

# A NEW PUSH FOR PREVENTION



New HIV infections globally have continued to decline, but 2021 saw the smallest decrease in the past five years. In some regions—notably eastern Europe and central Asia, Latin America and the Middle East and North Africa—the trends in new HIV infections from 2010 to 2021 are moving in the wrong direction. Furthermore, prevention programmes across all regions are incomplete, missing priority populations, or they are too small to have a decisive impact. Wavering political leadership, funding shortfalls and misallocation, and obstructive legal and policy environments are common obstacles.

## HIV PREVENTION THAT WORKS IN DIVERSE SETTINGS

Countries with diverse epidemics and resources have had marked success in reducing adult HIV infections through combination prevention programmes. For instance, while Zimbabwe achieved a strong decline in new adult infections in the 1990s due in part to condom promotion, it continued to reduce new HIV infections by more than 70% between 2010 and 2021, while Côte d'Ivoire's early expansion of key population programmes and an increase in antiretroviral coverage contributed to a 75% decline in new adult HIV infections in 2010–2021. In Malawi, new HIV infections decreased by 61% over the same period as the country expanded HIV treatment with a focus on reaching both women and their partners through antenatal care, while Kenya used the same approach, along with high coverage of prevention services among key populations, to reduce adult new infections by 48%.

In other regions, several countries have achieved steep reductions in new HIV infections by focusing on the needs of key populations. New HIV infections declined by more than 60% in 2010–2021 in Italy and Viet Nam, and by about half in Sri Lanka. In Estonia, widened access to harm reduction services saw a 97% reduction in new diagnoses among people who inject drugs between 2007 and 2016.

Much more extensive and equitable prevention programmes are needed for key populations and their sexual partners, who now account for more than two thirds of new HIV infections globally and more than 90% of new infections outside of sub-Saharan Africa. Programmes have to do much better at supporting gender-responsive HIV services, including those for key populations. Community-based and community-led interventions have huge potential to fill this gap, but they are not being used to the fullest.

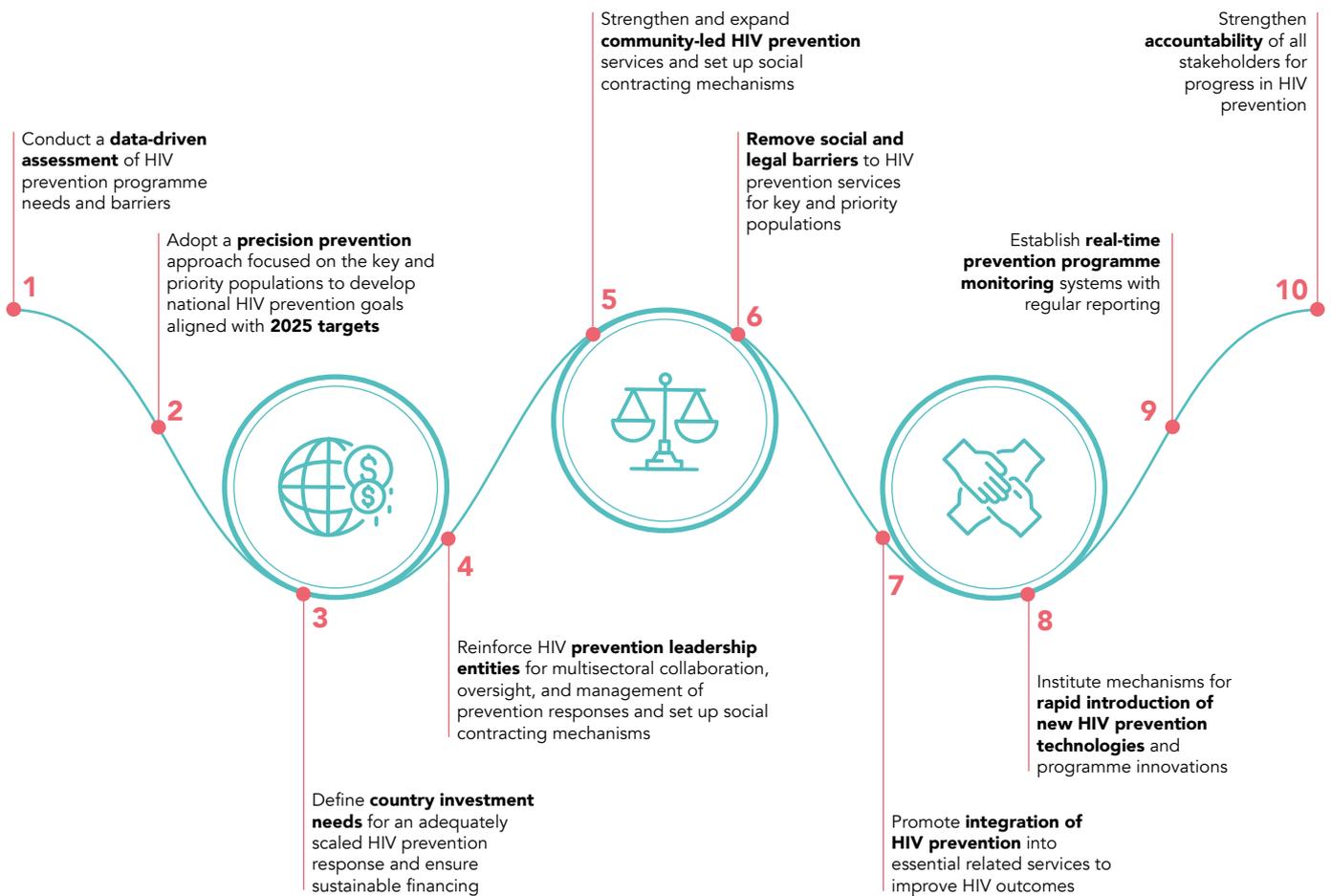
Forty years of experience have taught that HIV defies shortcuts and top-down responses. The right combinations of services need to be available in the right places and accessible to the people who need them the most (see box). That means prioritizing evidence-informed and rights-based interventions for people who are at greatest risk, respecting equity and efficiency, and reallocating investments away from inefficient, low-impact interventions. It also means expanding global access to new HIV technologies, such as long-acting injectable antiretroviral drugs, by making them available and affordable to people who need them the most. That can only be done by ensuring more resolute leadership and sufficient financing, by removing legal and policy barriers, and by ridding services of stigma and discrimination.

