIV
 - discloses high-risk sexual practices, for example the practice known as 'chemsex'
 - is diagnosed with, or requests testing for, a sexually transmitted infection

- reports a history of injecting drug use
 - discloses that they are the sexual partner of someone known to be HIV positive, or of someone at high risk of HIV (for example, female sexual contacts of men who have sex with men). **[2011, amended 2016]**
- 1.1.9 In areas of high and extremely high prevalence, also offer and recommend HIV testing to everyone who has not previously been diagnosed with HIV and who:
- registers with the practice or
 - is undergoing blood tests for another reason and has not had an HIV test in the previous year. **[new 2016]**
- 1.1.10 Additionally, in areas of extremely high prevalence, consider HIV testing opportunistically at each consultation (whether bloods are being taken for another reason or not), based on clinical judgement. **[new 2016]**
- 1.1.11 Offer and recommend repeat testing to the people in recommendations 1.1.8 and 1.1.9 in line with [recommendation 1.2.6](#). **[new 2016]**
- 1.1.12 If a venous blood sample is declined, offer a less invasive form of specimen collection, such as a mouth swab or finger-prick. **[2011, amended 2016]**

Prisons

- 1.1.13 At reception, recommend HIV testing to everyone who has not previously been diagnosed with HIV. For more information, see [NICE's guideline on physical health of people in prison](#). **[new 2016]**

Community settings

- 1.1.14 Providers of community testing services (including outreach and detached services) should set up testing services in:

- areas with a high prevalence or extremely high prevalence of HIV, using venues such as pharmacies or voluntary sector premises (for example, those of faith groups)
 - venues where there may be high-risk sexual behaviour, for example public sex environments, or where people at high risk may gather, such as nightclubs, saunas and festivals. **[2011, amended 2016]**
- 1.1.15 Recognise that not all community settings are appropriate for providing testing services, for example because tests should be undertaken in a secluded or private area (in line with British HIV Association guidelines). **[2011, amended 2016]**
- 1.1.16 Ensure that people who decline or are unable to consent to a test are offered information about other local testing services, including self-sampling. See making decisions using NICE guidelines for more information about consent. **[2011, amended 2016]**
- 1.1.17 Ensure that lay testers delivering tests are competent to do so and have access to clinical advice and supervision. **[2011, amended 2016]**

1.2 Increasing opportunities for HIV testing

Point-of-care testing

- 1.2.1 Offer point-of-care testing (POCT) in situations where it would be difficult to give people their results, for example if they are unwilling to leave contact details. **[new 2016]**
- 1.2.2 Explain to people at the time of their test about the specificity and sensitivity of the POCT being used and that confirmatory serological testing will be needed if the test is reactive. **[2011, amended 2016]**

Self-sampling

- 1.2.3 Consider providing self-sampling kits to people in groups and communities with a high rate of HIV (see recommendation 1.1.1). **[new 2016]**

- 1.2.4 Ensure that people know how to get their own self-sampling kits, for example, by providing details of websites to order them from. **[new 2016]**

Repeat testing

- 1.2.5 When giving results to people who have tested negative but who may have been exposed to HIV recently, recommend that they have another test once they are past the window period. **[2011, amended 2016]**
- 1.2.6 Recommend annual testing to people in groups or communities with a high rate of HIV, and more frequently if they are at high risk of exposure (in line with Public Health England's HIV in the UK: situation report 2015). For example:
- men who have sex with men should have HIV and sexually transmitted infection tests at least annually, and every 3 months if they are having unprotected sex with new or casual partners
 - black African men and women should have an HIV test and regular HIV and sexually transmitted infection tests if having unprotected sex with new or casual partners. **[2011, amended 2016]**
- 1.2.7 Consider the following interventions to promote repeat testing:
- Call-recall methods using letters or other media, such as text messages or email, to remind people to return for annual testing.
 - Electronic reminders in health records systems to prompt healthcare professionals to identify the need for testing during appointments and offer it if needed. **[new 2016]**

People who decline a test

- 1.2.8 If people choose not to take up the immediate offer of a test, tell them about nearby testing services and how to get self-sampling kits. **[2011, amended 2016]**

Partners of people who test positive

- 1.2.9 Partners of people who test positive should receive a prompt offer and recommendation of an HIV test through partner notification procedures. **[new 2016]**

1.3 Promoting awareness and uptake of HIV testing

Content

- 1.3.1 Materials and interventions for promoting awareness and increasing the uptake of HIV testing should be designed in line with [NICE's guidelines on behaviour change: general approaches](#), [behaviour change: individual approaches](#) and [patient experience in adult NHS services](#). **[new 2016]**
- 1.3.2 Provide promotional material tailored to the needs of local communities. It should:
- provide information about HIV infection and transmission, the benefits of HIV testing and the availability of treatment
 - emphasise that early diagnosis is not only a route into treatment and a way to avoid complications and reduce serious illness in the future, but also reduces onward transmission
 - detail how and where to access local HIV testing services, including services offering [POCT](#) and [self-sampling](#), and sexual health clinics
 - dispel common misconceptions about HIV diagnosis and treatment
 - present testing as a responsible act by focusing on trigger points, such as the beginning of a new relationship or change of sexual partner, or on the benefits of knowing one's HIV status
 - address the needs of non-English-speaking groups, for example, through translated and culturally sensitive information. **[2011, amended 2016]**
- 1.3.3 Ensure interventions to increase the uptake of HIV testing are hosted by,

or advertised at, venues that encourage or facilitate sex (such as some saunas, websites, or geospatial apps that allow people to find sexual partners in their proximity). This should be in addition to general community-based HIV health promotion. **[2011, amended 2016]**

