



HIV IN THE TIME OF COVID-19:

Leaving No-One Behind to Truly End the HIV Epidemic

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1 Introduction

The COVID-19 pandemic has brought into sharp focus the ways that disadvantaged communities are disproportionately affected by public health crises. Healthcare systems still fail to reach those most at risk, leading to heavier disease burdens and worse health outcomes. A truly effective public health response requires a deep recognition of the impact that pervasive inequities have on health and wellbeing, including HIV-related health outcomes and quality of life.

Advances in preventing, diagnosing, and treating HIV support improved healthcare outcomes for people living with HIV (PLWH) and at-risk groups. But these benefits aren't felt equally by everyone. Urgent action is needed to address the longstanding barriers to optimal HIV prevention, testing, linkage to and retention in care, and access to innovative treatment to ensure that no one is left behind in our endeavour to truly end the HIV epidemic.

Following the release of the UNAIDS Global AIDS Strategy 2021-2026, a concerted effort is required to reach the UNAIDS targets of ensuring 95 percent of people living with HIV know their HIV status, 95 percent of people with diagnosed HIV are on treatment, and 95 percent of all people receiving treatment are virally suppressed by 2025.¹ To achieve these goals, we will need to focus on reaching key indicators within all subpopulations and geographic settings. By addressing health inequities, we can collectively close gaps preventing worldwide progress for ending HIV – an approach endorsed by UNAIDS in their 2021–2026 strategy.

A broad range of social and structural barriers create avoidable inequities in accessing HIV prevention, testing, treatment, and ongoing care. These barriers vary across populations and countries and may affect different individuals and communities differently.

These barriers include:

- Stigma and discrimination against people living with HIV and other communities (including racial and ethnic minorities, migrants, women, men who have sex with men (MSM), the LGBTQ+ community, sex workers, people who use drugs, homeless people, and intersections within these communities, among others), which continue to discourage these groups from accessing prevention and care services.²
- Structural barriers, such as lack of access to affordable health and social care services, or lack of access to stable housing, which can limit options for often multi-marginalized groups to access the HIV-related services they need.

This paper illustrates some, but not all, of the drivers of health inequities within HIV and proposes principles for policymaking to ensure no one is left behind. A one-size-fits-all approach to improving health is no longer enough. The principles set out in this paper provide a framework to inform targeted interventions that could remove barriers to effective HIV prevention and care. Inclusivity and ensuring all people living with HIV are on effective treatment must be at the center of policy decision-making in HIV if we are to one day end the epidemic.

2 Barriers That Lead To Health Inequities

» Key Concepts in this Paper:

Health inequities

Health inequities are *avoidable* inequalities in health between groups of people within countries, and between countries themselves. These inequities arise from inequalities within and between societies. Social and economic conditions and their effects on people's lives determine their risk of illness and the actions taken to prevent them from becoming ill or to treat illness when it occurs.

Social determinants of health

Social determinants of health are the circumstances in which people are born, grow up, live, work, and age that affect a wide range of health risks and outcomes. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. Social determinants of health include factors like socioeconomic status, education, employment, social support networks, neighborhood characteristics, racism and access to health services.

Source: WHO. Social determinants of health: key concepts. Available at: <https://www.who.int/news-room/q-a-detail/social-determinants-of-health-key-concepts> Last accessed February 2021

Differences in health outcomes may occur due to a range of factors, including race, ethnicity, migration status, gender, education, socio-economic status, disability, geography, and sexual orientation. These factors, more commonly known as social determinants of health, may create barriers to accessing essential healthcare for the less well off and those impacted by health inequities.³

Stigma and Discrimination Prevents Individuals from Accessing HIV Services

One of the key barriers undermining equitable access to testing, prevention and treatment for HIV is the prevalence of social and cultural stigmas faced by certain populations and disadvantaged communities.⁴ From gender identity to immigration status, systemic discrimination, institutionalized racism, and histories of oppression have resulted in disparate health outcomes.

Stigma and discrimination toward people living with HIV can lead to family rejection, loss of jobs, barring of access to healthcare, education and/or work settings, erosion of rights, and psychological damage.⁵ Discrimination and other human rights violations may occur in healthcare settings, barring people from accessing health services or enjoying quality healthcare: one in eight people living

with HIV have been denied health services because of stigma and discrimination. In 2016, 60 percent of countries in the European Economic Area reported that discrimination by healthcare professionals towards men who have sex with men and people who inject drugs impeded access to HIV prevention services.⁵

Members of a marginalized community may also belong to other adversely impacted groups. This intersectionality further exacerbates their experiences of stigma and discrimination. Recognizing an individual's specific experiences of stigma and addressing the intersectional relationship between HIV and the multiple marginalized groups they identify with will support tailored and more-effective care.⁶

An example of this is amongst MSM who are disproportionately impacted by HIV and account for the highest rates of people living with HIV in Spain and Japan and the second highest proportion in Italy and France.^{7,8,9,10} MSM are one of the key populations that face stigma and discrimination globally.^{11,12} Although many countries in the last two decades have improved LGBTQ+ rights with changes to legislation and widespread normalization through media and culture, stigma and discrimination against the community remains. MSM were

heavily impacted by the emergence of HIV in the 1980s, when MSM and HIV-related stigma was widespread, and this problematic stigma still exists today. Adding to this, the conservative and traditional nature of certain countries or communities driving LGBTQ+ people to hide their sexuality. The fear of stigmatization can make them less able and willing to access HIV testing services.

Systemic Racism Drives Racial and Ethnic Inequities in HIV

Racial and ethnic health disparities have been well documented and discussed and continue to pose enduring barriers to ending the HIV epidemic.¹³ Societal stigma due to race and ethnicity is associated with racial and ethnic disparities in HIV outcomes, via its manifestations at different levels, are including:

- Residential segregation, an ongoing legacy of deep-rooted, systemic racism.
- A history of trauma, such as slavery, oppression, displacement, and land loss, has also left an ongoing effect on the health and psychological wellbeing of racial and ethnic minorities.
- A history of unethical medical experimentation on racial and ethnic minorities and distrust in healthcare professionals as a result.¹⁴

A study showed that Black African people living with HIV in the UK were 30 percent less likely to be in care than white people living with HIV. For those who were virally suppressed, Black Africans had an 85 percent greater chance of viral rebound than white people living with HIV. The study concluded that Black and minority ethnic groups may need additional support to stay engaged in care and on the most optimal treatment to maintain viral suppression.¹⁵

An examination of how systemic racism currently presents itself in the United States is also helpful in illustrating how racial and minority ethnic communities are disproportionately impacted by HIV.