It is also clearer than ever that strategies must avoid pitting prevention against testing and treatment, or biomedical interventions against behavioural and structural ones. When used in combination, these approaches have the biggest impact. Continued promotion and strengthening of HIV primary prevention are therefore crucial (1). That requires rebooting condom programmes, getting the most out of interventions based on antiretroviral medicines, including the scale-up of pre-exposure prophylaxis (PrEP), and increasing coverage of voluntary medical male circumcision (VMMC) programmes in priority countries.

# TEN ACTIONS THAT CAN CHANGE THE HIV EPIDEMIC: THE GLOBAL HIV PREVENTION COALITION'S 2025 ROAD MAP

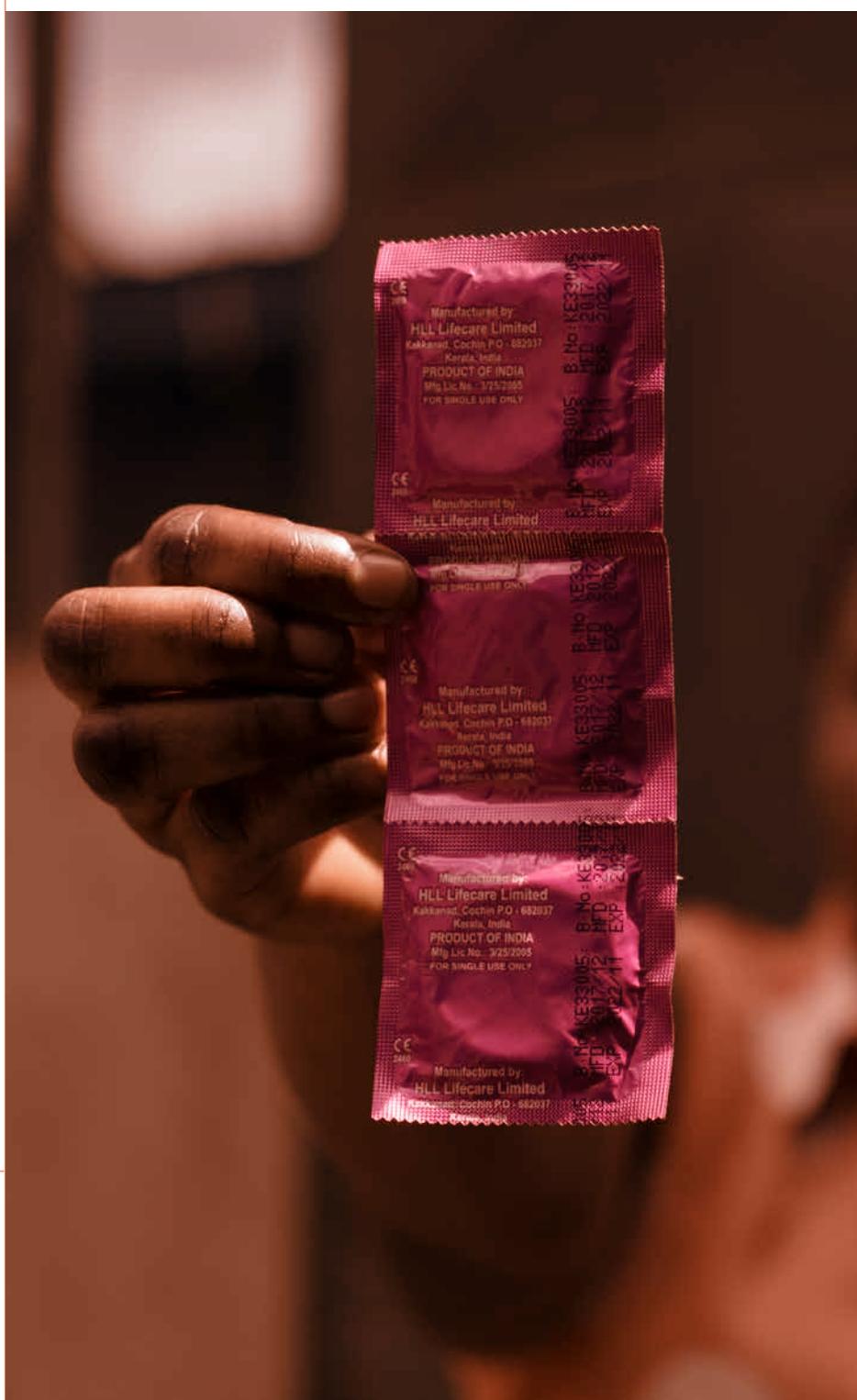
The new HIV Prevention 2025 Road Map lays out the actions that will take countries closer to reaching HIV prevention targets by 2025 (2). It shows how countries can reform their national prevention responses, prioritize the right combinations of interventions for their contexts and focus programmes where they are needed the most. Central to the 2025 Road Map are 10 priority actions (Figure 2.1) that describe essential steps for countries to achieve the 2025 prevention targets.

**FIGURE 2.1** The HIV Prevention 2025 Road Map 10-point plan



Source: HIV Prevention 2025 Road Map: getting on track to end AIDS as a public health threat by 2030. Geneva: Global HIV Prevention Coalition; 2022 [forthcoming].

