

# Ending HIV Transmission in Scotland by 2030

November 2022

## Ending HIV Transmission in Scotland by 2030

### Context

HIV remains a condition with profound impact on the health and well-being of people globally. With early diagnosis and effective therapy, HIV is no longer the terminal illness in many nations that it was in the 1980s, and it is now established that with suppressive treatment, the virus cannot be transmitted [Ref 1]. However, there remain adverse impacts on physical and mental health together with the requirement for lifelong healthcare and treatment. Living with HIV can worsen existing inequalities and people may also experience additional HIV-related stigma and discrimination. Thus, there is both a real opportunity and a need to stop HIV from being passed on in the first place.

On 1 December (World Aids Day) 2020, the Minister for Public Health set the goal of ending HIV transmission in Scotland by 2030 [Ref 2]. The Scottish Government commissioned the Scottish Health Protection Network (SHPN) to submit a proposal on how this could be achieved. This led to the establishment of a dedicated short life HIV Transmission Elimination Oversight Group (HiTEOG) which has produced this report with a set of recommendations to inform the Minister on proposed next steps to achieve the goal.

### The vision

To end HIV transmission as a public health issue within Scotland by 2030.

### High level goals for achieving the vision

1. To prevent people from acquiring HIV, regardless of age, sex, gender identity, sexual orientation, race, ethnicity, religion, deprivation or disability status.
2. To find people living with HIV (some of whom are undiagnosed) and support entry/re-entry into HIV care and treatment.
3. To help reduce stigma that makes some people less likely to access HIV prevention, testing and treatment services.

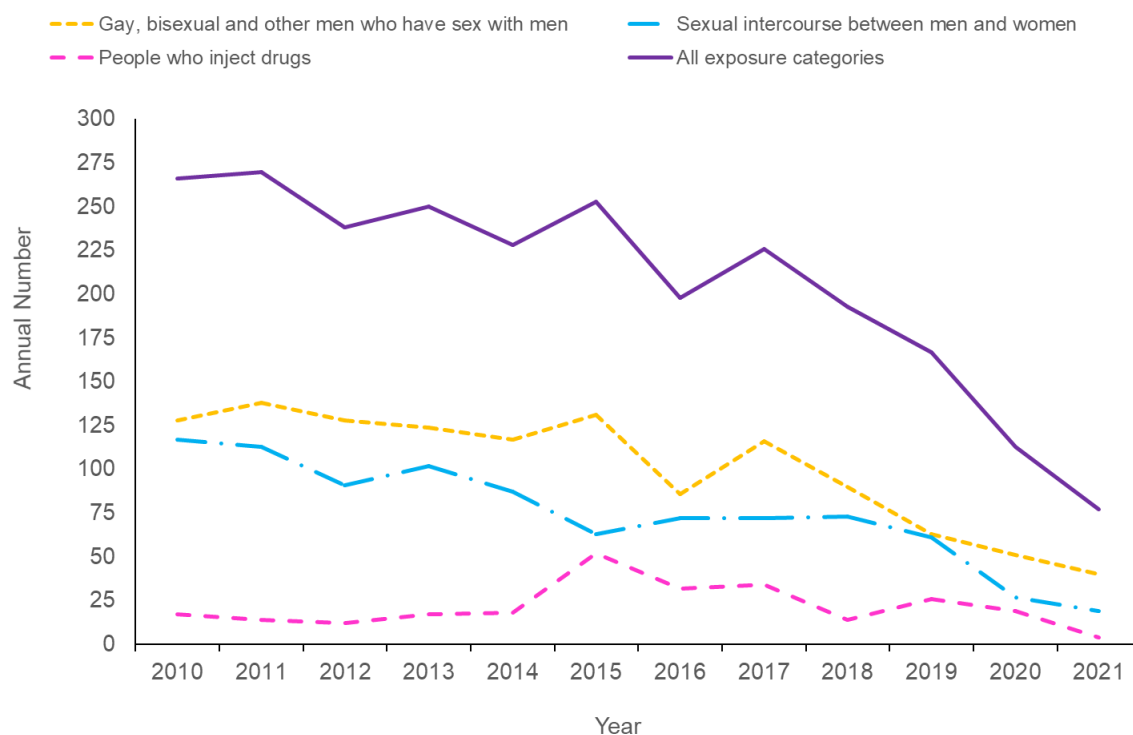
## Background

By the end of 2021, there were 6,415\* people known to be diagnosed and living with HIV in Scotland [Ref 3], compared with 5,617 in 2019 [Ref 4]. Of the 6,415, 46% were gay, bisexual, and other men who have sex with men, 38% were people who were thought to have acquired HIV by heterosexual contact, 9% were people who inject drugs and 7% who acquired HIV through other or unknown routes.\* Access to HIV specialist treatment and care is relatively high in Scotland; based on 2019 data, 90% of people diagnosed were attending specialist HIV services, 98% of those attending were receiving antiretroviral therapy, and 95% of people treated had achieved an undetectable blood level of HIV (undetectable viral load) [Ref 4].

Over the last decade, the annual number of people diagnosed with HIV for the first time – referred to as first ever HIV diagnoses – in Scotland has declined, reducing by 37% between 2010 (266 people) and 2019 (167 people), and by a further 54% to 2021 (77 people) \* [Ref 3]. National HIV data from 2020 and 2021 should be interpreted with caution as COVID-19 measures impacted service delivery resulting in a large reduction in HIV testing. Therefore, data to the end of 2019 were used to inform the actions and targets in this proposal.

\* Owing to active follow-up, data on the Scottish National HIV database are constantly changing. Figures presented in this document may differ from those previously or not yet published.

**Annual number of first ever diagnoses by route of exposure in Scotland, 2010-2021.**  
**(Source: Public Health Scotland)\***



\* Total (all exposure categories) includes diagnoses with other or unknown routes of exposure under investigation.

Between 2010 and 2019, most marked reductions in the annual number of first ever HIV diagnoses in Scotland were observed among gay, bisexual, and other men who have sex with men, (51%) and people who acquired infection heterosexually (48%). These reductions likely reflect a decline in the incidence (and transmission) of HIV infection in Scotland associated with a range of public health measures over this period. The key interventions and milestones which contributed to this progress were:

- Updated UK adult treatment guidelines from 2015 which recognised the individual clinical benefits of earlier initiation of therapy plus the importance of HIV treatment as prevention (TasP) in that undetectable plasma HIV viral load means that the virus cannot be transmitted (undetectable = untransmittable or "U=U"). [Ref 1], [Ref 4]
- Attainment across Scotland in 2018 of the UNAIDS 90:90:90 goals (90% of people living with HIV know their HIV status: 90% of people with diagnosed

HIV receive sustained antiretroviral therapy; 90% of people receiving antiretroviral therapy have viral suppression) [Ref 5].

- Implementation of an NHS-delivered national HIV pre-prophylaxis (PrEP) programme from 2017 [Ref 6], making Scotland one of the first countries worldwide to provide this intervention in routine care. Within two years the incidence of HIV in gay, bisexual and other men who have sex with men attending sexual health clinics in Scotland reduced by 75% among those prescribed PrEP, compared to those attending in the two years prior to the introduction of PrEP [Ref 7].
- Universal blood donor and ante-natal HIV screening with pilot opt-out testing in other settings.
- Rapid access to HIV post-exposure prophylaxis (PEP) provision after sexual or occupational exposure.
- Behavioural interventions and campaigns underpinned by condom distribution schemes and specialist sexual health services.
- Comprehensive contact tracing (also referred to as partner notification) in people with newly diagnosed HIV to trace individuals with undiagnosed virus and to inform prevention interventions.

Over the same period from 2010 to 2019, a 50% increase in the annual number of first ever HIV diagnoses was observed among people who inject drugs (PWID), associated with an outbreak predominantly in Glasgow city [Ref 8]. Prior to 2015, the HIV prevalence in PWID was 1% in Scotland [Ref 8]. Since then, over 180 people have been diagnosed (representing the largest outbreak among PWID for over 30 years in the UK) and the prevalence of infection in this population rose three-fold across Scotland and ten-fold in Glasgow [Ref 8]. This occurred despite relatively high coverage of harm reduction measures to prevent drug-related transmission of blood borne viruses (particularly opioid agonist therapy and injecting equipment provision). The public health response to the outbreak has been considerable, including a range of novel approaches to increase access to injecting equipment, to scale-up HIV testing in services engaged with people who inject drugs, and to achieve high adherence to antiretroviral therapy of those diagnosed through an enhanced model of HIV care involving outreach nursing and community prescribing.