Black Americans comprise 42 percent of people living with HIV, despite representing only 13 percent of the national population. Some intersectional sub-groups within groups of Black Americans are especially at-risk, including Black gay and bisexual men, who accounted for 26 percent of all new HIV diagnoses in the U.S. in 2017.¹⁶

In 2017, HIV was the seventh leading cause of death for Black women aged 25-44, but 18th for a white woman in the same age cohort.¹⁷ The likelihood of a white woman being diagnosed with HIV in her lifetime is one in 941, whereas for a Black woman, it is one in 54.¹⁸ Around 14 percent of transgender women in the U.S. are estimated to be living with HIV.¹⁹ In one study where 51 percent of the participants were Black transgender women, 44 percent of the Black transgender women were living with HIV.¹⁹

Other ethnic communities disproportionately affected by HIV include the Hispanic/Latinx community within the U.S., who experience a threefold rate of HIV infection in comparison to white Americans.¹⁸ These racial and ethnic inequities have resulted in long-standing and significant disparities in HIV prevention, care and treatment, and corresponding health outcomes. Among people living with HIV in the U.S., in 2017, only 59.5 percent of Black people and 63.7 percent of Hispanic/Latinx people were virally suppressed compared to 70.7 percent of white people living with HIV.²⁰

According to a 2017 study, in the U.S., racial and ethnic disparities are also present in the uptake of PrEP as an HIV prevention measure, too: with only 55 percent of Black MSM using PrEP compared to 62 percent of Hispanic MSM and 68 percent of white MSM. White MSM are significantly more likely to report PrEP awareness, usage and discuss it with a healthcare provider than Black and Hispanic MSM, as well as having health insurance to access a prescription.²¹

Effective action to eliminating these racial/ethnic disparities in HIV requires intergovernmental collaboration to dismantle barriers to HIV testing and care, and to increase access to HIV prevention and innovative treatments.

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Gender Inequity Leads to Worse Health Outcomes

Barriers related to gender must be addressed to reach and serve marginalized communities. Globally, AIDS-related illnesses are the leading cause of mortality in women aged 15-49 and in 2019, 48 percent of new HIV infections were among women and girls.^{22,23} Women are disproportionately impacted by HIV. This can be due to a range of factors because of their unequal cultural, social, and economic status in society, such as:

- A lack of access to education and economic security.
- High prevalence of gender-based violence and intimate partner violence.
- Discriminatory laws that disenfranchise and disempower women.
- Limited research into understanding transmission and disproportionate lack of representation of women in clinical trials.^{2,24,25}

In some countries, women experience a lack of access to education due to their gender, with 60 percent of girls in the least developed countries in the world unable to attend secondary school. Research shows a direct correlation between lower rates of education within girls and higher rates of HIV risk, with uneducated girls twice as likely to acquire HIV as those who attended school. A study in Botswana reported that with every additional year of school that a girl completes, this reduces her risk of HIV infection by 11.6 percent, which may suggest a correlation between education and reduced HIV risk. Higher rates of education among women and young girls are linked to better health outcomes, due to delayed childbearing, safer births and abortions, lower rates of unintended pregnancies and the chance they may not be able to support their children financially, and lower rates of sexually transmitted diseases (including HIV).²⁴

Lack of access to education for women can be a contributing factor for poverty and economic insecurity – poorer women then may have limited financial options, which may lead to them adopting behaviors that put them at higher risk of HIV infection, such as intergenerational and transaction sex, sex work, early marriage, and relationships that expose them to gender-based violence and abuse. Poorer and less-educated women are less knowledgeable about HIV risks (and thus less able to access HIV prevention and care options) and less able to adopt HIV risk-reducing behaviors.²⁴

One in three women will experience physical or sexual violence from a partner or sexual violence from a non-partner in their lifetime. This shocking rate is even higher among conflict settings and refugee populations, increasing to seven out of ten women. In countries with high rates of HIV infection, women who experience intimate partner violence are 50 percent more likely to acquire HIV than women who do not, as they are less likely to have control over sexual decision-making and are more likely to experience substance abuse and mental health issues. In East and Southern Africa, intimate partner violence has been noted as a driver of HIV transmission. Women who have yet to disclose their HIV status to their partners may feel less willing to access HIV care services, for fear that disclosure of their HIV status may lead to domestic violence from their partners. This lack of privacy can lead to a lack of access to any HIV medication or lack of adherence to medication. In Brazil, 98 percent of women living with HIV reported having experienced gender-based violence.²⁴

A 2016 study compiling data from 387 separate studies from 1994-2011 concluded that with less than a quarter (23 percent) of participants in over 387 separate clinical trials having included women. Key barriers that limit women's participation in studies reflect a lot of the gender inequities discussed above, including lack of access to education, challenges related to sexual decision-making, lack of understanding around clinical trials, family and caregiving responsibilities and limited time availability, safety concerns in relation to unborn children and other factors.²⁶

It is crucial that discriminatory policies against women are abolished and policies that promote access to education for women are developed to help increase representation of women in key clinical trials related to HIV prevention, treatment, and cure.

Transgender Discrimination Leads to Worse Outcomes

Barriers to HIV prevention, treatment and care include social exclusion, lack of recognition of gender identity, lack of access to healthcare systems (including ART), punitive laws, violence, and transphobia.²⁷

Transgender people are 49 times more likely to be living with HIV than the general population.²⁸ In the U.S., it is estimated that 18.8 percent of transgender women are living with HIV due to multiple factors, including gender identity-related stigma, unstable housing conditions, limited employment options and high-risk behaviors such as sex work, among others.²⁹

There are additional, intersectional concerns. Transgender people – particularly transgender youth from minority communities – are at increased risk of contracting HIV. Approximately seven percent of white transgender women have HIV in the U.S.³⁰ While this figure is substantially higher than the general population, it is slightly more than one-quarter the rate of Latina transgender women. An estimated 44 percent of Black transgender women in the U.S. are estimated to be HIV positive.¹⁹ Even as the U.S. continues to see declines in new HIV diagnoses, numbers among transgender youth continue to increase.³¹

Transgender and intersex people in Germany have reported discrimination by medical staff who have failed to recognize their gender or gender identity. Prejudice and a lack of expertise among medical staff are cited by intersex people as reasons for delaying or failing to seek medical services.³²

Poverty and Economic Insecurity Creates Barriers to Accessing HIV Services and Care

There is a clear relationship between economic instability and other barriers to improved HIV outcomes due to the interplay between the socioeconomics of poverty, race, mobility, and access to affordable healthcare.^{33,34,35,36} Poverty and financial insecurity can impact a person's ability to access or afford healthcare services, including preventative HIV care and treatment, and represents a significant structural barrier that drives higher rates of HIV within these communities.

In Nigeria, a 2017 study examining the link between wealth socioeconomic factors and HIV-related knowledge found wealthier individuals were less than half as likely to have low HIV-related knowledge. Related socioeconomic factors like lower literacy levels were also shown to correlate with low HIV-related knowledge. Knowing the role education plays in HIV prevention, this suggests the need to implement evidence-based interventions to reach these individuals and potentially reduce HIV transmission.³⁷

Resistance to Medicaid (U.S. federal and state-level health insurance program) expansion in the South is a key barrier to ending the HIV epidemic in the U.S. In some Southern states, people living with HIV had death rates that were three times higher than people living with HIV in other states.³⁸ In 2018, almost half (48 percent) of all deaths from AIDS-related illnesses were among people living with HIV in Southern states, compared to just 22.3 percent in the Northeast, 17.6 percent in the West and 12.5 percent in the Midwest. Twelve states, largely in the South, are refusing federal funding for Medicaid expansion and leaving many people with HIV lacking access to adequate health coverage, and in turn, affordable healthcare. In contrast, only five percent of people living with HIV are left uninsured in states that have implemented the Medicaid expansion, whilst 19 percent of people living with HIV are still uninsured in states without the expansion.³⁹