- 1.3.4 Promote HIV testing when delivering sexual health promotion and HIV prevention interventions. This can be carried out in person (using printed publications such as leaflets, booklets and posters) or through electronic media. **[2011]**
- 1.3.5 Ensure health promotion material aims to reduce the stigma associated with HIV testing and living with HIV, both among communities and among healthcare professionals. **[2011, amended 2016]**
- 1.3.6 Ensure health promotion material provides up-to-date information on the different kinds of HIV tests available. It should also highlight the significantly reduced window period resulting from the introduction of newer tests such as fourth-generation serological testing. **[2011, amended 2016]**

Methods of raising awareness

- 1.3.7 Use or modify existing resources, for example TV screens in GP surgeries, to help raise awareness of where HIV testing (including self-sampling) is available (for content see recommendations 1.3.1 and 1.3.2). **[new 2016]**
- 1.3.8 Consider a range of approaches to promote HIV testing, including:
- local media campaigns
 - digital media, such as educational videos
 - social media, such as online social networking, dating and geospatial apps
 - printed materials, such as information leaflets. **[new 2016]**

1.4 Reducing barriers to HIV testing

1.4.1 Advertise HIV testing in settings that offer it (for example, using posters in GP surgeries) and make people aware that healthcare professionals welcome the opportunity to discuss HIV testing. **[new 2016]**

1.4.2 Staff offering HIV tests should:

- Emphasise that the tests are confidential. If people remain concerned about confidentiality, explain that they can visit a sexual health clinic anonymously.
- Be able to discuss HIV symptoms and the implications of a positive or a negative test.
- Be familiar with existing referral pathways so that people who test positive receive prompt and appropriate support.
- Provide appropriate information to people who test negative, including details of where to get free condoms and how to access local behavioural and preventive interventions.
- Recognise and be sensitive to the cultural issues facing different groups (for example, some groups or communities may be less used to preventive health services and advice, or may fear isolation and social exclusion if they test positive for HIV).
- Be able to challenge stigmas and dispel misconceptions surrounding HIV and HIV testing and be sensitive to people's needs.
- Be able to recognise the symptoms that may signify primary HIV infection or illnesses that often coexist with HIV. In such cases, they should be able to offer and recommend an HIV test. **[2011, amended 2016]**

1.4.3 Ensure practitioners delivering HIV tests (including those delivering outreach POCT) have clear referral pathways available for people with both positive and negative test results, including to sexual health services, behavioural and health promotion services, HIV services and confirmatory serological testing, if needed. These pathways should ensure the following:

- People who test positive are seen by an HIV specialist preferably within 48 hours, certainly within 2 weeks of receiving the result (in line with [UK national guidelines for HIV testing](#)). They should also be given information about their diagnosis and local support groups.
- Practitioners in the voluntary or statutory sector can refer people from HIV prevention and health promotion services into services that offer HIV testing and vice versa. [2011, amended 2016]

Terms used in this guideline

Chemsex

This term is commonly used to describe sex between men that occurs under the influence of drugs taken immediately before and/or during the sexual session. The drugs most commonly associated with chemsex are crystal methamphetamine, GHB/GBL, mephedrone and, to a lesser extent, cocaine and ketamine.

Extremely high prevalence

Local authorities with a diagnosed HIV prevalence of 5 or more per 1,000 people aged 15 to 59 years (based on modelling of diagnosed HIV prevalence distribution in local authorities in England; see [Public Health England's sexual and reproductive health profiles](#)).

Fourth-generation serological testing

Fourth-generation tests detect HIV antibodies and p24 antigen simultaneously. This means they have the advantage of reducing the time between infection and testing HIV positive to about 1 month.

High prevalence

Local authorities with a diagnosed HIV prevalence of between 2 and 5 per 1,000 people aged 15 to 59 years (based on modelling of diagnosed HIV prevalence distribution in local authorities in England; see [Public Health England's sexual and reproductive health profiles](#)).

Lay tester

A non-clinical practitioner who has been trained to carry out HIV tests.

Point-of-care testing

Point-of-care tests (POCT) or 'rapid' tests are a common way to test for HIV. They are easy to use when an alternative to venepuncture is preferable, for example outside conventional healthcare settings and if it is important to avoid a delay in obtaining a result. However, they have reduced specificity and sensitivity compared with fourth-generation laboratory tests. This means there will be false positives, particularly in areas with lower HIV prevalence, and all positive results need to be confirmed by serological tests.

Public sex environments

Public sex environments are public areas where people go to engage in consensual sexual contact (both same sex and opposite sex).

Self-sampling

Self-sampling HIV kits allow people to collect their own sample of blood or saliva and send it by post for testing. They usually receive negative results by text message.

Self-testing

Self-testing kits allow people to perform their own HIV test in a place of their own choosing and get an immediate result (typically within 15 to 20 minutes).