[Ref 9] [Ref 10] An outreach PrEP service, the first to demonstrate that a tailored intervention can reach people who inject drugs effectively and achieve a high level of adherence, has also been piloted [Ref 11].

Apart from a comparatively high level of drug-related harm and death [Ref 12], Scotland has additional challenges linked to alcohol and tobacco use, obesity, safety in communities, poor early years outcomes, mental health impact, high poverty levels and existing inequalities leading to lowered life expectancy [Ref 13].

Furthermore, prior to 2010, asylum seekers and refugees originally housed in other parts of the UK were dispersed to Scotland. This included people from sub-Saharan Africa and parts of the world with higher HIV prevalence than the UK.

There were estimated to be around 500 people with undiagnosed HIV living in Scotland in 2019 [Ref 14]. Approximately a third were thought to be in the NHS Greater Glasgow & Clyde health board area, a further third in NHS Lothian, and the remaining third in other health board areas, in keeping with the geographical population of Scotland. The absolute number of people with undiagnosed HIV in Scotland is thought to be larger in heterosexual individuals, emphasising the importance of considering HIV in people without identified current risk behaviours and the potential for greater impact of HIV-related stigma.

When the UNAIDS 90:90:90 target was achieved, attention turned to whether it might be possible to end HIV transmission, recognising that a tailored approach would be required given the specific set of circumstances affecting Scotland. However, this work was delayed because of the COVID-19 pandemic and new variables which could impact HIV incidence, including lockdown measures, changes in behaviours, access to prevention and specialist services, community testing and the interruption of epidemiological data monitoring. This proposal therefore re-visits the Scottish landscape two years later and makes recommendations to reinstate and achieve the goal of ending HIV transmission by the end of the decade.

## Scope of proposal

The recommendations in this proposal recognise the previously described actions already in place to reduce HIV transmission. These need to be maintained/restored and built upon to maximise the opportunities for HIV transmission elimination by 2030.

**The focus of this proposal is primarily on ending HIV transmission and is not intended as a comprehensive HIV action plan covering all aspects of HIV treatment and care.**

With therapy, people living with HIV who are linked to specialist care now have similar life expectancy as people who are not living with the virus. Following on from 2021's "Reset and Rebuild" [Ref 15], a Scottish Government-led update of the sexual health and blood borne virus (SHBBV) Framework [Ref 16] is currently in development to address wider SHBBV outcomes. This will consider wider actions in relation to HIV. However, barriers to becoming undetectable, entry into care and retention in HIV care are important components that influence HIV transmission and so are also considered within the scope of this proposal.

**This proposal recommends that Scotland achieves and maintains the UNAIDS 95:95:95 goals (95% of individuals with HIV diagnosed; 95% on treatment; 95% suppressed viral load) by 2025.**

As in previous years, this will be measured and reported on in annual HIV data reports [Ref 4]. Although there are challenges in measuring outcomes other than at an overarching national level, it is important that actions remain in place to meet and further exceed the 95:95:95 goals (notably the first percentage of people who are diagnosed) in all sub-populations at risk of HIV and across all geographical areas of Scotland. Outcome data will be reported by NHS Board areas in annual HIV reports [Ref 4].

## **HIV Transmission Elimination Oversight Group (HiTEOG)**

The Scottish Health Protection Network (SHPN) is an obligate network co-ordinated by Public Health Scotland. The SHPN sexual health and blood borne virus (SHBBV) Strategic Leads established a dedicated short life HIV Transmission Elimination Oversight Group (HiTEOG) to produce this set of recommendations and to detail the thinking behind them, taking account of the wider factors influencing HIV in Scotland.

HiTEOG was chaired by Prof Rak Nandwani and administered by the Scottish Government SHBBV policy team. The Oversight Group drew upon lived experience and included people with individual expertise rather than representing specific populations or groups. HiTEOG brought together third sector and community organisations, public health, academia, primary care, and services including drug and alcohol/sexual health/HIV (see appendix for members and contributors). The approach was collaborative and included participants from outside Scotland to strengthen the evidence base and to broaden the perspective. There was no prior external commitment to new resources. A range of potential recommendations were explored; pragmatism was key in consolidating specific, realistic, time-based actions. At an early stage it was recognised that robust HIV surveillance data and epidemiological modelling were core to inform further actions as the wider system responded to COVID-19, monkeypox and other emerging challenges. It was envisaged that a comprehensive review and statement of progress would be required in 2025. At that point a gap analysis approach could be used to identify further interventions and adjustments to attain the 2030 vision.

Scotland has been a recognised leader in real-world implementation of HIV pre-exposure prophylaxis (PrEP) since the introduction of its NHS-delivered programme in 2017 [Ref 17]. However, the delivery model to date has primarily been through specialist sexual health services which has had the greatest impact in HIV reduction in UK-born, health-literate, white gay, bisexual, and men who have sex with men who already access existing services [Ref 18]. Recognising capacity challenges within sexual health services, the desire to explore alternative care pathways, and most importantly, to avoid exacerbating inequalities even further, HiTEOG convened



a short-life PrEP delivery subgroup (jointly chaired by Prof Nicola Steedman and Prof Nandwani) to formulate advance recommendations whilst the wider proposal was in development. There was rapid recognition that the format and wording of currently used PrEP eligibility criteria may have been applied without sufficient flexibility, leading to exclusion of some individuals who would have benefited from being offered PrEP, whilst other individuals may not have realised that PrEP might reduce HIV acquisition risk in their own circumstances. It was therefore agreed to replace the existing Scottish PrEP eligibility criteria with broader prescribing guidance at the earliest opportunity, ahead of other recommendations.

## Defining HIV transmission elimination

Our vision is to end HIV transmission. This means achieving the ambitious target of **zero** people contracting HIV within Scotland by 2030. This aligns with wider global strategic aims. The World Health Organization (WHO) refers to a goal “to end the AIDS epidemic as a public health threat by 2030” [Ref 19]. Similar visions have been articulated by other nations [Ref 20], [Ref 21], [Ref 22], [Ref 23].

HiTEOG defines HIV transmission elimination as the point when there are zero individuals acquiring HIV within Scotland, regardless of age, sex, gender identity, sexual orientation, race, ethnicity, religion, deprivation or disability status.

### Definitions used in this proposal

**Incident infection:** infection in people who have acquired HIV in the 12 months prior to the date of first diagnosis.

**Recently acquired infection:** infection in people who have acquired HIV in the 3-4 months prior to the date of first diagnosis.

**Established infection:** infection in people who have acquired HIV over 12 months prior to the date of first diagnosis.

Individual HIV transmission events cannot easily be quantified directly at a population level, and instead have to be estimated through statistical modelling of a range of data. The number of first ever HIV diagnoses has been used elsewhere as an indicator for new infections and can be directly monitored over time according to population group and setting. This indicator however encompasses people who have established HIV (acquired more than 12 months ago) as well as people with incident infection (acquired within the previous 12 months). Thus, to provide a more accurate proxy measure of transmission, additional data, particularly those which inform the timing of infection such as HIV antibody avidity testing [Ref 24] and dates of previous negative tests, need to be used in combination to determine the extent of incident infection events.

In addition to monitoring the number of first ever new HIV diagnoses in Scotland per year, HiTEOG recommends that estimation of *incident infection* (people who have acquired HIV in the 12 months prior to their diagnosis) is developed and used as a future key outcome measure to track progress on HIV elimination.

As an interim outcome measure, HiTEOG also recommends that *recently acquired infection* (people who have acquired infection in the 3-4 months prior to diagnosis) is used to track progress on HIV elimination.

As far as we are aware, to date no other settings have adopted such a monitoring approach differentiating between first ever HIV diagnoses arising from established and incident infection. HiTEOG believes that this unique approach is appropriate to Scotland's specific circumstances and given relatively small numbers of newly diagnosed people. By tracking first ever diagnoses according to incident and recently acquired infection in the interim, the aim is to differentiate between people who have lived with undiagnosed HIV for some while, rather than people who have acquired the virus more recently.