Even in countries with universal healthcare coverage, policies that impact coverage and reimbursement of HIV medicines have a significant impact on patient and public health outcomes. In Japan, for example, 83 percent of people diagnosed with HIV are on treatment.¹⁰ Whilst global guidelines recommend starting HIV treatment as soon as possible after diagnosis, the Japanese healthcare system currently incentivizes HIV patients to wait until their CD4 count drops below 500 to qualify for a disability certification card under the Japanese Law for the Welfare of People with Physical Disabilities, which entitles patients to additional financial support from the government for costs related to their HIV care.⁴⁰ The incentive for people living with HIV to wait to initiate HIV treatment until their CD4 levels fall below 500 may put them at greater risk of negative health outcomes and may increase the risk of HIV transmission.⁴¹

Immigration Status Poses a Barrier to Accessing HIV Services

Migrants often face significant structural barriers to HIV prevention, testing and care, as well as widespread exclusion from healthcare and compromised social mobility. Individuals with uncertain immigration statuses and refugees tend to present with the poorest health outcomes, as their immigration status may prevent them from accessing health services provided by governments for their citizens. For those living with HIV, there are still 38 countries around the world that have a ban on their entry, staying or residency.¹²

Cultural and language discordance with healthcare professionals and education can contribute to migrants' lack of understanding of treatment programs, the healthcare system and their healthcare rights can exacerbate social exclusion, compromising their health in regard to HIV.^{42,43} Consequently, migrants are less likely to get tested for HIV and are more likely to have poorer adherence to treatment due to a lack of support and finances, and/or a lack of adequate health information to understand and manage their HIV.^{44,45}

In Europe, the number of migrants living with HIV is disproportionately high in comparison to other key communities and continues to be a consistent epidemic.⁴⁶ In 2019, it was estimated that 44 percent of the new HIV infections in Europe were among migrants.⁴⁷ There is an assumption that migrants are more likely to acquire HIV prior to migrating, however, studies show that actually this is not the case, as the following country-specific examples show based on data reported:

- Some studies show that as many as 62 percent of HIV infections amongst migrants are acquired post-migration, with the highest rates among Black Caribbean gay, bisexual, and other MSM in the UK.^{48,49}
- In France, the disparity of HIV prevalence amongst migrants is disproportionate, particularly for people who are of sub-Saharan origin.⁵⁰

- There is a similar trend in Italy meaning that despite an overall decrease in new HIV diagnoses, new HIV diagnoses among migrants have increased from 11 percent in 1992 to 29.7 percent in 2018.⁵¹
- In Germany, undocumented and uninsured migrants (those who have not applied for asylum or refugee status, or whose applications have been rejected) currently lack access to healthcare, including access to any HIV treatment.⁵²

Furthermore, looking at the intersectionality between immigration status and sexuality, whilst new HIV diagnoses among heterosexual migrants have almost halved over the last decade, diagnoses among migrant MSM increased between 2008-2015.⁵³

Criminalization Poses a Barrier to Accessing HIV Services

Many people living with HIV face additional challenges in receiving testing and treatment (and often life-saving health services) because of human rights-related barriers, such as discriminatory laws that criminalize HIV status, gender identity, sexual orientation and conduct.⁵⁴ This prevents people living with HIV from seeking HIV testing or treatment services and intensifies HIV-related stigma and discrimination.

Additionally, in many countries around the world, there are still laws that criminalize homosexuality and homosexual behavior, which have contributed to “a cycle of stigma, homonegativity and discrimination” undermining awareness of and access to HIV testing, prevention, and care.⁵⁵ In these countries, criminalization disincentivizes high-risk individuals from learning their HIV status and dramatically reduces treatment options available to them. One in four MSM across the African diaspora in the Caribbean and in African countries that criminalize same-sex intercourse are estimated to be HIV positive, compared to one in 15 in countries that do not.⁵⁶

This pattern is also reflected across other communities that are at increased risk of HIV, particularly sex workers and intravenous drug users in places that criminalize sex work and/or drug use.⁵⁷ Criminalization policies inhibit the ability of governments and nonprofits to mount an effective response to the HIV epidemic by reducing the ability to openly discuss and address issues related to HIV in an inclusive and non-stigmatizing way.⁵⁴

Access to Stable Housing is a Key Driver of HIV Outcomes

Among the many social determinants of health, poverty and specifically housing insecurity have significant negative impacts on HIV-related risk and outcomes.⁵⁸ People who are homeless or unstably housed are up to 16 times more likely to acquire HIV than those who have a stable place to live.⁵⁹

People experiencing homelessness or housing insecurity tend to have limited access to HIV testing, prevention and treatment services and are at increased risk for HIV and poorer HIV-related health outcomes. They also experience higher rates of mental health conditions, economic and food insecurity, and substance abuse, all of which compound a lack of treatment and care options. Stigma against homeless people also makes it tougher for homeless people living with HIV to access medical and mental health services. In particular, homeless mothers living with HIV, have been found to deprioritize their healthcare needs for their children’s needs.⁶⁰

Individuals who are experiencing homelessness or housing insecurity are often less able to manage viral load.⁵⁹ A group of researchers in Canada found that eliminating homelessness and implementing housing interventions (including supportive housing placement and intensive case management for chronically ill homeless people with HIV) would increase viral suppression levels for the study group from 22 percent to an estimated 40.1 percent.⁶⁰

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3 Recommended Principles For Policymakers To Adopt For HIV Policies

Develop Inclusive Policies

Effective health policies in HIV that tackle embedded health inequities need to be inclusive, practical, and holistic. To deliver on the UN goals towards ending the HIV epidemic by 2030, countries must consider where and how entry into their health systems can be blocked for certain populations and seek to remove those barriers. HIV is a chronic disease, as such those who are most impacted by HIV must be included throughout the HIV policy decision-making process.

Inclusive policies must consider the full range of practical challenges facing the impacted groups to be effective. Recognizing this is challenging for any one organization or government. Effective partnerships with organizations led by and for people living with HIV, key populations, and other relevant groups must be formed. By including the people and communities affected by HIV policy, governments can help ensure that barriers to accessing care are not perpetuated and funding is used to support the most effective programs. This includes underserved populations who don't always receive the optimal care they deserve; their inclusion in HIV policy decision making is necessary to ensure their challenges are reflected.

Bring Decision-Making Closer to Communities

While national-level government solutions are critical, effectively reaching disproportionately impacted communities will require working with sub-national stakeholders in joint efforts to meet the unmet needs of PLWH and people at risk for HIV. Effective testing, prevention, treatment, and care can be encouraged by bringing services and policymaking closer to the individual through differentiated national, regional, local and community HIV responses.

The Federal Initiative to Address HIV/AIDS in Canada

Action

The Federal Initiative – a partnership between the Public Health Agency of Canada, Health Canada, the Canadian Institutes of Health Research and Correctional Service Canada – provides funding for prevention and support programs reaching key priority populations, in addition to research, surveillance, public awareness and evaluation.