Window period

The window period is the time between potential exposure to HIV infection and when a test will give an accurate result. The window period is 1 month for a fourth-generation test and 3 months for older tests.

Putting this guideline into practice

NICE has produced [tools and resources to help you put this guideline into practice](#).

Some issues were highlighted that might need specific thought when implementing the recommendations. These were raised during the development of this guideline and are:

- The need to address misconceptions about HIV testing and treatment, for example:
 - the cost of HIV treatment
 - life expectancy following a positive diagnosis (particular emphasis is needed on the benefits of early diagnosis for outcomes including life expectancy).
- The need to reduce the stigma (real or perceived) associated with HIV testing and living with HIV, both among communities with a high or extremely high prevalence of HIV and among healthcare professionals.
- The need to take local patterns of HIV into account when planning how to deliver services. Services should be tailored to the needs of the population, including whether an area has [high prevalence](#) or [extremely high prevalence](#) of HIV.

Context

In 2014, an estimated 103,700 people (69,200 men and 34,400 women) in the UK were living with HIV. The overall HIV prevalence was 1.9 per 1,000 people aged 15 and over ([Public Health England's HIV in the UK](#)).

Although there are significant pockets of HIV in other populations and communities, the most significant burden of HIV continues to be borne by men who have sex with men and by black Africans. An estimated 45,000 men living with HIV in the UK in 2014 had acquired their infection through sex with other men, an increase from 43,000 in 2013. One in 20 men aged 15 to 44 who have sex with men is estimated to be living with HIV.

A recent increase in HIV testing coverage among men attending sexual health clinics is likely to be the reason for an increase in new diagnoses and a decline in undiagnosed infections: about 6,500 men who have sex with men were unaware of their infection in 2014, compared with 8,500 in 2010 ('HIV in the UK').

Almost 1 in 1,000 heterosexual people aged 15 to 44 in the UK is estimated to be living with HIV. Prevalence is higher in black African heterosexual women (1 in 22) and men (1 in 56), who together form the second largest group affected by HIV. Late diagnosis remains a significant problem in heterosexual people: in 2014, 55% were newly diagnosed at a late stage of infection (just over half of whom were black African) ('HIV in the UK').

Overall, 17% of people estimated to have HIV are unaware they are infected and so are at risk of passing it on. More people living outside London are unaware of their HIV infection (24%) compared with those in London (12%) ('HIV in the UK').

In 2013, in response to the international AIDS epidemic, UNAIDS launched a new target known as '90-90-90' ([UNAIDS's 90-90-90: An ambitious treatment target to help end the AIDS epidemic](#)). By 2020:

- 90% of all people living with HIV will know their HIV status
- 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy
- 90% of all people receiving antiretroviral therapy will have viral suppression.

In 2011, NICE published guidelines PH33 and PH34, which aimed to increase the uptake of HIV testing in black Africans living in the UK and in men who have sex with men. In 2014, experts reviewed the evidence and agreed that the guidelines should be updated to reflect changes in the way HIV testing is delivered (following the legalisation of self-sampling and self-testing kits) and to reflect the normalisation of HIV testing across health services.

The committee's discussion

Evidence statement numbers are given in square brackets and refer to the summaries of evidence contained within the reviews that were conducted to support the development of this guideline. For an explanation of the evidence statement numbering, see the [evidence reviews section](#).

Background

Updating the previous guidelines

The committee discussed the recommendations and considerations in the 2 guidelines being updated (NICE guidelines PH33 and PH34), and considered the view of the experts in the review decision. The committee agreed that the previous recommendations were still pertinent but they needed some updating to better reflect current practice. The committee removed or amended parts of the recommendations that it agreed were outdated. For more information, see [update information](#).

The committee concluded that many of the recommendations from the previous guidelines were aimed at a broader population than men who have sex with men, and black Africans. For the more specific recommendations, the committee agreed it would be appropriate to broaden them to apply to any population with a high rate of HIV. The committee recognised that men who have sex with men, and black Africans are still the most high-risk groups for HIV in the UK and this is reflected in the guideline ([recommendation 1.2.6](#)). An additional benefit of broadening the recommendations to apply to everyone with undiagnosed HIV is that it should help to normalise HIV testing so that it is not seen differently from any other blood test. For more information on the relevance of this guideline for other groups, see the [equality impact assessment](#).

HIV testing and HIV screening

The committee discussed the distinction between testing and screening. It was reminded that recommending screening programmes is outside NICE's role. It was aware that HIV screening in antenatal settings is currently recommended by the UK National Screening Committee and has a very high uptake. It also discussed the differences between opt-in

and opt-out approaches to testing, that is whether people are asked if they want an HIV test or they are told they will be tested for HIV unless they specifically ask not to be. It agreed that it was important to make sure people understand that HIV testing is voluntary and to give everyone the opportunity to opt out of a test.

The committee discussed that HIV testing may not always be routinely undertaken among people who have conditions that might indicate HIV infection. For this reason, it agreed that it is important for national guidelines to recommend HIV testing when diagnosing or treating conditions that may indicate HIV infection (see [HIV in Europe's guidance on HIV in indicator conditions](#)).