The focus is on transmission occurring within Scotland, so people previously known to be diagnosed with HIV at the time of entry into NHS Scotland are not included in the indicator. The goal is not to create a "zero HIV nation" as there will continue to be a cohort of people who are already in Scotland and living with HIV [Ref 3]. We recognise that language and terms can contribute to stereotypes, stigma and discrimination, and that there are inherent biases around using the term "elimination" in relation to HIV transmission. It is also recognised there is further work to be done on better reporting data regarding transgender and non-binary people. We therefore affirm the people-first approach adopted in this proposal [Ref 25] and also a wider recognition that Scotland will continue to welcome people living with HIV to visit, study, work and settle in the country.

## Interim targets for 2025

In addition to (at least) meeting the previously stated UNAIDS 95:95:95 target by 2025, Scotland is cognisant of the WHO 2030 target of fewer than 0.025 people newly infected with HIV per 1,000 uninfected population per year (2.5 per 100,000) [Ref 26]. The ambition for Scotland is to not only achieve this WHO incidence target but exceed it five years in advance of 2030. This aligns with Public Health Scotland's strategic plan and timelines to lead and support work to prevent disease; specifically wanting to see fewer people losing health to infectious diseases, especially hepatitis C, HIV and tuberculosis, by March 2025.

In the context of HIV testing levels returning to at least equivalent of that pre-COVID-19, we propose an interim HIV elimination target of 100 or fewer first ever diagnoses per year by the end of 2025.

This represents a greater than 60% reduction since 2010 and at least a 40% reduction compared with the 2019 baseline by the end of 2025.

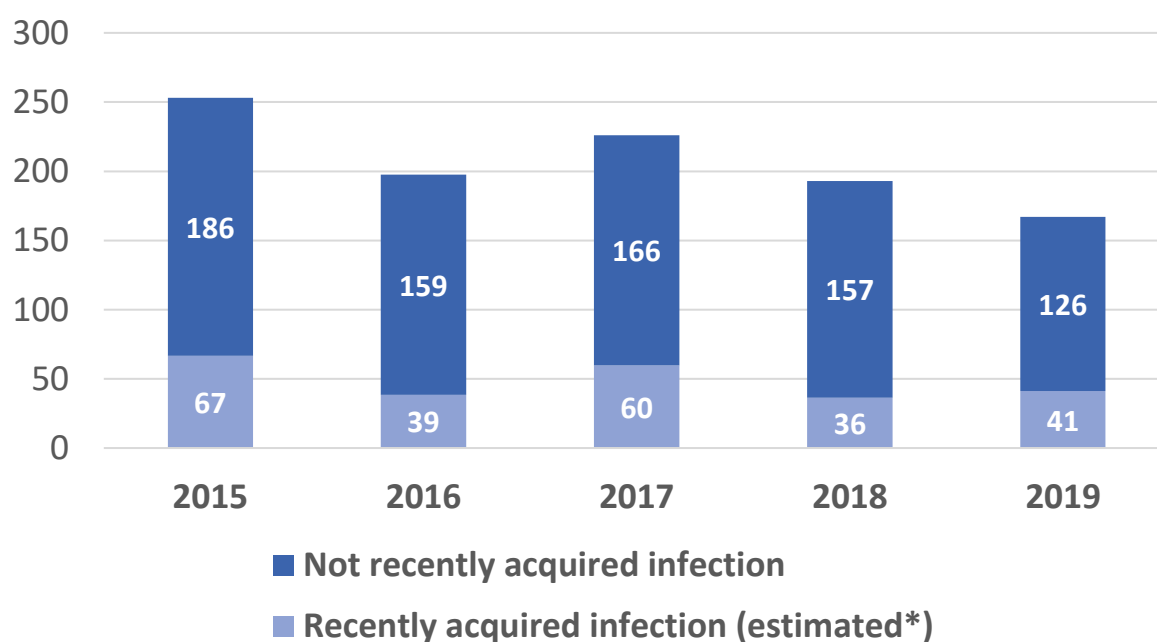
With a return to pre COVID-19 HIV testing levels, the 100 first ever HIV diagnoses per year by the end of 2025 will comprise a combination of people with incident HIV (acquired within the previous 12 months identified with the assistance of avidity and negative testing) and also detection of people with longer-established previously undiagnosed HIV. With potentially as many as 500 people living with established undiagnosed infection in Scotland [Ref 4] approximately 60-70 people with prevalent HIV need to be diagnosed each year in the years to 2030. The aim of this proposal is to “front-load” HIV detection strategies to locate people and to prevent mortality and morbidity related to late HIV diagnosis [Ref 27]. Therefore, it is desirable and expected that there are higher numbers of people found for the first time in the years from 2023 onwards (greater than 60 per year). It is anticipated that this will decline as 2030 is approached.

It is recognised that the estimate of people living with HIV in Scotland, including those undiagnosed, will need to be recalculated with adjustments made from the impact of the COVID-19 pandemic on behaviours, testing and service attendance. It

would be desirable to reach a consensus approach on back-calculation and statistical models for consistent UK definitions [Ref 28].

Although incomplete, utilising recent infection testing algorithms (RITA) linked to HIV antibody avidity data, we estimate that around a quarter of the 167 first ever HIV diagnoses in 2019 were recently acquired. The remainder comprised infections that were probably acquired more than 3-4 months prior to the first positive HIV antibody test. Thus, the number of people with newly diagnosed recently acquired HIV reduced by approximately 40% (from 67 to 41) between 2015 and 2019. [Ref 4]

**Annual number of first ever HIV diagnoses by recently acquired infection\* in Scotland, 2015–2019.** (Source: Public Health Scotland)



\* New diagnoses are tested for recent acquired infection using the HIV avidity antibody test; estimates of recently acquired infection were derived for 114 samples (11%) without an avidity test result based on those with available data.

In the context of HIV testing levels returning to at least equivalent of that pre-COVID-19, HiTEOG proposes that the number of people diagnosed for the first time with recently acquired HIV infection (within the previous 3-4 months) in Scotland should be 20 per year or fewer by 2025.

If achieved, this would be consistent with an approximate halving of diagnosed recently acquired infection in Scotland between 2019 and 2025.

Given the low numerical target, it would be challenging to propose meaningful outcomes for specific demographic groups or sub-populations in Scotland, but as far as possible there should be equity of reduced HIV incidence in all regardless of age, sex, gender identity, sexual orientation, race, ethnicity, religion, deprivation or disability status. Analysis of the demographic characteristics of people who continue to present with a first ever HIV diagnosis (especially recently acquired infection) should be used to refine prevention and diagnosis interventions so that all communities benefit equally.

As first ever HIV diagnosis numbers decrease over time, there are two key considerations to bear in mind. The first is there may be greater challenge and possibly cost to reach individuals remaining at highest risk of HIV acquisition, owing to pre-existing inequalities and intersectionality. The second is the need to avoid stigmatising people who are newly diagnosed when HIV becomes a relatively rare event.

It is anticipated that there will be a "tipping point" between 2025 and 2030 when the proportion of recently acquired HIV begins to account for the majority of first ever diagnoses, rather than instances of established HIV. This will require review of the strategy to progress to a new phase with emphasis shifting from high testing coverage towards contact tracing, whilst maintaining primary prevention, treatment and care and public health surveillance.

## The How

To achieve the HIV transmission elimination goal in Scotland, a whole-system and whole-society approach will be required. The high-level activities required are **primary prevention, detection and treatment**. However these will need to be provided across a range of health settings, including (but not limited to) sexual health & HIV services, primary care, prison health, drug and alcohol services, and secondary care. There is also a role for wider participants including local authorities, employers and the third sector, who will need to be engaged in development and implementation of the elimination goal, in order to engage with people that are not currently being reached by existing interventions.

1. **Primary prevention:** stopping the virus from passing from one person to another. The main route of HIV transmission within Scotland is sexual contact in gay, bisexual and men who have sex with men and in heterosexual people. Condom use and safer sex practices have been established prevention interventions since the 1980s. Although numbers have decreased after identification of the 2015 outbreak, people who inject drugs may acquire HIV from injecting equipment, and/or from sexual partners with higher HIV prevalence than the general population. Examples of universal interventions for primary prevention that can continue to be utilised include behavioural change, condom use, pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP). For people who inject drugs, the provision of drug treatment services is, in itself, a key intervention in addition to injecting equipment exchange provision, as discontinuation of drug use or transitioning to lower risk pathways reduces the possibility of drug-related BBV transmission substantially. Equitable access to and uptake of prevention is required to avoid amplifying existing inequalities.