Outcome

The initiative will collaborate with other federal government departments, provincial and territorial governments, non-governmental organizations, researchers, public health and health care professionals and people living with and vulnerable to HIV/AIDS in five areas of federal action: program and policy interventions; knowledge development; communications and social marketing; coordination, planning, evaluation, and reporting; and global engagement

Through the initiative, funded HIV service programs drew upon over 11,300 individuals belonging to priority populations to serve in various service delivery capacities within the projects themselves. Activities devised to reach priority populations and targets, e.g. workshops, community programs and presentations, were reported to have reached over 346,000 individuals funding from the initiative

Sources: Government of Canada 2012, Federal Initiative to Address HIV/AIDS in Canada. <https://www.canada.ca/en/public-health/services/hiv-aids/federal-initiative-address-hiv-aids-canada.html> Last accessed September 2021.

Pacific AIDS Network 2014, Federal Initiative to address HIV/AIDS in Canada, Grants and Contributions Performance Measurement Report – 2013-2014. Last accessed via <https://pacificaidnetwork.org/files/2016/02/2013-14-HIV-GC-Performance-Report.pdf> Last accessed September 2021.

Alongside public health, clinical and governmental stakeholders, communities (which include key communities and marginalized populations) play a critical role in addressing the HIV epidemic.⁶¹ Cross-functional community forces can help identify obstacles and analyse progress both at a population and a regional level to reach vulnerable populations.⁶² This is particularly important for harder-to-reach populations who, for a variety of local and regional reasons, rarely if ever, interact with formal healthcare systems.

A key feature of Germany's national HIV response is its close collaboration working with non-governmental and community organizations, as the national government acknowledges that marginalized and harder-to-reach communities may be reluctant to or are unable to access state-run services. Germany has formed relationships and collaborated with key community groups, such as the Deutsche AIDS-Hilfe, to deliver HIV services to people living with HIV and provide interventions in awareness, prevention, and testing those at high risk of HIV infection.⁵²

It is also important to note that community-based organizations may not have dedicated resources to evaluate the effectiveness of their activities in providing high quality HIV services to PLWH and people at risk of HIV.⁶³ In Canada, evidence suggests that many community-based HIV prevention programs were effective in this regard, having saved the healthcare system \$6.5 billion CAD since the 1980s. For every \$1 invested, the prevention program was estimated to save around \$5 in treatment costs.⁶⁴ However, there is limited research on the effectiveness of outcomes from community-based HIV programs. In addition to the need for government funding of HIV services, additional partnership with community-based organizations should focus on the transparency and evaluation of the effectiveness on the delivery of these organizations' programs for PLWH and people at risk of HIV.

Collect Data on Communities Disproportionately Impacted by HIV

Data collection that can be disaggregated by key population is essential in understanding the impact of HIV on different communities and regions. Through data collection, nations can track trends in new HIV infections and HIV prevalence in particular populations and monitor and assess the outcomes of HIV policies and programs.

Without this data it is impossible to establish national indicators and success targets focused on reducing health disparities.

Constantly monitoring and analyzing data has played a key role in tracking how the epidemic is being impacted by interventions.^{65,66} In order to stay on track, it is essential to accurately measure progress on the path to 95-95-95.⁶⁷ Measuring success and progress against these targets creates accountability and pressure on governments to demonstrate progress against HIV.⁶⁸

Capturing accurate data for key populations and vulnerable groups should be prioritized by national HIV surveillance activities. Less than half of countries have HIV testing data for people who inject drugs and less than a third have testing data for sex workers and prisoners.⁶⁹ Very few countries are able to report data on HIV testing rates among migrants.⁷⁰ Increased focus on delivering timely, accurate data on key HIV indicators across key communities will support increased focus on supporting these groups.

Fast-Track Cities (FTC)

Action

The FTC initiative includes a web portal that allows cities to report data on their progress against their targets. The International Association of Providers of AIDS Care (IAPAC) supports local health department data surveillance through data generation, monitoring and reporting.

Outcome

In 2014, 26 cities signed up to the initiative; five years later, more than 300 cities have signed up with many reaching their 90-90-90 targets.

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UNAIDS. Five years on: 300 Fast-Track Cities come together. Available at: https://www.unaids.org/en/resources/presscentre/featurestories/2019/september/20190910_300-Fast-Track-cities-come-together Last accessed September 2021

Disaggregating data by key populations is critical to fully exposing the health inequities that remain in HIV and supporting targeted investments to the populations who need them the most. Public Health England (PHE) provides annual comparative data on key populations and provides an update on UNAIDS targets such as 90-90-90. To monitor progress in addressing HIV disparities, the U.S. HIV National Strategic Plan 2021-2025 has established specific targets for viral suppression for priority populations disproportionately affected by HIV, including gay, bisexual, and other men who have sex with men, in particular Black, Latino, and American Indian/Alaska Native men; Black women; transgender women; youth aged 13-24 years; and people who inject drugs.⁷¹

The impact of HIV on key populations must be understood so that effective policy interventions can be deployed to address these health inequities. By collecting and disseminating data and information on barriers to access and drivers of worse health outcomes for specific communities, governments and organizations can prioritize and target HIV funding and establish strategies to make real progress on ending the HIV epidemic for all citizens.

For many marginalized communities, one of the main concerns around seeking testing or care is fear of reprisals, either social or from the government. In many cases, this can be related to existing legal punishments in a particular country, either related to perceived risk factors for HIV or unrelated concerns (such as migrant status). More broadly, privacy is critical to protect, given the potential legal, social, familial, and other ramifications of a positive HIV diagnosis.⁷²

The most effective way to combat these concerns is to bifurcate the collection of data around HIV status and other individual data, especially immigration and citizenship status. This will ensure that all people, but particularly those from vulnerable communities, can get the testing and treatment they need regardless of other determinants of health.

Ensure Continuity between Governments to Support Long-term Change

As much as possible, it's critical for countries' governments to make long-term policy commitments surrounding HIV research, testing, prevention, and treatment. Planning policy should be designed to ensure agility and continuity between governments following elections, aligned to national stakeholder priorities. Agility is important to support with responding in a timely manner to sudden public health crises.

Funding for healthcare and other long-term policy commitments relies on year-over-year sustainability and consistent policy aligned to national stakeholder priorities. Short-term election cycles make it difficult to balance the tradeoffs between the present and future and create dangerous incentives to deprioritize long-term considerations such as health care planning.⁷³ In order to consistently provide positive outcomes for those who are living with HIV and at risk of HIV infection, governments should prioritize funding that is not changed or constrained based on political forces.

UK HIV Commission's Final Report and Commission

Action

The HIV Commission's Final Report and Recommendations were published in 2020, setting a new goal to eradicate HIV transmission in England by 2030.

The report recognizes that sustained political leadership is an essential part to efforts to end HIV transmissions. The Secretary of State for Health and Social Care in the UK has committed to these goals.

Outcome

This commitment has facilitated stakeholder engagement across the health system.

Cabinet Office and Department of Health and Social Care (DHSC) have signed up to be accountable for meeting the 2030 goals.

The Minister must give an annual report to parliament on progress towards goals, 80 percent by 2025 and 100 percent by 2030.

The UK DHSC will use these new recommendations to build out the nation's sexual health strategy (which includes a section on managing the HIV epidemic)

Source: UNAIDS. Five years on: 300 Fast-Track Cities come together. Available at: https://www.unaids.org/en/resources/presscentre/featurestories/2019/september/20190910_300-Fast-Track-cities-come-together Last accessed September 2021.