Other guidelines

The committee agreed that the [British HIV Association's UK national guidelines for HIV testing](#) are the most up-to-date HIV guidelines available in the UK and are also accredited by NICE, so they remain in the recommendations. The only exception relates to indicator conditions, for which more up-to-date guidance is available from [HIV in Europe's guidance on HIV in indicator conditions](#). Although this guideline has not been accredited by NICE, the committee agreed it was a useful and authoritative source of information to give people who are offering HIV testing.

High prevalence and extremely high prevalence of HIV

The committee discussed the meaning of 'high prevalence'. NICE guidelines PH33 and PH34 used the definition given by Public Health England of 2 in 1,000 people. However, as more people are being diagnosed with HIV and treated, and because they are living longer, the background prevalence of HIV is rising and the overall UK prevalence in 2014 was 1.9 per 1,000.

The committee was aware that during the development of this guideline, Public Health England carried out a new analysis of 2014 data on diagnosed HIV prevalence distribution in local authorities in England. Based on this analysis, groups and communities at high prevalence of diagnosed HIV can be defined as follows:

- High prevalence: local authorities with a diagnosed HIV prevalence of between 2 and 5 per 1,000 people aged 15 to 59 years.

- Extremely high prevalence: local authorities with a diagnosed HIV prevalence of 5 or more per 1,000 people aged 15 to 59 years.

When this is applied to national late HIV diagnosis data, it shows that two-thirds of late HIV diagnoses occur in high-prevalence and extremely-high-prevalence local authorities. This means that if this guideline is successfully applied in high- and extremely-high-prevalence areas, it could potentially affect two-thirds of late diagnoses nationally.

The committee agreed that the definitions of high prevalence and extremely high prevalence were useful, and it incorporated them into the recommendations. The committee also agreed it was important for areas to find out their diagnosed prevalence, as well as that of surrounding areas ([recommendation 1.1.1](#)). This allows them to adapt their strategy for HIV testing using the recommendations in this guideline. These data are available from [Public Health England's sexual and reproductive health profiles](#). Additionally, the committee was aware that local data are often available to supplement national data from Public Health England, and that local data may be more up to date and provide more granular detail about local groups and populations with a high rate of HIV.

Evidence statements not used to make recommendations

The committee did not make recommendations for all of the evidence statements. This was mainly because it did not believe, based on the evidence, that an intervention was effective; or it agreed that the intervention may not be applicable in the UK. For details of the evidence statements not used to make recommendations, see the [evidence reviews section](#).

Sections 1.1 and 1.2

The discussion below explains how we made **[new 2016]** recommendations in:

- [section 1.1 on offering and recommending HIV testing in different settings](#)
- [section 1.2 on increasing opportunities for HIV testing](#).

Current practice

Suitable settings for offering and recommending HIV testing

The committee discussed the appropriateness of different settings for offering HIV testing. It noted the role the voluntary sector plays in HIV testing, particularly in terms of increasing its acceptability among some subpopulations. In terms of healthcare settings, it acknowledged that previous evidence for PH33 and PH34 had shown that both primary and secondary care were suitable settings to offer and recommend HIV tests. The committee did not feel it was appropriate to recommend promoting HIV testing in any particular setting more than others, so it made recommendations for all settings, using HIV prevalence to determine the intensity of interventions.

Time pressures on healthcare staff and reluctance to offer tests

The committee noted that there is pressure on healthcare professionals' time during appointments. Some kinds of HIV tests might take too long – for example, a GP would not be able to perform point-of-care testing (POCT) during a 10-minute appointment in addition to the main consultation. However, another healthcare practitioner in the practice, for example a practice nurse, might be able to offer this test.

The committee considered that the uptake of HIV testing was generally high when testing was offered but that staff are often reluctant to offer and recommend a test. The committee felt it was particularly important that practitioners who are reluctant to offer tests more widely should know about this.

Evidence for effectiveness

Secondary care, emergency care and GP settings: recommendations 1.1.4 to 1.1.12

The committee discussed criteria for offering testing in secondary care, emergency care and GP surgeries based on the identified HIV prevalence of the area (recommendations 1.1.5 to 1.1.10). It agreed that further opportunities to maximise HIV testing should be pursued in areas with a high prevalence of HIV. This could include testing someone who has not previously been diagnosed with HIV when they are having blood tests on admission to hospital, or when they register with a GP practice (recommendations 1.1.6

and 1.1.9). In high- and extremely-high-prevalence areas, having a blood test for another reason provides an opportunity for an HIV test with little resource impact (just the cost of the test). The committee also agreed that when new patients register with a GP surgery their overall health is assessed and this is an efficient opportunity to promote HIV testing.

The committee felt it was important not to miss opportunities to offer testing opportunistically in areas of extremely high prevalence (recommendations 1.1.7 and 1.1.10). This could include offering testing to everyone who has not previously been diagnosed with HIV, when they are admitted to hospital, or to people attending GP appointments. However, the committee also noted the importance of using clinical judgement before offering an opportunistic test in general practice (recommendation 1.1.10). For example, a GP might decide not to offer a test during a consultation if the person is distressed or upset or has recently been tested.