2. **Detection:** Finding undiagnosed people by the offer and acceptance of an HIV test. This identifies people with recently acquired infection as well as others who may have acquired HIV some time previously. HIV diagnosis provides an opportunity to carry out detailed contact tracing to identify transmission networks, to notify and offer treatment to others who may not be aware of their HIV status (secondary prevention) and, if needed, to provide prevention support to partners found to be HIV-negative.

Examples of such interventions include offering remote self-sampling with linkage to care and opt-out HIV testing in settings such as ante-natal care, sexual health services and prisons. Community and outreach testing initiatives supported by the third sector are effective in terms of acceptance of a test and also increasing public knowledge and awareness of HIV. As population prevalence declines in the population, testing of all people with HIV indicator conditions, in accordance with UK adult testing guidelines [Ref 29] increases in importance.

**3. Treatment:** HIV therapy lowers levels of virus in body fluids to a level below detectability, meaning it cannot be passed on to others. This is sometimes called Treatment as Prevention ("TasP"). Adherence to medication and monitoring is required to maintain and confirm viral suppression. Retention in HIV care and high uptake of well-tolerated antiretroviral therapy is needed to support reduction of HIV transmission. Individuals in care in Scotland are also linked to peer support, both within services and also directly to third sector and community organisations if funded to do so.



Several of these activities can be applied widely, but there are specific elements tailored towards target populations depending on local circumstances, priorities and resources.

**Examples** include:

	Gay, bisexual and other men who have sex with men	People who inject drugs	Heterosexual and high prevalence populations
Prevention	Behavioural change (safer sex). Condom use. PrEP.	Drug treatment services. Provision of injecting equipment. PrEP.	Information for travellers. Free condoms. Free formula feeding for women living with HIV.
Detection	Community outreach testing e.g. LGBTQ+ venues, self-sampling/testing for HIV.	Regular BBV testing in drug & alcohol services, prisons and pharmacies.	Access HIV test on arrival in UK. Opt-out testing. Community HIV self-sampling or testing. HIV testing in the presence of an HIV indicator condition.
Treatment	HIV treatment as prevention. Testing for STIs (such as syphilis) which can facilitate HIV transmission.	HIV treatment as prevention. Co-administration with opioid agonist therapy.	HIV treatment as prevention and during pregnancy to prevent mother to baby transmission.

## Pillar interventions

This proposal adopts a population-based approach to ending HIV transmission. Taking the population of Scotland as a whole, people can be considered to be within four broad risk transmission categories (with some overlap and movement). These can be used to determine the appropriate strategic approach utilising a set of five pillar interventions spanning the high-level activities of prevention, detection and treatment.

### Five pillar interventions to end HIV transmission in Scotland by 2030

- Testing
- Education including awareness raising and stigma reduction
- Combination prevention
- Entry into and retention in specialist HIV care
- Contact tracing

## Population-based approach to broad transmission categories

### 1. Not at risk of HIV acquisition

Testing available + Education including awareness raising and stigma reduction

### 2. At risk but currently HIV-negative

Recommend testing + Education including awareness raising and stigma reduction + Combination prevention

### 3. Undiagnosed HIV

Testing + Education including awareness raising and stigma reduction + Entry into and retention in specialist HIV care + Contact tracing

#### **4. Diagnosed HIV (in or out of current care)**

Confirmatory testing + Education including awareness raising and stigma reduction + Entry into and retention in specialist HIV care + Completion of contact tracing

Overcoming key barriers that have so far prevented prevention, detection and treatment reaching all those who could and would benefit is central to the success of ending HIV transmission. Therefore the first pillar intervention focuses on the normalisation of routine HIV testing with high coverage in a range of settings, both where there is likely to be increased prevalence (sexual health services, prisons, drug services and selected emergency departments) and in all settings where clinical presentation could be linked to undiagnosed HIV. Community based initiatives also merit consideration, but in all circumstances, there have to be audited care pathways which support engagement, retention and re-engagement in care, all of which can be jeopardised by stigma. This is why the second pillar intervention spans workforce and public education to raise awareness of the many advances in progress that have been made in the understanding of HIV, underpinned by advances in treatment and care. In turn, this is a key tool in addressing stigma, both in relation to people already living with HIV, but also the effect it has on people who may defer testing or engagement in care. As previously highlighted [\[Ref 13\]](#), wider measures to tackle inequalities are also essential.

The third pillar intervention focuses on the extensive combination prevention toolkit now available to prevent HIV transmission, many of which also contribute to prevention of drug-related harms, other blood borne viruses, sexually transmitted infections and, in the instance of condoms, conception risk.

The fourth pillar intervention highlights the importance of entry into and retention in HIV care. The entire HIV transmission elimination proposal depends on continued high level of engagement and performance to meet the UNAIDS 95:95:95 goals. HIV services will be required to continue in future, even when the zero transmission target is met in Scotland. It is also essential that learning from Scotland is shared to support other nations make progress in transmission elimination to achieve the global goal.

Finally, contact tracing (also known as partner notification) providing high quality, person-centred support for people who have recently been diagnosed, is essential to assist identification and engagement of other people who may have been exposed to HIV and support testing, care and prevention. Working with people who have recently been found to have HIV can not only identify contacts, but also can reduce the “R number” (average number of people that one person passes the virus to) by offering combination prevention interventions and recognising clusters or linked cases of transmission.

The short life HIV Transmission Elimination Oversight Group (HiTEOG) recognises the complexity of the delivery landscape in Scotland. The recommendations for each pillar intervention are therefore shared across several key collaborators, including NHS service providers, NHS boards, local authorities, Health & Social Care Partnerships (HSCPs), Integrated Joint Boards (IJBs), Scottish Government, third sector and community providers. Where possible, a proposed lead agency for delivery of the recommendation (working with and co-ordinating other partners) is specified.

A total of 22 proposed actions are listed. Some are already in progress, others can be taken forward by collaborative working between key partners, whilst others will require design and oversight accompanied by release of resources.

## **1. Testing interventions**

### **1.1: To increase HIV testing coverage in specialist sexual health services in Scotland from 2023 onwards.**

Specialist sexual health services routinely assess HIV acquisition risk and offer HIV testing, but there may be scope to expand opt-out testing and detect undiagnosed HIV, particularly in women and non-GBMSM. This can be achieved by staff training, prioritisation and system redesign with the caveat that there is sufficient capacity for delivery given the other priorities that specialist services are required to implement. This setting is optimally placed to differentiate individuals who are in the category of not at risk of HIV acquisition from those who are HIV-negative but are at risk and would benefit from combination prevention. The number of HIV tests performed in Scottish specialist sexual health services prior to the COVID-19 pandemic was approximately 2,000 a month, but this fell by 90% from April 2020 [Ref 15]. There is currently limited national data on new positivity rate and entry into specialist care in Scotland. Surveillance of HIV prevalence in specific populations (such as women attending specialist sexual health services specifically for contraception) would be helpful in targeting future testing strategies in this setting. Further analysis of testing offer and uptake is required to quantify optimal reach of HIV testing in people attending with a range of presentations.

Lead agency: specialist integrated sexual health services within NHS boards.

### **1.2: To provide sufficient laboratory capacity to support expanded BBV testing and confirmation activity from all providers in Scotland.**

Laboratory based tests for blood borne viruses (including HIV and hepatitis C) are undertaken by NHS boards, but work has been displaced owing to COVID-19. In addition, extra capacity will be required if more BBV tests are received. Beyond diagnosis and confirmation, the proposed targets require avidity tests and algorithms to differentiate recency of HIV acquisition plus delivery of phylogenetic analysis to determine HIV transmission dynamics [Ref 30].

Lead agency: NHS boards.

**1.3: To increase BBV testing coverage to people in custody including those already in Scottish prisons reaching 90% uptake within the previous 12 months by December 2024.**

This builds upon the previously issued guidance to support opt-out BBV testing in prisons that was issued in July 2019 [Ref 31] but implementation was delayed owing to COVID-19. This setting will include individuals straddling the categories of not at HIV risk, at risk but negative and HIV-positive but unaware. HIV tests should be recommended to everyone in custody unless already known to be HIV-positive or been tested within the previous year and not been at risk of transmission. Initial work is required confirm BBV testing rates during 2021/22. Previous 2019 guidance on hepatitis C case-finding [Ref 32] recommended HCV opt-out testing at services used by people at highest risk, including prisons. This intervention could also be combined with hepatitis B sampling and to offer testing for sexually transmitted infections. Lead agency: Scottish Prison Health Service, supported by NHS boards.