Establish Equal Access to HIV Services by Abolishing Discriminatory Policies

National and local jurisdictions should eliminate laws that criminalize HIV exposure and transmission, as well as sexual and gender identity. In particular, decriminalizing same-sex intercourse should be a key focus in the 78 countries where MSM still face legal consequences.⁵⁶

By creating stigmas around certain people and communities, these policies pose additional barriers for those who need care. Governments that embrace aspects of decriminalization related to behaviors that put people at an increased risk of becoming HIV positive have had noted benefits.

A study from 2017 found that in over 27 European countries, countries that have legalized aspects of sex work have a lower prevalence of sex workers living with HIV than countries that criminalize all aspects of sex work.⁷⁴ A separate study from 2014 estimated that the decriminalization and promotion of safe-working environments for sex workers could help to avert 33 to 46 percent of new HIV infections in sex workers and their clients over a decade, through effects on lessening violence against sex workers and safer co-operation with the police force.⁷⁵

Advance Policies and Programs that Address Socioeconomic Barriers

It is critical to recognize that HIV is embedded in social and economic inequity globally, disproportionately affecting those of lower socioeconomic status (SES). Research suggests an individual's SES may affect his or her likelihood of contracting HIV, developing AIDS and eventual mortality compared with people with a higher SES. Furthermore, SES is a key factor in determining the quality of life of people living with HIV. Interestingly, a Uganda study revealed that while lower household wealth increases vulnerability to HIV infection, education reduces it.⁷⁷

It is clear that SES and HIV risk are directly correlated and that an effective national HIV/AIDS policy must recognize and address the significant role that SES plays in HIV risk and outcomes when developing HIV programs and allocating public health funds to combat HIV. There is a critical need to fund and protect funding for public programs and policies that have been shown to be effective in contributing to public health and improving HIV outcomes, including policies and programs used to increase access to stable housing, which is often a key driver of improved HIV outcomes.⁷⁸

Spain's National Strategy on Addictions 2017-2024

Action

The Ministerio De Sanidad, Consumo Y Bienestar Social (Ministry of Health, Consumption and Social Welfare) published a 2017-2024 strategy (the National Strategy on Addictions), which clearly outlines how to support those who inject drugs with specific programs aimed at reducing the rate of HIV transmission and other infectious diseases.

Outcome

The rate of new HIV infections among people who use drugs in Spain continues to decline, indicating effective harm reduction strategies among this population.

Sources: Soriano et al. 2018. AIDS Clinical Research in Spain—Large HIV Population, Geniality of Doctors, and Missing Opportunities. *Viruses*. 2018;10:293. Ministerio de Sanidad Servicios Sociales e Igualdad. 2016. Vigilancia epidemiológica del VIH y SIDA en España 2017. Available at: https://www.mscbs.gob.es/ciudadanos/enf/infecciones/enf/transmisibles/sida/vigilancia/doc/informeVIH_SIDA_2018_20172018.pdf Last accessed September 2021.

KPMG. 2019. Ending the epidemic: An assessment of HIV policy in Spain, and recommendations to improve the lives of those living with and at risk of HIV. Last accessed via <https://assets.kpmg/content/dam/kpmg/uk/pdf/2019/03/ending-the-hiv-epidemic-spanish-report.pdf> in September 2021.

Ryan White HIV/AIDS Program

Action

The US Health Resources and Services Administration (HRSA)'s Ryan White Program provides funding for comprehensive HIV care and services for low-income people living with HIV, which includes HIV primary medical care and medications, as well as supportive “wrap-around” services that support engagement in HIV care, including case management, housing support, transportation, nutrition assistance, substance use treatment services, and more.

The program funds grants to states, cities, counties and local community-based organizations to provide comprehensive HIV services to PLWH.

Outcome

More than half of PLWH in the US receive services through the Program each year.

In 2019, 88.1 percent of Ryan White HIV/AIDS Program users were virally suppressed, which is significantly higher than the national average of 64.7 percent

Source: Health Resources and Services Administration. About the Ryan White HIV/AIDS Program. Available at: https://www.unaids.org/sites/default/files/country/documents/CHN_2018_countryreport.pdf Last accessed September 2021.

Expand Access to Testing

The collective response to COVID-19 has amplified the role of testing and screening in the fight against public health threats. Capitalizing on this wider public awareness to further entrench testing into routine healthcare practice will help reduce the stigma of HIV testing and increase broader testing uptake.

The integration of screening for HIV with other tests, either for bloodborne viruses or infectious diseases, can help increase the number of touchpoints for patients to receive an HIV test as part of other routine healthcare services. This will help break down barriers – including stigma and fear of testing positive – that are common.⁷⁹

For example, in the UK, 39 percent of all new HIV diagnoses in 2019 were diagnosed late (a reported CD4 count of <350 cells/mm³ within 91 days of diagnosis).⁸⁰ Another study showed Black African heterosexual men in the UK are disproportionately likely to be diagnosed late.⁸¹ Each year in Japan, 30 percent of new HIV cases were detected after AIDS onset.⁸² If HIV testing is widely available and accessible, there should be few if any late HIV diagnoses. Late HIV diagnoses indicate where efforts to increase HIV testing should be targeted.

Many of the lessons and best practices associated with reaching disadvantaged communities are also important when expanding testing. Working with trusted and experienced local organizations to reach individuals can help policymakers and the health community reach the most vulnerable. Achieving UNAIDS goals for testing will require reaching an increased number of people who have limited or no engagement with the mainstream healthcare system.

In Pakistan, increased at-home testing has helped overcome these stigmas. A high percentage of HIV positive individuals in Pakistan are people who inject drugs, particularly men. Drug use is illegal in Pakistan, complicating testing, and treatment. A program to help reach the spouses and children of men who inject drugs was able to improve testing and care for undiagnosed spouses by using at-home tests.⁸³

With at-home testing options becoming more widespread, testing hard-to-reach individuals and communities is more achievable than ever. Countries and cities should support free testing options, particularly those that can be conducted from the comfort and anonymity of one's own home, particularly in places where cultural stigmas remain common.

China's Progress with HIV Testing

Action

According to UNAIDS' 2018 global AIDS monitoring report, China actively promotes the scaling up of HIV testing and has made remarkable achievements in recent years.

Outcome

- Following an increment of annual amount of HIV testing, a huge number of HIV cases have been diagnosed and identified; from 2008-2017:
 - The number of various types of medical and health facilities undertaking HIV testing increased from 7,642 to 30,435
 - Annual amount of HIV testing increased from 45 million people to 201 million people, accounting for 3.4 percent to 14.5 percent of the whole population
 - Number of new cases identified increased from 56,362 to 134,512 cases

Source: UNAIDS. 2018. Country progress report – China. Global AIDS Monitoring. Last accessed via https://www.unaids.org/sites/default/files/country/documents/CHN_2018_countryreport.pdf in June 2021

5 Conclusion

The sudden onset of the COVID-19 crisis has shone a harsh light on inequities in society and weaknesses and lack of agility in countries' public health responses. Following the launch of the Global AIDS Strategy, UNAIDS has openly endorsed a critical need to address health inequities in order to help end HIV. The physical closure of HIV clinics, diversion of healthcare workers to other areas deemed more critical and the economic crisis arising from the impact of the pandemic have all resulted in compromised management of HIV. This has included treatment delays for HIV care,⁸⁴ fewer people being tested for HIV⁸⁵ and fewer people receiving adequate HIV and STI prevention services, including lower enrolment in PrEP services.⁸⁶

Scientific advancements have transformed HIV/AIDS into a long-term manageable condition for those who are able to access modern ART or prevention measures. Yet the benefits of improved options to prevent and treat HIV are not distributed equally. Structural inequities, such as racism, homophobia and transphobia, stigma, socioeconomic status, incarceration, and immigration status are common factors that elevate the risk for HIV. Governments need to understand the barriers that disadvantaged individuals and communities face to ensure that treatment and care are available to all.