On balance, recognising the practical implications of introducing opportunistic testing in GP practices as well as the potential resource impact, the committee made a weaker 'consider' recommendation for GP surgeries (recommendation 1.1.10). This means that the recommendations place a stronger onus on hospitals to deliver testing in extremely-high-prevalence areas, compared with GP surgeries. The committee agreed this was justifiable because testing in acute settings is likely to be cheaper than in GP surgeries, and most people being admitted to hospital have blood taken for other reasons (recommendations 1.1.6 and 1.1.7).

The committee also discussed the effectiveness of offering testing to people who present to health services with conditions that might indicate HIV. The effectiveness of this depends to some extent on the accuracy of the list of indicator conditions used. The committee agreed that defining a list of indicator conditions was outside the scope of this guideline. However, it agreed that [HIV in Europe's guidance on HIV in indicator conditions](#) from was sufficiently evidence-based to inform recommendations 1.1.5 and 1.1.8 and to be a useful supplement to the guideline.

Prisons: recommendation 1.1.13

The committee noted stakeholder comments about the importance of testing in prisons. Little evidence was identified on the effectiveness of interventions to provide HIV testing in custodial settings, although 2 studies looked at the timing of HIV tests in prisons [ES14]. Despite the lack of evidence, the committee agreed that prisons were a high-prevalence environment for HIV and other blood-borne viruses and that health services in prisons

would be expected to recommend testing to people in line with the approach used in GP surgeries. It was also clear that the committee had a duty to promote equality through its guidelines, and a recommendation for people in prison would support this.

The committee saw evidence to suggest that uptake of HIV testing was higher if tests were offered within 24 hours of reception into prison [ES14]. It was aware of the national guidance in [Public Health England's improving testing rates for blood-borne viruses in prisons and other secure settings](#), which indicates that testing should happen within 72 hours of reception, and inferred that, if combined with other tests for blood-borne viruses, HIV testing would have a lower cost impact. It was mindful that there is a [NICE guideline on physical health of people in prison](#). On balance, it felt that the evidence was strong enough to recommend that HIV testing should be recommended at prison reception.

Community settings: recommendation 1.1.14 and 1.1.15

The committee discussed the range of settings where HIV testing could be offered, especially less invasive tests. It noted the importance of offering testing to people in places they would normally go, but was also aware that there could be a potential stigma associated with this (for example, because they might not want to be seen by other members of their community). The committee discussed faith settings as an example of a setting where HIV testing could be offered. However, it acknowledged that not all faith settings would be appropriate or faith groups willing to participate.

Self-sampling and self-testing: recommendations 1.1.16, 1.2.3, 1.2.4 and 1.2.8

The committee discussed the distinction between self-sampling and self-testing. No evidence was found on self-testing so it did not include this in the recommendations.

The committee discussed self-sampling and agreed that although there was limited evidence currently, it showed great promise, especially as a way to engage people who are less likely to present at services. However, given the paucity of the evidence, the committee decided that it was only able to make a 'consider' recommendation ([making decisions using NICE guidelines](#) explains how we use words to show the strength, or certainty, of our recommendations).

The committee recognised that not all community settings are appropriate for providing self-sampling kits and agreed it was important to consult stakeholders when setting up

self-sampling services. The committee agreed there were likely to be economies of scale and that some local authorities might get better value for money by commissioning online self-sampling services such as the one currently provided by Public Health England [ES17].

Partner testing and repeat testing: recommendations 1.2.5, 1.2.6, 1.2.7 and 1.2.9

The committee noted the importance of timely partner tracing and notification, not only for the purposes of offering an HIV test, but if the sexual contact was recent then providing post-exposure prophylaxis promptly could reduce the risk of infection.

The committee discussed the frequency of HIV testing and agreed that repeat testing should be promoted to people in higher-risk groups. It discussed evidence for the effectiveness of different systems to promote repeat testing, such as call-recall methods and electronic reminders. The committee agreed that systems like these should be implemented wherever possible. It noted that the evidence suggested that electronic reminders that cannot be dismissed without completing a query box were more effective than reminders that could be clicked off. However the evidence was not sufficient to support this as a recommendation and overall the committee agreed it would be too onerous [ES18].

Evidence for cost effectiveness

The committee noted that late diagnosis of HIV is substantially more costly than early diagnosis, because of the costs of inpatient admission and treatment. The committee was aware that prompt diagnosis of HIV would be cost saving per person, and there could be further cost savings through averting transmission (recommendation 1.2.9). The committee agreed that HIV testing is most cost effective when the cost per positive test is lowest. The committee noted that the cost of an HIV test is incurred for each person tested and therefore the cost per positive test result decreases when either the cost of the HIV test decreases, or the HIV prevalence in a population increases.

The committee noted that the review of cost effectiveness identified mixed evidence as to whether it is more cost effective to test everyone for HIV, or to target certain groups. The studies identified considered the general population in the UK or the US and compared various strategies for testing everyone or only those who disclosed risk factors that identified them as a higher-risk group. Differences in populations, strategies, inputs, cost perspectives and model structure presented difficulties in comparing and interpreting the

results. The committee was limited in how it could use this evidence in making recommendations.

The committee discussed that the additional cost of testing for HIV for a person already undergoing blood tests was likely to be low. The committee felt that in an areas of high and extremely high prevalence, offering HIV testing to everyone undergoing blood tests for another reason would be cost effective, because of the low incremental cost and high HIV prevalence (recommendations 1.1.6, 1.1.9).