**1.4: To offer universal opt-out BBV testing in Scottish drug services by December 2024.**

This recommendation stems from the HIV outbreak in people who inject drugs in Glasgow from 2015 despite wide provision of harm reduction interventions. This includes a population who may be at increased risk of HIV acquisition and also include some people who have not yet been diagnosed. Learning suggested that there was reduced client and service awareness of HIV. Access to drug treatment services (and not just injection equipment provision) remains an important primary prevention intervention in itself. Therefore, this recommendation is closely aligned with the wider Scottish Government policy to address drug-related harms [Ref 33]. National data on BBV testing rates in 2021 and 2022 is required to establish the baseline. This intervention could be combined with hepatitis B and C sampling. Lead agency: Drug & alcohol service providers within Health & Social Care Partnerships (HSCPs).

**1.5: To pilot HIV opt-out testing programmes in urban emergency departments where the diagnosed population HIV prevalence exceeds 1 in 500 people.**

The aim is to identify people who have HIV and are either unaware or not currently engaged with specialist care and treatment. Evaluation will require cross-system

working to establish numerators and denominators and to guide future outcomes relating to cost per diagnosis found in areas with the highest HIV prevalence in Scotland. This intervention could be combined with hepatitis B and C testing. There is a role for third sector support for testing in this setting (supporting and informing patients and staff with peer support for individuals who test positive). Delivery of this pilot will require identified leadership and funding for implementation, monitoring and evaluation.

Lead agency: public health teams within NHS boards with increased HIV prevalence.

### **1.6: To support health care workers to test people for HIV in the presence of an HIV indicator condition**

This action is underpinned by the British HIV Association/British Association for Sexual Health and HIV/British Infection Association Adult HIV Testing Guidelines [Ref 29] and builds on previous training on the recognition and diagnosis of HIV led by NHS Education Scotland (NES) which targeted healthcare practitioners in non-HIV specialist roles [Ref 16]. This targeting includes health care workers in surgical specialties to support recognition of undiagnosed people, reduction in stigma and to ensure appropriate pre- and post-operative infection control procedures (see 2.2). In addition, the British HIV Association is working to update UK-level non-specialist clinical guidelines to incorporate HIV testing. Changes to postgraduate specialist medical training since 2022 are increasing the presence and visibility of HIV-experienced clinicians in hospital settings.

Lead agency: NHS Education for Scotland (NES) supported by HIV third sector organisations and health improvement teams within NHS Boards.

### **1.7: To evaluate existing community HIV testing interventions led by the third sector.**

Supported by Scottish Government funding, there are community-led programmes already in progress in Scotland utilising home HIV self-testing and self-sampling. Key metrics include reach (accessing individuals and populations who are not already taking up HIV tests from NHS providers), and the number of people confirmed to be positive for the first time using standard laboratory testing and who can be confirmed as entering specialist care. These are more meaningful outcomes than simply the

number of kits provided, or tests returned. Co-ordination with HIV testing initiatives elsewhere in the UK would be an advantage (see 2.3).

Lead agency: third sector.

## **2. Education including awareness raising and stigma reduction interventions**

### **2.1: To routinely prompt consideration of HIV on laboratory result reports where the condition is a possible differential diagnosis by the end of 2023.**

A “once for Scotland” approach is needed to raise awareness in instances when HIV should be considered as a differential diagnosis of a laboratory result. Examples include negative glandular fever serology or a low total lymphocyte count [\[Ref 29\]](#).

Lead agency: NHS boards laboratory services supported by Public Health Scotland.

### **2.2: Provision of training (with support from HIV third sector organisations) to highlight HIV risk reduction for primary and secondary care clinicians.**

The objective is to support multidisciplinary team clinicians outside specialist settings with knowledge, skills and attitudes to assess and discuss individual HIV risk and to facilitate interventions to reduce future risk. Clinicians may not be in a position to directly initiate some prevention interventions but will be supported in signposting people to partners who can progress options tailored to individual circumstances.

Lead agency: NHS Education for Scotland (NES) supported by HIV third sector organisations.

### **2.3: To support health and social care worker knowledge about the realities of HIV in the era of effective therapy and prevention.**

Some non-specialist health and social care professionals have gaps in knowledge despite the large amount progress made in treating and preventing HIV since the 1980s. Lack of up-to-date knowledge may exacerbate stigma and lead to inappropriate infection control measures. There is an opportunity for NHS/local authorities to support or mandate training for employees (including the impact of stigma), linking to wider partnerships such as the Fast Track Cities initiative [\[Ref 34\]](#).

Lead agency: NHS Education for Scotland (NES) supported by HIV third sector organisations and health improvement teams within NHS Boards.



**2.4: To support public facing information to increase understanding and knowledge of HIV and to reduce stigma given the impact of effective treatment and prevention.**

A Fast Track Cities [Ref 34] 2018 Europe-wide survey including 500 respondents from Scotland [Ref 35] found that 69% of Scottish respondents would not feel comfortable dating someone with HIV and that 22% would not feel comfortable working with a person with HIV. 42% believed that people living with HIV should not be permitted to work as healthcare professionals. There was also poor knowledge of HIV transmission with only 28% aware that women living with HIV could have children without passing on the virus. Work to update the public and reduce stigma could build upon existing campaigns and materials (such as HIV testing week) and ideally in collaboration with the other UK nations. A Scottish HIV testing week has not so far been delivered but should be considered and resource appropriately. Scottish organisations including those in health, local authorities, justice and employers should be encouraged to review practice and policies in their role as anchor institutions. However, HIV third sector organisations are uniquely placed to play a pivotal role in engaging people who are not currently being reached by existing initiatives, plus progressing wider anti-stigma initiatives. In recent years, there have been notable successful outcomes in relation to prosecution policy linked to sexual exposure, occupational supervision of people living with HIV and wider understanding of the U=U message.

Lead agency: HIV third sector organisations supported by health improvement teams within NHS Boards.

**2.5: To align teaching content in Scottish educational settings and in the Curriculum for Excellence to reflect updated HIV transmission risk and the reality of living with HIV in current times.**

This recommendation is primarily in relation to secondary education, but there is also scope to widen it in future to consider tertiary education providers; notably training medical and allied health profession undergraduates.

Lead agency: Local authorities supported by health improvement teams within NHS Boards and HIV third sector organisations.

### **3. Combination prevention interventions**

#### **3.1: To create an implementation group to disseminate updated HIV pre-exposure prophylaxis (PrEP) prescribing guidance, provide training to prescribers, roll-out awareness resources and deliver PrEP preparedness.**

This early action was agreed by the PrEP delivery group to extend reach to anyone who would benefit. Updated UK specialty guidelines on PrEP suitability and risk assessment are expected in Q4 2022. The implementation group will be jointly led by community sector and clinical representatives who will develop training and support for PrEP initiation and monitoring. Increasing confidence and consistency of approach of prescribers is a core action to widen use. Dedicated awareness resources tailored for women, trans-people, and people from minoritised communities will be supported by community mobilisation of third sector organisations. Apart from information and awareness, there is scope for supporting access to and engagement with PrEP ("community navigators") to increase preparedness.

Lead agency: PrEP clinicians in partnership with HIV third sector organisations supported by health improvement teams within NHS Boards.

#### **3.2: To estimate the characteristics and number of additional individuals likely to initiate PrEP in primary care settings (such as community pharmacies and general practice).**

This is required to enhance PrEP provision and broader HIV prevention to individuals who would benefit but are not currently accessing specialist sexual health services for a variety of reasons, including stigma relating to the use of such services. There is some evidence that PrEP awareness raising, initiation and maintenance in community settings would be acceptable, and also help address inequalities from specialist service delivery only [Ref 36]. However, there are considerable capacity pressures in primary care and also practical aspects to work through before this can be more widely implemented. Like opt-out HIV testing pilots in Emergency Departments, delivery will require identified leadership and funding for implementation, monitoring and evaluation. Work to be progressed in 2023.

Lead agency: Scottish Government, supported by Public Health Scotland with academic institution collaboration.