Policy solutions to end HIV need to be grounded in guiding principles outlined in the UNAIDS Global AIDS Strategy 2021–2026, including:

- Meaningful and measurable involvement of civil society, especially people living with HIV and those most at-risk of HIV infection
- Human rights and equality
- Non-discrimination
- Usage of the best available scientific evidence and technical knowledge
- Comprehensive responses to HIV that integrates prevention, treatment, care, and support
- Alignment to national stakeholders' priorities

The stakes are high: failing to address the underlying inequities or tolerating bad policies such as criminalizing HIV or ignoring incarcerated persons will lead to more cases of HIV. This long road, however, also has its benefits – countries have the opportunity to learn from years of experience and develop policies that are better designed and agile to promote health equity to overcome and dismantle the structural and social barriers that are embedded within systems around the world.

5 Summary of Key Principles for Developing HIV Policies

» **Develop inclusive policies:**

Equitable and inclusive governance should inform HIV policies, funding, and resource allocation, in consultation with affected communities.

» **Bring decision-making closer to communities:**

Governments should implement differentiated national, local and community HIV responses that reflect the context and needs of communities that are disproportionately impacted by HIV. Governments should also focus on working in partnership with community-based organizations to ensure there are resources in place to evaluate the effectiveness of HIV service delivery programs by community organizations.

» **Expand access to HIV testing:**

Promote and increase the uptake of HIV screening among at-risk communities through policies that support the widespread integration of HIV screening into routine healthcare testing. Bring testing closer to at-risk individuals by working closely with community-based organizations to reach the most vulnerable and raise awareness of more accessible and free testing options.

» **Improve data collection and separate data systems:**

Improve the quality of data collection across key HIV indicators and key populations to inform equitable allocation of resources and enable benchmarking of HIV interventions.

» **Ensure leadership continuity:**

HIV policy planning should be de-politicized, agile, and made in multiyear cycles to ensure continuity between governments working in partnership with community groups.

» **Decriminalize discriminatory policies:**

All discriminatory policies and legislation must be identified and revoked to support equal access to HIV services and care.

» **Address socioeconomic barriers:**

HIV policy must address socioeconomic barriers to HIV testing, prevention, treatment, and care faced by communities most impacted by HIV.

References

1. UNAIDS. 2025 AIDS targets. Available at: <https://aidstargets2025.unaids.org> Last accessed September 2021.
2. Mawar N, Saha S, Pandit A, Mahajan U. The third phase of HIV pandemic: Social consequences of HIV/AIDS stigma & discrimination & future needs. *Indian J Med Res.* 2005;122:471-484.
3. Ostlin P, Braveman P, Dachs N. Priorities for research to take forward the health equity policy agenda. *Bull World Health Organ.* 2005;83:948-953.
4. UNAIDS. 2017. Agenda for zero discrimination in health-care settings. https://www.unaids.org/sites/default/files/media_asset/2017ZeroDiscriminationHealthCare.pdf Last accessed September 2021.
5. Avert. 2019. Stigma and discrimination. <https://www.avert.org/professionals/hiv-social-issues/stigma-discrimination> Last accessed September 2021.
6. Friedland BA, et al. Measuring intersecting stigma among key populations living with HIV: implementing the people living with HIV Stigma Index 2.0. *J Int AIDS Soc.* 2018, 21(Suppl.5):e25131.
7. European AIDS Clinical Society. 2014. HIV/AIDS in Italy. https://www.eacsociety.org/files/italy_giacomeli_motta_suardi_girometti.pdf Last accessed September 2021.
8. Soriano V, Ramos JM, Barreiro P, Fernandez-Montero JV. AIDS clinical research in Spain—large HIV population, geniality of doctors, and missing opportunities. *Viruses.* 2018;10:293.
9. Marty L, Cazein F, Penjo H, et al. Revealing geographical and population heterogeneity in HIV incidence, undiagnosed HIV prevalence and time to diagnosis to improve prevention and care: estimates for France. *J Int AIDS Soc.* 2018;21:e25100.
10. Iwamoto A, Taira R, Yokomaku Y, Koibuchi T, Rahman M, Izumi Y, et al. The HIV care cascade: Japanese perspectives. *PLoS ONE.* 2017;12:e0174360.
11. UNAIDS. 2015. On the fast-track to end AIDS by 2030: focus on location and population. https://www.unaids.org/sites/default/files/media_asset/WAD2015_report_en_part01.pdf Last accessed September 2021.
12. UNAIDS. The Gap Report. https://www.unaids.org/en/resources/documents/2014/20140716_UNAIDS_gap_report Last accessed September 2021.
13. Lang ME, Bird CE. Understanding and addressing the common roots of racial health disparities: The case of cardiovascular disease and HIV/AIDS in African-Americans. *Health Matrix Cleve.* 2015;25:109-128.
14. Earnshaw VA, Bogart LM, Dovidio JF & Williams DR. Stigma and racial/ethnic HIV disparities: moving toward resilience. *Am Psychol.* 2013;68:225-236.
15. Aidsmap. 2020. UK: Black people less likely to be engaged in HIV care, with more cases of viral rebound. <https://www.aidsmap.com/news/nov-2020/uk-black-people-less-likely-be-engaged-hiv-care-more-cases-viral-rebound> Last accessed September 2021.
16. American Psychological Association. National Black HIV/AIDS awareness day. Available at: <https://www.apa.org/pi/aids/resources/black-awareness> Last accessed September 2021.
17. Centers for Disease Control and Prevention. 2017. HIV Mortality. <https://www.cdc.gov/hiv/pdf/library/slidesets/cdc-hiv-surveillance-mortality-2017.pdf> on 21 October 2020.
18. Hess KL, Hu X, Lansky A, Mermin J, Hall HI. Lifetime Risk of a Diagnosis of HIV Infection in the United States. *Ann Epidemiol.* 2017;27:238-243.
19. Centers for Disease Control and Prevention. 2019. HIV and Transgender People. <https://www.cdc.gov/hiv/group/gender/transgender/index.html> Last accessed September 2021.
20. AIDSvu. Local Data – United States. <https://aidsvu.org/local-data/united-states/> Last accessed September 2021.
21. Kanny D, Jeffries WL, Chapin-Bardales J, et al. Racial/ethnic disparities in HIV preexposure prophylaxis among men who have sex with men – 23 urban areas, 2017. *MMWR Morb Mortal Wkly Rep.* 2019;68:801-806.
22. UNAIDS. 2019. Women and HIV. https://www.unaids.org/sites/default/files/media_asset/2019_women-and-hiv_en.pdf Last accessed September 2021.
23. UNAIDS. 2020. New HIV Infections: men outnumber women. https://www.unaids.org/en/resources/presscentre/featurestories/2020/october/20201012_new-hiv-infections-men-outnumber-women Last accessed September 2021.
24. Avert. 2020. Women and Girls, HIV and AIDS. <https://www.avert.org/professionals/hiv-social-issues/key-affected-populations/women> Last accessed September 2021.
25. Aidsmap. 2020. Biological, clinical and ethical imperatives for involving diverse women in HIV clinical trials. <https://www.aidsmap.com/news/oct-2020/biological-clinical-and-ethical-imperatives-involving-diverse-women-hiv-clinical> Last accessed September 2021.