The committee discussed that HIV testing for everyone admitted to hospital would incur an additional cost, but that this would be cost effective in areas of extremely high prevalence (recommendation 1.1.7) given the likelihood of bloods being taken for other reasons.

The committee discussed that HIV testing for everyone attending a GP surgery would incur an additional cost, but that opportunistic testing would be cost effective in areas of extremely high prevalence (recommendation 1.1.10).

In other settings or areas of lower prevalence, the committee felt that targeting specific groups was more likely to be cost effective: that is, it would result in the lowest cost per positive test (recommendations 1.1.5, 1.1.8, 1.2.6).

The committee noted an analysis of pilot projects for HIV testing in hospitals, primary care and community settings and for self-sampling, which found variation in cost per positive test. It concluded that no single setting was likely to offer the greatest value for money. The committee recommended setting up community testing in high- and extremely high-prevalence areas in addition to testing in hospitals and primary care (recommendation 1.1.14). The same analysis found that the cost per test of self-sampling was comparable to the cost per test in other settings, and so could represent a cost-effective method of diagnosing HIV (recommendations 1.1.16, 1.2.3, 1.2.4, 1.2.8).

Resource impact and implementation issues

When discussing testing in GP surgeries and emergency departments (section 1.1), the committee discussed the resource impact of the recommendations. It felt that making testing routine for all attendees in GP surgeries and emergency settings could have a substantial resource impact and could only be justified in areas of extremely high prevalence. However, the committee agreed that opportunistic testing for everyone having

a blood test in these settings in extremely-high- and high-prevalence areas represents best practice, although it was mindful of the resource implications. The committee also considered the potential resource impact of self-sampling. An expert told the committee that self-sampling was likely to cost the same as traditional testing approaches involving healthcare professionals. It may also be an effective approach in harder to reach subgroups at risk, and could have potential to reduce late diagnosis in these groups. This could reduce the health and social care costs associated with late diagnosis [EP2].

The committee discussed further the role that primary care professionals (particularly GPs) could have in opportunistically offering and recommending HIV testing to a subpopulation of people at risk who are difficult to reach through methods described in recommendations 1.1.8 and 1.1.9. It discussed promoting opportunistic testing at every consultation in extremely-high-prevalence areas as a way of promoting testing to this subpopulation. The committee agreed that HIV testing for everyone attending a GP surgery would incur an additional cost. The proportion of HIV tests conducted in GP surgeries was estimated to be 3.8%. The committee reasoned that if 3.8% of all people aged 15 to 59 in areas of extremely high prevalence who do not have an HIV diagnosis had an HIV test in their GP surgery, the estimated cost would be between £2 million and £4 million depending on the cost used for GP time and laboratory costs. The committee noted that, given current HIV testing practice, this was a highly unlikely scenario and therefore the resource impact of the recommendation is likely to be much smaller. Notwithstanding, given the annual treatment costs for HIV, the life expectancy of somebody living with HIV and the potential reduction in transmission due to treatment, the committee agreed that opportunistic GP testing was good value.

Sections 1.3 and 1.4

The discussion below explains how we made **[new 2016]** recommendations in:

- [section 1.3 on promoting awareness and uptake of HIV testing](#)
- [section 1.4 on reducing barriers to HIV testing.](#)

Evidence for effectiveness

There was some evidence of effectiveness for media campaigns, educational videos, online social networking and information leaflets in raising awareness of HIV testing. The committee agreed that different methods of awareness raising are effective for different

groups and that a range of methods should be recommended [ES1, ES2, ES6, ES7, ES8, ES9, ES10].

The committee discussed the evidence from 1 study on the effectiveness of motivational interviewing for increasing uptake of HIV testing [ES4]. The committee felt that there was not enough evidence from the study to recommend this as an intervention but that referring to NICE's guidelines on behaviour change would cover this type of approach (recommendation 1.3.1).

The committee noted that evidence suggested computerised interviews and risk assessments were unlikely to be effective at increasing uptake of HIV testing in people who may have undiagnosed HIV. However, it did not think the evidence was strong enough to recommend that they should not be used. [ES3].

There was evidence suggesting that financial incentives are effective at increasing uptake of HIV testing [ES21]. However, the committee noted a lack of evidence from UK healthcare settings. Without stronger evidence of effectiveness in the UK, the potentially significant resource impact of the intervention could not be justified.

Evidence for cost effectiveness and resource impact

The committee noted that awareness raising was a core element of any health promotion and it deemed the resource impact of the new recommendations to be minimal. The intention behind the new recommendations was to bring the principles in line with current technologies and modes of delivery of messages.

Evidence reviews

Details of the evidence discussed are in [evidence reviews, reports and papers from experts in the area](#).

The evidence statements are short summaries of evidence. Each statement has a short code indicating which document the evidence has come from.