**3.3: To explore the acceptability and feasibility of alternative community-based PrEP access and delivery models for people whose needs are not being met by existing arrangements in specialist sexual health settings.**

Development of integrated care pathways to deliver PrEP medication and remote testing to individuals without the need to regularly physically attend specialist sexual health services. These models should include development of online PrEP services ("e-PrEP") [Ref 37]. This will include systems development of governance systems for electronic remote prescribing, along with exploration of general practice and pharmacy-based care pathways. Perspectives to be evaluated from community, current PrEP users, potential PrEP users and health care providers. HIV third sector organisations are well-placed to support such community-based models.

Lead agency: specialist integrated sexual health services within NHS boards, supported by HIV third sector organisations with academic institution collaboration.

**3.4: Enhanced sexual health specialist service capacity to support clinical governance for HIV transmission elimination.**

Specialist sexual health service capacity is required as a frontline partner to implement HIV transmission elimination. Apart from supporting a wide range of partners, direct clinical care and prevention is also provided in this setting. There is medically supported expertise for complex PrEP delivery in the presence of underlying medical conditions which is not provided elsewhere. Sexual health advisers are integral to delivering comprehensive contact tracing after newly diagnosed HIV. As part of wider clinical governance, there is responsibility for failsafe systems to ensure that positive results are acted upon and people with HIV are linked to and attend specialist care.

Lead agency: specialist integrated sexual health services within NHS boards.

**3.5: To update local HIV post-exposure prophylaxis (PEP) care pathways to be consistent with current guidance.**

The current BASHH-BHIVA UK guideline for the use of HIV post-exposure prophylaxis (PEP) was published in 2021 [Ref 38]. The purpose of PEP is to prevent HIV transmission after community sexual, occupational and non-occupational exposures. To achieve this, PEP needs to be delivered as soon as possible after the

exposure. This is usually in a variety of settings including emergency departments, sexual assault services and other specialist services. Requires staff training.

Lead agency: public health teams within NHS boards.

**3.6: NHS Boards to annually review local actions to prevent BBV transmission including condom distribution, behavioural and biomedical interventions, provision of injecting equipment, testing in the presence of HIV indicator conditions and routine opt-out testing in relevant settings.**

Many NHS boards already formally co-ordinate and deliver prevention interventions in partnership with key partners to meet local needs, usually led by a dedicated committee. These contribute to wider positive outcomes, beyond HIV alone (e.g. prevention of pregnancy, sexually transmitted infections, drug-related harms, detection of hepatitis, and stigma reduction).

Lead agency: public health teams within NHS boards.

## **4. Entry into and retention in specialist HIV care interventions**

**4.1: Episodes of late HIV diagnosis or death to be investigated using existing local clinical governance pathways for serious adverse events, with supportive feedback and training offered if required.**

Late HIV diagnosis (first presentation linked to underlying immune deficiency and/or a CD4 cell count below 350) or death are serious adverse events which are potentially preventable and should be managed using the same clinical governance pathways/escalation as other adverse events (for example, surgical adverse events and deaths). This is to support learning and prevent further instances from happening. Avoiding HIV-exceptionalism will also help to reduce HIV-related stigma.

Lead agency: public health teams within NHS boards.

**4.2: To document defined care local pathways to support rapid entry into specialist HIV care after a positive test or access to primary combination prevention (if increased transmission risk identified) after a negative HIV test result.**

People living with HIV may engage with different partners in health & social care and the third sector in Scotland. If newly diagnosed or not currently attending a clinic,

rapid entry to specialist HIV care (within 2 working days) is important to provide advice, support, assessment and treatment. Care pathways should be documented and shared with key collaborators. Individuals who would benefit from combination prevention (including but not limited to PrEP) need to have prompt access to specialist advice and services.

Lead agency: public health teams within NHS boards supported by specialist HIV service providers and the third sector.

#### **4.3: To provide feedback to HIV care and treatment services when individuals relocate and enter care elsewhere (notably in another UK nation).**

On most occasions, when a person living with HIV changes clinic or service provider, consent is provided to contact the previous service to handover care. However, this does not always happen, especially if a person moves from one UK nation to another. This leads to uncertainty when a person is regarded as “lost to follow up”. This action is to encourage confirmation of care transfer between providers, supported by third sector organisations supporting people living with HIV to let service providers know if they do not plan to return to the original clinic.

Lead agency: specialist HIV services, supported by HIV third sector organisations.

## **5. Contact tracing interventions**

### **5.1: To monitor and evaluate comprehensive contact tracing with partner support for people with newly diagnosed HIV in Scotland.**

Contact tracing aims to identify and contact all people who might have been/are at risk of acquiring HIV from the person who has been newly diagnosed (index patient) and to provide person-centred testing, care and support with linkage to HIV treatment services or HIV prevention services as appropriate (ideally within a short time of the index patient’s first positive result). This will be led by sexual health specialist services working with key collaborators in HIV and other relevant services and underpinned by failsafe systems linked to clinical governance reporting mechanisms. National non-aggregated data (not currently available) would help target future prevention initiatives taking account of geographical locations or behaviours, plus share learning and best practice more effectively. Phylogenetic analysis of HIV (which provides “a fingerprint”) to link chains of transmission is a

further tool which is already commonly utilised. UK guidelines on HIV contact tracing are being updated in 2022/23.

Lead agency: specialist integrated sexual health services within NHS boards.

## Monitoring and evaluation

Public Health Scotland is the lead national agency for improving and protecting health and well-being. After some years of planning and a desire to work in new ways, Public Health Scotland was launched in April 2020, jointly sponsored by the Scottish Government and the Convention of Scottish Local Authorities (COSLA). The Scottish Health Protection Network (SHPN) which includes national SHBBV leadership is co-ordinated by Public Health Scotland.

As highlighted previously, robust, dedicated monitoring and collection of data is an essential prerequisite to deliver the ambition of ending HIV transmission by 2030. In turn, the information requires interpretation and expertise to evaluate progress and inform future interventions. Many of the recommendations require analysis of Scotland-wide baseline data followed by robust monitoring arrangements. Scotland has an excellent past record of publishing official statistics on HIV including new diagnoses, attendance and uptake of specialist care and prevention interventions, which have guided policy and strategy on this topic [\[Ref 39\]](#).

The COVID-19 pandemic adversely impacted on the capacity of Public Health Scotland to monitor blood borne virus and sexually transmitted infections (BBV/STI). However, in support of this HIV transmission elimination proposal, Public Health Scotland have reaffirmed their commitment to prevent ill-health and early death associated with BBV/STI in their 2021-24 delivery plan, as part of their wider workplan to reduce health harms within communities and place that communities are exposed to [\[Ref 40\]](#).

To progress the aim of eliminating HIV transmission in Scotland, we recommend that Public Health Scotland takes the lead role to deliver the following actions:

PHS 1: To re-mobilise the BBV/STI team to provide timely surveillance data on HIV epidemiology, including the development of estimates of HIV incidence and prevalence in Scotland.

PHS 2: To collaborate with other national agencies to agree shared definitions of HIV transmission elimination metrics, and to develop monitoring and evaluation initiatives for delivery.

PHS 3: To utilise administrative and clinical information systems (including NaSH data) to support the publication of national HIV data for Scotland.

PHS 4: To review and refine methods to estimate the number of individuals confirmed as living in Scotland aware of their HIV status but not currently engaged in HIV care.

PHS 5: To work with partners to monitor the extent of BBV (and other harms) in people who inject drugs and to evaluate interventions to prevent BBV transmission, including the continuation of national bio-behavioural surveillance systems.

PHS 6: To work with partners to support the monitoring and evaluation of sexual health and harm reduction services in relation to HIV transmission elimination.



## **Future leadership and accountability**

### **HIV Transmission Elimination Strategy Implementation Group for Scotland**

We suggest that the recommendations in this proposal should be taken forward by the creation of a new steering group to oversee and drive delivery, co-ordinate national outcomes and support NHS Boards/partners with local actions. This will provide oversight to review progress and emerging evidence to adjust interventions to end HIV transmission as well as working with and co-ordinating key partners to further develop actions. The recommendations in this proposal have been made without prior commitment to any new funding and against the background of existing limitations in service capacity. It is recognised that access to additional resources will be stretched given the wider financial pressures and priorities linked to a range of budgetary challenges. The new steering group would be well placed to provide advice on relative priorities and costing to progress actions that cannot be delivered through existing mechanisms.