26. Aidsmap. 2016. Women under-represented in HIV clinical trials. <https://www.aidsmap.com/news/feb-2016/women-under-represented-hiv-clinical-trials> Last accessed September 2021.
27. Avert. Transgender people, HIV and AIDS. <https://www.avert.org/professionals/hiv-social-issues/key-affected-populations/transgender> Last accessed September 2021.
28. UNAIDS. Prevention gap report. Available at: https://www.unaids.org/sites/default/files/media_asset/2016-prevention-gap-report_en.pdf Last accessed September 2021.
29. Song W, Mulatu MS, Rao S, et al. HIV partner service delivery among transgender women-United States, 2013-2017. *MMWR Morb Mortal Wkly Rep.* 2020;69:35-39.
30. Becasen JS, Denard CL, Mullins MM, et al. Estimating the prevalence of HIV and sexual behaviors among the US transgender population: A systematic review and meta-analysis, 2006-2017. *Am J Public Health.* 2019;109:e1-e8.
31. Garofalo R, Deleon J, Osmer E, et al. Overlooked, misunderstood and at-risk: Exploring the lives and HIV risk of ethnic minority male-to-female transgender youth. *J Adolesc Health.* 2006;38:230-236. Available at <https://selc.wordpress.ncsu.edu/files/2013/05/Overlooked-misunderstood-and-at-risk-Exploring-the-lives-and-HIV-risk-of-ethnic-minority-male-to-female-transgender-youth.pdf> Last accessed September 2021
32. Pöge K, Dennert G, Koppe U, et al. Die gesundheitliche Lage von lesbischen, schwulen, bisexuellen sowie trans- und intergeschlechtlichen Menschen. *Journal of Health Monitoring.* 2020;5(Suppl.1):2-30.
33. Gillespie S, Kadiyala S, Greener R. Is poverty or wealth driving HIV transmission? *AIDS.* 2007;21(Suppl.7):S5-S16.
34. Hodder SL, Justman J, Haley DF, et al. Challenges of a hidden epidemic: HIV prevention among women in the United States. *J Acquir Immun Defic Syndr.* 2010;55:S69-S73.
35. Parkhurst JO. Understanding the correlations between wealth, poverty and human immunodeficiency virus infection in African countries. *Bull World Health Organ.* 2010;88:519-526.
36. Dombrowski JC, Simoni JM, Katz DA, Golden MR. Barriers to HIV Care and Treatment among Participants in a Public Health HIV Care Relinkage Program. *AIDS Patient Care STDS.* 2015;29:279-287.
37. Faust L, Yaya S, Ekhlouenetale M. Wealth inequality as a predictor of HIV-related knowledge in Nigeria. *BMJ Glob Health.* 2017;2:e000461.
38. Center for Disease Control and Prevention. 2019. HIV in the Southern United States. <https://www.cdc.gov/hiv/pdf/policies/cdc-hiv-in-the-south-issue-brief.pdf> Last accessed September 2021.
39. Georgetown University: Health Policy Institute. 2020. HIV and Medicaid Expansion of Southern States to Expand Medicaid Makes Elimination of HIV Infection in the United States Much Harder to Achieve. <https://ccf.georgetown.edu/2020/11/29/hiv-and-medicaid-expansion-failure-of-southern-states-to-expand-medicaid-makes-elimination-of-hiv-infection-in-the-united-states-much-harder-to-achieve/> Last accessed September 2021.
40. Nishijima T, Inaba Y, Kawasaki Y, et al. Mortality and causes of death in people living with HIV in the era of combination antiretroviral therapy compared with the general population in Japan. *AIDS.* 2020;34:913-921.
41. AIDSMAP. CD4 cell count below 500 increases cancer risk for patients with HIV. Available at: <https://www.aidsmap.com/news/oct-2009/cd4-cell-count-below-500-increases-cancer-risk-patients-hiv> Last accessed September 2021.
42. Levison JH, Bogart LM, Khan IF, et al. Where it falls apart: barriers to retention in HIV care in Latino immigrants and migrants. *AIDS Patient Care STDS.* 2017;31:394-405.
43. Ndumbi P, del Romero J, Pulido F, et al. Barriers to health care services for migrants living with HIV in Spain. *Eur J Public Health.* 2018;28:451-457.
44. Ross J, Cunningham CO, Hanna DB. HIV outcomes among migrants from low-income and middle-income countries living in high-income countries: a review of recent evidence. *Curr Opin Infect Dis.* 2018;31:25-32.
45. Taylor BS, Reyes E, Levine EA, et al. Patterns of geographic mobility predict barriers to engagement in HIV care and antiretroviral treatment adherence. *AIDS Patient Care STDS.* 2014;28:284-295.
46. European Centre for Disease Prevention and Control (ECDC) and WHO Regional Office for Europe. 2016 HIV/AIDS surveillance in Europe 2015. <https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/HIV-AIDS-surveillance-Europe-2015.pdf> Last accessed September 2021.
47. European Centre for Disease Prevention and Control (ECDC) and WHO Regional Office for Europe. 2020. HIV/AIDS Surveillance in Europe 2020: 2019 Data. Last accessible via <https://www.ecdc.europa.eu/sites/default/files/documents/hiv-surveillance-report-2020.pdf> Last accessed September 2021.
48. European Centre for Disease Prevention and Control. 2010. Migrant health: Epidemiology of HIV and AIDS in migrant communities and ethnic minorities in EU/EEA countries. https://www.ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/0907_

[TER_Migrant_health_HIV_Epidemiology_review.pdf](#) Last accessed September 2021.