Evidence statements from 2011 guidelines

Evidence statement number **E1.1** indicates that the linked statement is numbered 1.1 in

review 1 for PH33, 'Review of effectiveness and cost effectiveness: increasing the uptake of HIV testing to reduce undiagnosed infection and prevent transmission among black African communities living in England'. **Q1** indicates that the linked statement is numbered 1 in review 2 for PH33, 'Increasing the uptake of HIV testing to reduce undiagnosed infection and prevent transmission among black African communities living in England – barriers to HIV testing'. **ES1** indicates that the linked statement is numbered 1 in the review for PH34 'Preventing and reducing HIV transmission among men who have sex with men'.

The expert report 'Time to test for HIV: expanded healthcare and community HIV testing in England. Interim report' was also used to inform the original recommendations in PH33 and PH34.

Evidence statements from 2016 reviews

ES1a.1 indicates that the linked statement is numbered 1 in review 1a for this guideline. **ES1b.1** indicates that the linked statement is numbered 1 in review 1b for this guideline. **ES1c.1** indicates that the linked statement is numbered 1 in review 1c for this guideline. **ES2.1** indicates that the linked statement is numbered 1 in review 2 for this guideline. **EP1** indicates that expert paper 'Targeted testing based on indicator conditions' is linked to a recommendation. **EP2** indicates that expert paper 'HIV testing in the UK and summary of current UK practice' is linked to a recommendation.

If a recommendation is not directly taken from the evidence statements, but is inferred from the evidence, this is indicated by **IDE** (inference derived from the evidence).

Recommendation 1.1.1

2016: EP2; IDE

Recommendation 1.1.2

2011: E3.5b, ES4 **2016:** ES1b.14, ES2.3

Recommendation 1.1.3

2011: E3.5c **2016:** ES1b.12; ES1c.1; IDE

Recommendation 1.1.4

2011: E3.5b, ES4 **2016:** ES1b.13, ES1c.7, ES2.1; EP1

Recommendation 1.1.5

2011: ES4, Q6.1 **2016:** ES1c.4, ES1c.5; IDE

Recommendation 1.1.6

2011: ES4, Q6.1 **2016:** ES1c.4, ES1c.5; IDE

Recommendation 1.1.7

2011: ES4, Q6.1 **2016:** ES1c.4, ES1c.5; IDE

Recommendation 1.1.8

2011: Q6.2, Q6.3 **2016:** ES1c.5, ES2.1; IDE

Recommendation 1.1.9

2011: Q6.2, Q6.3 **2016:** ES1c.5, ES2.1; IDE

Recommendation 1.1.10

2011: Q6.2, Q6.3 **2016:** ES1c.5, ES2.1; IDE

Recommendation 1.1.11

2011: ES4; IDE

Recommendation 1.1.12

2011: ES15 **2016:** ES1b.15; IDE

Recommendation 1.1.13

2016: ES1b14; IDE

Recommendation 1.1.14

2011: Q6.2, ES1, ES14, ES15, ES2.3; IDE

Recommendation 1.1.15

2011: ES14, ES15; IDE

Recommendation 1.1.16

2011: Q1.3, ES18, ES2.2; EP2

Recommendation 1.1.17

IDE

Recommendation 1.2.1

2011: E3.5c, Q6.3 2016: ES1b.16, ES1c.1; IDE

Recommendation 1.2.2

IDE

Recommendation 1.2.3

2011: Q5.3, ES1 2016: ES1b.17, ES2.4; EP2; IDE

Recommendation 1.2.4

2016: IDE

Recommendation 1.2.5

2011: E3.5b, ES4, ES7 2016: ES1c.6; IDE

Recommendation 1.2.6

2011: ES4; IDE

Recommendation 1.2.7

2016: ES1b.18; IDE

Recommendation 1.2.8

2016: EP2; IDE

Recommendation 1.2.9

2016: IDE

Recommendation 1.3.1

2011: ES13; IDE

Recommendation 1.3.2

2011: E3.3, E3.4, Q1.2, Q1.3, Q4.2, Q4.3, Q5.1, ES3, ES13; IDE

Recommendation 1.3.3

2011: ES3, ES13; IDE

Recommendation 1.3.4

2011: ES13 2016: ES1a.6; IDE

Recommendation 1.3.5

2011: Q.3, ES10, ES13, ES18, ES2.2; IDE

Recommendation 1.3.6

2011: ES10, ES13; IDE

Recommendation 1.3.7

2011: E3.2, ES3, ES13 **2016:** ES1a.1, ES1a.2, ES1a.6, ES1a.7, ES1a.8, ES1a.9, ES1a.10

Recommendation 1.3.8

2011: E3.2, ES3, ES13 **2016:** ES1a.1, ES1a.2, ES1a.6, ES1a.7, ES1a.8, ES1a.9, ES1a.10

Recommendation 1.4.1

2016: ES1a.6; IDE

Recommendation 1.4.2

2011: E3.5c, E3.6, E3.7a, E3.7b, Q1.3, Q5.4, Q7.4, ES18 **2016:** ES1b.20, ES2.2

Recommendation 1.4.3

2011: Q5.1; IDE

The following new 2016 evidence statements were not used to make recommendations: ES1a.3, ES1a.4, ES1a.5, ES1b.13, ES1b.19, ES1b.20, ES1b.21, ES1b.22, ES1c.2, ES1c.3, ES1c.7

Gaps in the evidence

The committee's assessment of the evidence on HIV testing identified a number of gaps. These gaps are set out below.