The collaborative approach established by the short life HiTEOG incorporating third sector partners, lived experience and other nations should continue to underpin the work of this group. We recommend that this group is closely aligned with Public Health Scotland and links directly with existing structures for national SHBBV leadership located within the Scottish Health Protection Network to provide governance. It would also be advantageous to work with academic partners with a record of leadership and research in this topic area, to provide additional expertise, to help review monitoring and evaluation plans, to support future research and innovation and to disseminate outcomes to other settings and countries.

The proposed HIV transmission and implementation group should be supported by the Scottish Government SHBBV policy team and will provide regular updates detailing progress towards ending HIV transmission in Scotland to the Minister for Public Health, Women's Health and Sport. The Minister will proactively update the Scottish Parliament on progress by Parliamentary statement.

The SHBBV policy team will ensure that work of the strategic and implementation group is co-ordinated with other areas of Government policy including (but not limited

to) the next iteration of the SHBBV Framework [Ref 15] [Ref 16], drug-related harm [Ref 33], mental health [Ref 41] and the Women's Health Plan [Ref 42]. There will also be opportunities to align strategic objectives with the global HIV Fast Track Cities initiative [Ref 34] by working with COSLA (the Convention of Scottish Local Authorities). COSLA and the Scottish Government are the joint sponsors of Public Health Scotland where the monitoring and evaluation of elimination progress will be incorporated.

## **Suggested citation**

Nandwani R, Estcourt CS, Hutchinson SJ, Steedman N on behalf of the Scottish HIV Transmission Elimination Oversight Group (HiTEOG). Ending HIV transmission in Scotland by 2030. Scottish Government. November 2022.

## References

### All websites accessed and URL correct in September 2022

1. Rodger AJ, Cambiano V, Bruun T, et al. PARTNER Study Group. Risk of HIV transmission through condomless sex in serodifferent gay couples with the HIV-positive partner taking suppressive antiretroviral therapy (PARTNER): final results of a multicentre, prospective, observational study. *Lancet*. 2019 Jun 15;393(10189):2428-2438. doi: 10.1016/S0140-6736(19)30418-0. Epub 2019 May 2. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19%2930418-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19%2930418-0/fulltext)
2. Eliminating HIV transmission by 2030. Scottish Government. 1 December 2020. <https://www.gov.scot/news/eliminating-hiv-transmission-by-2030/>
3. HIV in Scotland: update to 31 December 2021. Public Health Scotland. 29 November 2022. <https://publichealthscotland.scot/publications/hiv-in-scotland/hiv-in-scotland-update-to-31-december-2021>
4. HIV in Scotland: update to 31 December 2019. Public Health Scotland. 23 June 2020. [https://publichealthscotland.scot/media/3314/2\\_hiv-in-scotland-2019-annual-report.pdf](https://publichealthscotland.scot/media/3314/2_hiv-in-scotland-2019-annual-report.pdf)
5. 90-90-90. An ambitious treatment target to help end the AIDS epidemic. UNAIDS. October 2014. [https://files.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2014/90-90-90\\_en.pdf](https://files.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2014/90-90-90_en.pdf)
6. Nandwani R. Pre-exposure prophylaxis approved in Scotland. *Lancet HIV* 2017 4(6); 238-9. [https://doi.org/10.1016/S2352-3018\(17\)30078-4](https://doi.org/10.1016/S2352-3018(17)30078-4)
7. Estcourt C, Yeung A, Nandwani R, Goldberg D, Cullen B, Steedman N, Wallace L, Hutchinson S. Population-level effectiveness of a national HIV pre-exposure prophylaxis programme in MSM. *AIDS*. 2021 Mar 15;35(4):665-673. <https://doi.org/10.1097/QAD.0000000000002790>
8. McAuley A et al. Re-emergence of HIV related to injecting drug use despite a comprehensive harm reduction environment: a cross-sectional analysis. *Lancet HIV* 2019. 6(5); 315-324. [https://doi.org/10.1016/S2352-3018\(19\)30036-0](https://doi.org/10.1016/S2352-3018(19)30036-0)
9. Trayner KMA et al. Evaluation of the scale-up of HIV testing among people who inject drugs in Scotland in the context of an ongoing HIV outbreak. *Int J Drug Policy*. 2021 Oct;96:103304.
10. Metcalfe R, et al. From Hospital to the Community: Redesigning the Human Immunodeficiency Virus (HIV) Clinical Service Model to Respond to an Outbreak of HIV Among People Who Inject Drugs. *J Infect Dis*. 2020 Sep 2;222(Suppl 5):S410-S419.

11. Grimshaw C, Boyd L, Smith M, Estcourt CS, Metcalfe R. Evaluation of an inner city HIV pre-exposure prophylaxis service tailored to the needs of people who inject drugs. *HIV Med.* 2021 Nov;22(10):965-970.
12. National drug related death database (Scotland). Analysis of deaths occurring in 2017 and 2018. Public Health Scotland. 26 July 2022. <https://www.publichealthscotland.scot/publications/national-drug-related-death-database-scotland/the-national-drug-related-deaths-database-scotland-report-analysis-of-deaths-occurring-in-2017-and-2018/>
13. Scotland's public health priorities. Public Health Scotland. 2022. <https://www.publichealthscotland.scot/our-areas-of-work/scotlands-public-health-priorities/>
14. World AIDS Day - HIV in Scotland (2018). Public Health Scotland. 27 November 2018. Article 52/4706. <https://www.hps.scot.nhs.uk/publications/hps-weekly-report/volume-52/issue-47/world-aids-day-hiv-in-scotland-2018/>
15. Reset and Rebuild - sexual health and blood borne virus services: recovery plan. Scottish Government. 4 August 2021. <https://www.gov.scot/publications/reset-rebuild-recovery-plan-sexual-health-blood-borne-virus-services/>
16. Sexual Health and Blood Borne Virus Framework 2015-2020 Update. Scottish Government. 2 September 2015. <https://www.gov.scot/publications/sexual-health-blood-borne-virus-framework-2015-2020-update/>
17. Implementation of HIV PrEP in Scotland: Second Year Report. Public Health Scotland. 17 December 2019. <https://www.hps.scot.nhs.uk/web-resources-container/implementation-of-hiv-prep-in-scotland-second-year-report/>
18. Grimshaw C, Estcourt CS, Nandwani R, et al. Implementation of a national HIV pre-exposure prophylaxis service is associated with changes in characteristics of people with newly diagnosed HIV: a retrospective cohort study. *Sex Transm Infect* 2022; 98:53-57. <https://pubmed.ncbi.nlm.nih.gov/33441446/>
19. Regional consultation on developing the 2022–2030 action plans for the elimination of HIV, viral hepatitis and STIs in the WHO European Region. WHO Europe. 3 February 2022. <https://www.who.int/europe/news-room/events/item/2022/02/03/default-calendar/regional-consultation-on-developing-the-2022-2030-action-plans-for-the-elimination-of-hiv--viral-hepatitis-and-stis-in-the-who-european-region>
20. The White House. 2021. National HIV/AIDS Strategy for the United States 2022–2025. Washington, DC. [https://www.whitehouse.gov/wp-content/uploads/2021/11/National-HIV-AIDS-Strategy.pdf?wpisrc=nl\\_health202](https://www.whitehouse.gov/wp-content/uploads/2021/11/National-HIV-AIDS-Strategy.pdf?wpisrc=nl_health202)