49. Fakoya I, Álvarez-del Arco D, Woode-Owusu M, et al. A systematic review of post-migration acquisition of HIV among migrants from countries with generalised HIV epidemics living in Europe: implications for effectively managing HIV prevention programmes and policy. *BMC Public Health*. 2015;15:561.
50. AidsMap. 2015. Half of African migrants diagnosed with HIV in France acquired HIV while living there. <https://www.aidsmap.com/news/jul-2015/half-african-migrants-diagnosed-hiv-france-acquired-hiv-while-living-there> Last accessed September 2021.
51. Maggiorella MT, Sanarico N, Btindicci G, et al. High HIV-1 diversity in immigrants resident in Italy (2008–2017). *Sci Rep*. 2020;10:3226.
52. KPMG. 2019. Ending the epidemic: An assessment of HIV policy in Germany and recommendation to improve the lives of those living with, and at risk of HIV. <https://assets.kpmg/content/dam/kpmg/uk/pdf/2019/03/ending-the-hiv-epidemic-german-report.pdf> Last accessed September 2021.
53. European Centre for Disease Prevention and Control. HIV and migrants: 2018 progress report. <https://www.ecdc.europa.eu/sites/default/files/documents/HIV-migrants-Monitoring%20implementation%20of%20the%20Dublin%20Declaration%20on%20partnership%20to%20fight%20HIV-AIDS%20in%20Europe%20and%20Central%20Asia%202018%20progress%20report.pdf> Last accessed September 2021.
54. AVERT. 2020. Human rights and HIV. <https://www.avert.org/human-rights-and-hiv> Last accessed September 2021.
55. Hagopian A, Rao D, Katz A, Sanford S, Barnhart S. Anti-homosexual legislation and HIV-related stigma in African nations: what has been the role of PEPFAR? *Glob Health Action*. 2017;10:1306291.
56. Human Dignity Trust. Criminalising Homosexuality and Public Health: Adverse Impacts on the Prevention and Treatment of HIV and AIDS. 2015. <https://www.humandignitytrust.org/wp-content/uploads/resources/5.-Criminalisation-Public-Health-and-HIV.pdf> Last accessed September 2021.
57. Piot P, Abdool Karim SS, Hecht R, et al. Defeating AIDS—advancing global health. *Lancet*. 2015;386:171-218.
58. Aidala AA, Wilson MG, Shubert V, et al. Housing status, medical care, and health outcomes among people living with HIV/AIDS: a systematic review. *Am J Public Health*. 2016;106:e1-e23.
59. Bhunu CP. Assessing the impact of homelessness on HIV/AIDS transmission dynamics. *Cogent Mathematics*. 2015;2:1021602.
60. Marshall BD, Elston B, Dobrer S, et al. The population impact of eliminating homelessness on HIV viral suppression among people who use drugs. *AIDS*. 2016;30:933-941.
61. UNAIDS, Stop AIDS Alliance. Communities deliver: the critical role of communities in reaching global targets to end the AIDS epidemic. Available at: https://www.unaids.org/sites/default/files/media_asset/UNAIDS_JC2725_CommunitiesDeliver_en.pdf Last accessed September 2021.
62. World Health Organization. 2015. HIV/TB Task Force. <https://www.who.int/tb/areas-of-work/tb-hiv/taskforce/en/> Last accessed September 2021.
63. Mayberry RM, Daniels P, Yancey EM, et al. “Enhancing community-based organizations’ capacity for HIV/AIDS education and prevention. *Eval Program Plan*. 2009;32:213-220.
64. Choi SK, Holtgrave DR, Bacon J, et al. Economic evaluation of community-based HIV prevention programs in Ontario: evidence of effectiveness in reducing HIV infections and health care cost. *AIDS Behav*. 2016;20:1143-1156.
65. Jones J, Sullivan PS, Curran JW. Progress in the HIV epidemic: Identifying goals and measuring success. *PLoS Med*. 2019;16:e1002729.
66. StopAIDS. 2017. How can we monitor progress in providing HIV related care and support? <https://stopaids.org.uk/wp/wp-content/uploads/2017/06/Monitoring-progress-in-HIV-care-and-support.pdf> Last accessed September 2021.
67. AVERT. Global HIV targets. Available at: <https://www.avert.org/global-hiv-targets> Last accessed September 2021.
68. Collins C, Coates TJ, Szekeres G. Accountability in the global response to HIV: measuring progress, driving change. *AIDS*. 2008;22(Suppl.2):S105-S111.
69. European Centre for Disease Prevention and Control. 2019. HIV Combination prevention. Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2018 progress report. Available at: <https://www.ecdc.europa.eu/sites/default/files/documents/HIV-combination-prevention-dublin-declaration.docx.pdf> Last accessed September 2021.
70. Public Health England. 2019. HIV in the United Kingdom: towards zero HIV transmissions by 2030. 2019 report. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/959330/hpr2020_hiv19.pdf Last accessed September 2021.
71. U.S. Department of Health and Human Services. 2020. HIV National Strategic Plan for the United States: A Roadmap to End the Epidemic 2021–2025. Washington, DC. Available at: <https://hivgov-prod-v3.s3.amazonaws.com/s3fs-public/HIV-National-Strategic-Plan-2021-2025.pdf> Last accessed September 2021.

72. Sweeney P, Gardner LI, Buchacz K, et al. Shifting the paradigm: Using HIV surveillance data as a foundation for improving HIV care and preventing HIV infection. *Milbank Q.* 2013;91:558-603.
73. British Columbia Ministry of Health. Conversation on health: governance and accountability. Available at: https://www.health.gov.bc.ca/library/publications/year/2007/conversation_on_health/PartII/PartII_GovernanceandAccountability.pdf Last accessed September 2021.
74. Reeves A, Steele S, Stuckler D, et al. National sex work policy and HIV prevalence among sex workers: an ecological regression analysis of 27 European countries. *Lancet HIV.* 2017;4:e134-e140.
75. AVERT. 2020. Sex workers, HIV and AIDS. <https://www.avert.org/professionals/hiv-social-issues/key-affected-populations/sex-workers> Last accessed September 2021.
76. American Psychological Association. HIV/AIDS and Socioeconomic Status. <https://www.apa.org/pi/ses/resources/publications/hiv-aids#> Last accessed September 2021.
77. Igulot P, Magadi MA. Socioeconomic status and vulnerability to HIV infection in Uganda: Evidence from multilevel modelling of AIDS indicator survey data. *AIDS Res Treat.* 2018;2018: 7812146.
78. HIV.gov. 2021. Housing and health. <https://www.hiv.gov/hiv-basics/living-well-with-hiv/taking-care-of-yourself/housing-and-health> on Last accessed September 2021.
79. Schwarcz S, Richards TA, Frank H, et al. Identifying barriers to HIV testing: personal and contextual factors associated with late HIV testing. *AIDS Care.* 2011;23:892-900.
80. Public Health England. Trends in HIV testing, new diagnoses and people receiving HIV-related care in the United Kingdom: data to the end of December 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/939478/hpr2020_hiv19.pdf Last accessed September 2021.
81. NAT. 2014. HIV and Black African Communities in the UK. <https://www.nat.org.uk/sites/default/files/publications/NAT-African-Communities-Report-June-2014-FINAL.pdf> Last accessed September 2021.
82. Matsuoka S, Nagashima M, Sadamasu K, et al. Estimating HIV-1 incidence in Japan from the proportion of recent infections. *Prev Med Rep.* 2019;16:100994.
83. Shahid S, Majeed MF, Awaan AB, et al. Expanding access to HIV testing and counselling and exploring vulnerabilities among spouses of HIV-positive men who inject drugs in Pakistan. *Curr Opin HIV/AIDS.* 2016 Mar;11(Suppl 1):S6-S12.
84. Sanchez TH, et al, Characterizing the impact of COVID-19 on men who have sex with men across the United States in April 2020. *AIDS Behav* 2020;24:2024-2032.
85. Brawley S, Dinger J, Nguyen C, Anderson J. Impact of shelter in place orders on PrEP access, usage, and HIV risk behaviours in the United States. *J Int AIDS Soc.* 2020;23(Suppl.4):178 (abstract OADLB0101).
86. Krakower D, Solleveld P, Levine K, Mayer K. Impact of COVID-19 on HIV pre-exposure prophylaxis care at a Boston community health center. *J Int AIDS Soc.* 2020;23(Suppl.4):176-177 (abstract OACLB0104).