1. Interventions to increase awareness of the benefits of HIV testing and details of local testing services among people who have not been diagnosed with HIV, particularly:

- one-to-one and group-based information provision
- opportunistic information provision
- use of social media
- mass media campaigns.

(Source ER1)

2. Interventions to increase awareness of the indicators for, and the benefits of, HIV testing among practitioners who should offer testing or refer people for testing.

(Source ER1)

3. Increasing the range of settings where tests can be carried out, particularly in community and outreach settings.

(Source ER1)

4. Changes in service delivery to increase the uptake of HIV testing, for example, increasing the number of tests offered; changing opening times and appointment systems; and changing confidentiality policies.

(Source ER1)

5. The impact of lay testers recommending or offering an HIV test.

(Source ER1)

6. The effectiveness of self-testing for HIV and self-sampling for an HIV test.

(Source ER1)

7. Interventions to assess whether indicator condition-targeted testing is effective compared with routine testing.

(Source ER1)

8. Interventions to increase uptake of HIV testing among people who have an illness that

may indicate HIV infection.

(Source ER1)

9. Attitudes towards HIV testing among people who may have undiagnosed HIV, and service providers (that is, whether or not there is any stigma associated with HIV tests).

(Source ER2)

10. Barriers to HIV testing for people who may have undiagnosed HIV (for example, people who do not speak English as a first language) and service providers.

(Source ER2)

11. Appropriate settings for delivering HIV testing, for example custodial settings or faith settings.

(Source ER1)

12. Appropriate definition of 'high prevalence' in the UK context, especially in terms of cost effectiveness.

(Source committee discussion)

Recommendations for research

The guideline committee has made the following recommendations for research.

1 Interventions to improve the acceptability and uptake of HIV testing among people at higher risk

What interventions would be effective and cost effective among people at higher risk in the UK to increase uptake of HIV testing among people who may have undiagnosed HIV?

Why this is important

Improving the acceptability of HIV testing and increasing the uptake of HIV testing will reduce the pool of undiagnosed infection, improve outcomes for those affected (because of earlier diagnosis) and reduce onward transmission, particularly in some high-risk populations. There is a lack of evidence among some groups in the UK, such as people in prison, trans women and people accessing services through community and outreach settings.

2 Supporting healthcare professionals to offer HIV tests

What interventions are effective and cost effective to increase the likelihood of healthcare professionals offering and recommending an HIV test and of its subsequent uptake?

Why this is important

Evidence suggests that the uptake of HIV testing is high among people who are offered and recommended a test. However, healthcare professionals often do not offer or recommend HIV tests in situations in which guidelines suggest it would be appropriate to do so. Research exploring interventions to promote the offer of HIV testing among a variety of test providers would inform future iterations of the guideline.

Most of the evidence on increasing the uptake of HIV testing came from the USA, often

from settings that do not exist in the UK, for example veterans' health clinics. Given the lack of UK-based evidence, it is also important to ascertain how applicable this research is to cultural and healthcare contexts in the UK.

3 Self-sampling and self-testing

How effective are self-sampling and self-testing in terms of accuracy of sampling, ability to reach different groups, test completion, receipt of results and subsequent care-seeking behaviour?

Why this is important

Self-sampling and self-testing are relatively new modalities in the UK and limited evidence exists about their effectiveness and cost effectiveness.

4 Indicator conditions

What is the UK prevalence of HIV in various indicator conditions, and how effective are interventions using indicator condition-targeted testing compared with other testing strategies?

Why this is important

There is a lack of evidence on the effectiveness of using indicator conditions to target HIV testing, an approach that may improve detection rates. Also, because it is targeted, there may be economies of scale, for example, HIV testing could be commissioned in clinics that treat people with indicator conditions.

5 Cost utility

What is the cost utility of increasing the offer or uptake of HIV testing in different settings, for different types of tests, using different strategies (for example opt-in or opt-out approaches) and in areas and groups with different background prevalence?

Why this is important

There is no UK evidence to enable commissioners and service providers to plan the most cost-effective services for their local communities.

Finding more information and committee details

You can see everything NICE says on this topic in the [NICE Pathway on HIV testing and prevention](#).

To find NICE guidance on related topics, including guidance in development, see the [NICE webpage on HIV and AIDS](#).

For full details of the evidence and the guideline committee's discussions, see the [evidence reviews](#). You can also find information about [how the guideline was developed](#), including [details of the committee](#).

NICE has produced [tools and resources to help you put this guideline into practice](#). For general help and advice on putting our guidelines into practice, see [resources to help you put NICE guidance into practice](#).

Update information

December 2016: We have reviewed the evidence and made new recommendations on when to offer and recommend testing, promoting awareness and uptake of testing and reducing barriers to testing for HIV. These recommendations are marked **[new 2016]**.

We have also made some changes without an evidence review to:

- broaden the population covered
- add self-sampling
- update information about indicator conditions
- clarify wording about confidentiality
- clarify that testing people who were diagnosed with a sexually transmitted infection (STI) should include all people who ask for STI tests
- clarify timing of HIV testing
- clarify and expand the recommendations on repeat testing
- remove the recommendation about behavioural interventions for people who inject drugs.
- remove references to training.

These recommendations are marked **[2011, amended 2016]**.

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Accreditation