21. NSW HIV Strategy 2021–2025. Centre for Population Health. 19 February 2021. <https://www.health.nsw.gov.au/endinghiv/Pages/nsw-hiv-strategy-2021-2025.aspx>
22. Towards Zero - An action plan towards ending HIV transmission, AIDS and HIV-related deaths in England - 2022 to 2025. Department of Health & Social Care. 21 December 2021. <https://www.gov.uk/government/publications/towards-zero-the-hiv-action-plan-for-england-2022-to-2025/towards-zero-an-action-plan-towards-ending-hiv-transmission-aids-and-hiv-related-deaths-in-england-2022-to-2025>
23. HIV Action Plan for Wales. Eliminating HIV – improving quality of life and tackling stigma associated with the virus - an action plan for 2023-26. Welsh Government 2022. <https://gov.wales/sites/default/files/consultations/2022-06/hiv-action-plan-for-wales.pdf>
24. Chawla A, Murphy G, Donnelly C et al. Human immunodeficiency virus (HIV) antibody avidity testing to identify recent infection in newly diagnosed HIV type 1 (HIV-1)-seropositive persons infected with diverse HIV-1 subtypes. *J Clin Microbiol* 2007 Feb;45(2):415-20. doi: 10.1128/JCM.01879-06. Epub 2006 Dec 6. <https://journals.asm.org/doi/10.1128/JCM.01879-06>
25. People First Charter. 2022. <https://peoplefirstcharter.org>
26. Global health sector strategies on, respectively, HIV, viral hepatitis and sexually transmitted infections for the period 2022-2030. Geneva: World Health Organization (WHO) 2022. Licence: CC BY-NC-SA 3.0 IGO. <https://www.who.int/teams/global-hiv-hepatitis-and-stis-programmes/strategies/global-health-sector-strategies>
27. Palfreeman A, Sullivan A, Rayment M et al. British HIV Association/British Association for Sexual Health and HIV/British Infection Association adult HIV testing guidelines 2020. *HIV Med* 2020; 21 Suppl 6: 1-26. <https://www.bhiva.org/HIV-testing-guidelines>
28. Martin V, Shah A, Mackay N, Lester J, Newbigging-Lister A, Connor N, Brown AE, Sullivan AK, Delpech VC, and contributors. HIV testing, new HIV diagnoses, outcomes and quality of care for people accessing HIV services: 2021 report. The annual official statistics data release (data to end of December 2020). December 2021, UK Health Security Agency, London <https://www.gov.uk/government/statistics/hiv-annual-data-tables>
29. British HIV Association/British Association for Sexual Health and HIV/British Infection Association Adult HIV Testing Guidelines 2020. <https://www.bhiva.org/HIV-testing-guidelines>
30. Ragonnet-Cronin M, Bradley-Stewart A, Metcalfe R, Peters E, Gunson R, McAuley A, Milosevic C, Leigh Brown A. Using real-time phylodynamic analysis to assess and guide public health interventions in a HIV outbreak among people who

inject drugs in Scotland. Poster 077. Glasgow HIV Drug Therapy Conference 2018. <http://hivglasgow.org/wp-content/uploads/2018/11/P077.pdf>

31. Guidance to Support Opt-Out Blood Borne Virus (BBV) Testing in Scottish Prisons. Public Health Scotland. 4 July 2019.

<https://www.hps.scot.nhs.uk/web-resources-container/guidance-to-support-opt-out-blood-borne-virus-bbv-testing-in-scottish-prisons/>

32. Recommendations on Hepatitis C Virus Case-finding and Access to Care. Public Health Scotland. 28 January 2019.

<https://www.hps.scot.nhs.uk/web-resources-container/recommendations-on-hepatitis-c-virus-case-finding-and-access-to-care/>

33. Scottish Government. Alcohol and drugs policy. Drugs education and prevention.

<https://www.gov.scot/policies/alcohol-and-drugs/drugs-education-and-prevention/>

34. International Association of Providers of AIDS Care (IAPAC). Fast-Track Cities.

<https://www.iapac.org/fast-track-cities/about-fast-track/>

35. International Association of Providers of AIDS Care (IAPAC). Stigma and Misconceptions are Critical Barriers to Reach HIV Targets in Scotland 29 October 2018.

<https://www.iapac.org/2018/10/29/stigma-and-misconceptions-are-critical-barriers-to-reach-hiv-targets-in-scotland/>

36. Implementation of HIV PrEP in Scotland: First year report – Full report. Public Health Scotland. 26 February 2019.

<https://www.hps.scot.nhs.uk/web-resources-container/implementation-of-hiv-prep-in-scotland-first-year-report/>

37. Henderson L, Gibbs J, Kincaid R, et al. O25 The ePrEP clinic: developing a clinical consultation for online PrEP provision. *Sex Transm Infect* 2022;98:A13.

38. UK Guideline for the use of HIV Post-Exposure Prophylaxis 2021. BASHH-BHIVA. <https://www.bhiva.org/file/6183b6aa93a4e/PEP-guidelines.pdf>

39. HIV topic portal. Public Health Scotland. <https://www.hps.scot.nhs.uk/a-to-z-of-topics/hiv/>

40. Public Health Scotland delivery plan 2021-24. Public Health Scotland. 3 June 2021.

<https://www.publichealthscotland.scot/publications/public-health-scotland-delivery-plan-2021-24/>

41. Scottish Government. Mental Health Strategy 2017-2027. 30 March 2017.

<https://www.gov.scot/publications/mental-health-strategy-2017-2027/>

42. Scottish Government. Women's Health Plan. 20 August 2021.

<https://www.gov.scot/news/womens-health-plan/>

## **HIV Transmission Elimination Oversight Group Members and Contributors**

### **Members**

Prof Rak Nandwani, Chair, HIV Transmission Elimination Oversight Group

Alan Eagleson, Terrence Higgins Trust

Alastair Hudson, HIV Scotland

Dr Aneesha Noonan, NHS England

Ann Eriksen, NHS Tayside

Prof Claudia Estcourt, NHS Greater Glasgow & Clyde/Glasgow Caledonian University

Dr Daniel Carter, NHS Greater Glasgow and Clyde

Dr Daniel Clutterbuck, NHS Lothian

Dr Daniela Brawley, NHS Grampian

Danny Beales, National AIDS Trust

Donna Thain, NHS Tayside

Grant Sugden, Waverley Care

Dr John Logan, NHS Lanarkshire

Dr Kirsty Roy, Public Health Scotland

Dr Lesley Wallace, Public Health Scotland

Nicky Coia, NHS Greater Glasgow and Clyde

Prof Nicola Steedman, Scottish Government/Glasgow Caledonian University

Prof Paul Flowers, University of Strathclyde

Ruth Robertson, Public Health Scotland

Dr Saket Priyadarshi, NHS Greater Glasgow and Clyde

Prof Sharon Hutchinson, Public Health Scotland/Glasgow Caledonian University

Dr Steven Miller, NHS Greater Glasgow and Clyde

Cara Lewis, SHBBV Policy Team, Scottish Government

Ellie Clark, SHBBV Policy Team, Scottish Government

Erin McCreadie, SHBBV Policy Team, Scottish Government



Laura McGlynn, SHBBV Policy Team, Scottish Government

Louise Whyte, SHBBV Policy Team, Scottish Government

## **Contributors**

Adam Winter, Department of Health and Social Care UK Government

Dr Alan Yeung, Public Health Scotland/Glasgow Caledonian University

Alison Brown, UK Health Security Agency (UKHSA)

Anna Cowan, Waverley Care

Beth Cullen, Public Health Scotland

Dr Ceilidh Grimshaw, NHS Greater Glasgow and Clyde

Ceri Smith, Terrence Higgins Trust

Deborah Gold, National Aids Trust

Hannah Ward, National Aids Trust

Prof Ingrid Young, University of Edinburgh

Jacqueline McFadyen, Public Health Scotland

Prof Jane Anderson, UKHSA/National Aids Trust

Dr Kate Templeton, NHS Lothian

Dr Kirsten Trayner, Public Health Scotland/Glasgow Caledonian University

Lewis Clarke, HIV Scotland

Dr Max Peluso, NHS Greater Glasgow and Clyde

Dr Nick Medland, University of New South Wales

Nicky Miller, NHS Lothian

Rachel Hughes, Waverley Care

Dr Will Nutland, PrEPster

Zoe Kelly, NHS Ayrshire and Arran





© Crown copyright 2022

**OGL**

This publication is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. To view this licence, visit [nationalarchives.gov.uk/doc/open-government-licence/version/3](https://nationalarchives.gov.uk/doc/open-government-licence/version/3) or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or email: [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk).

Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

This publication is available at [www.gov.scot](http://www.gov.scot)

Any enquiries regarding this publication should be sent to us at

The Scottish Government  
St Andrew's House  
Edinburgh  
EH1 3DG

ISBN: 978-1-80525-227-6 (web only)

Published by The Scottish Government, November 2022

Produced for The Scottish Government by APS Group Scotland, 21 Tennant Street, Edinburgh EH6 5NA  
PPDAS1193742 (11/22)

**W W W . g o v . s c o t**