The 2025 Road Map describes a precision approach to prevention using granular information about HIV incidence, risks and vulnerabilities to focus prevention programmes for maximum results. In line with this approach, the 2025 Road Map emphasizes high-impact prevention programmes for key and priority populations, the use of trusted service platforms and actions that reduce inequalities in access to HIV prevention. That requires the wider availability and use of proven existing HIV prevention tools alongside new ones (such as vaginal and long-acting injectable PrEP) and updated approaches (such as outreach through online platforms and other virtual services). Crucially, it also underscores the importance of political leadership, sound management and renewed attention to mutual accountability between governments, communities and implementers.



Lilian Namiiro, a sex worker from Uganda, is an activist and an advocate for HIV prevention. HIV prevention for key and priority populations received unprecedented urgency and focus in the new Global AIDS Strategy, 2021–2026.

## GETTING THE FULL BENEFITS OF CONDOMS AND LUBRICANTS

Condoms remain the most widely used method for preventing HIV and other sexually transmitted infections (STIs), and for preventing unintended pregnancies (3). They are inexpensive and cost-effective: according to the United Nations Population Fund (UNFPA), the commodity cost of one male condom is less than US\$ 0.03, while for one female condom, it is about US\$ 0.30 (4). Condoms are also a prevention method that is familiar to most people. Increased condom use since 1990 is estimated to have averted 117 million new HIV infections globally (5).

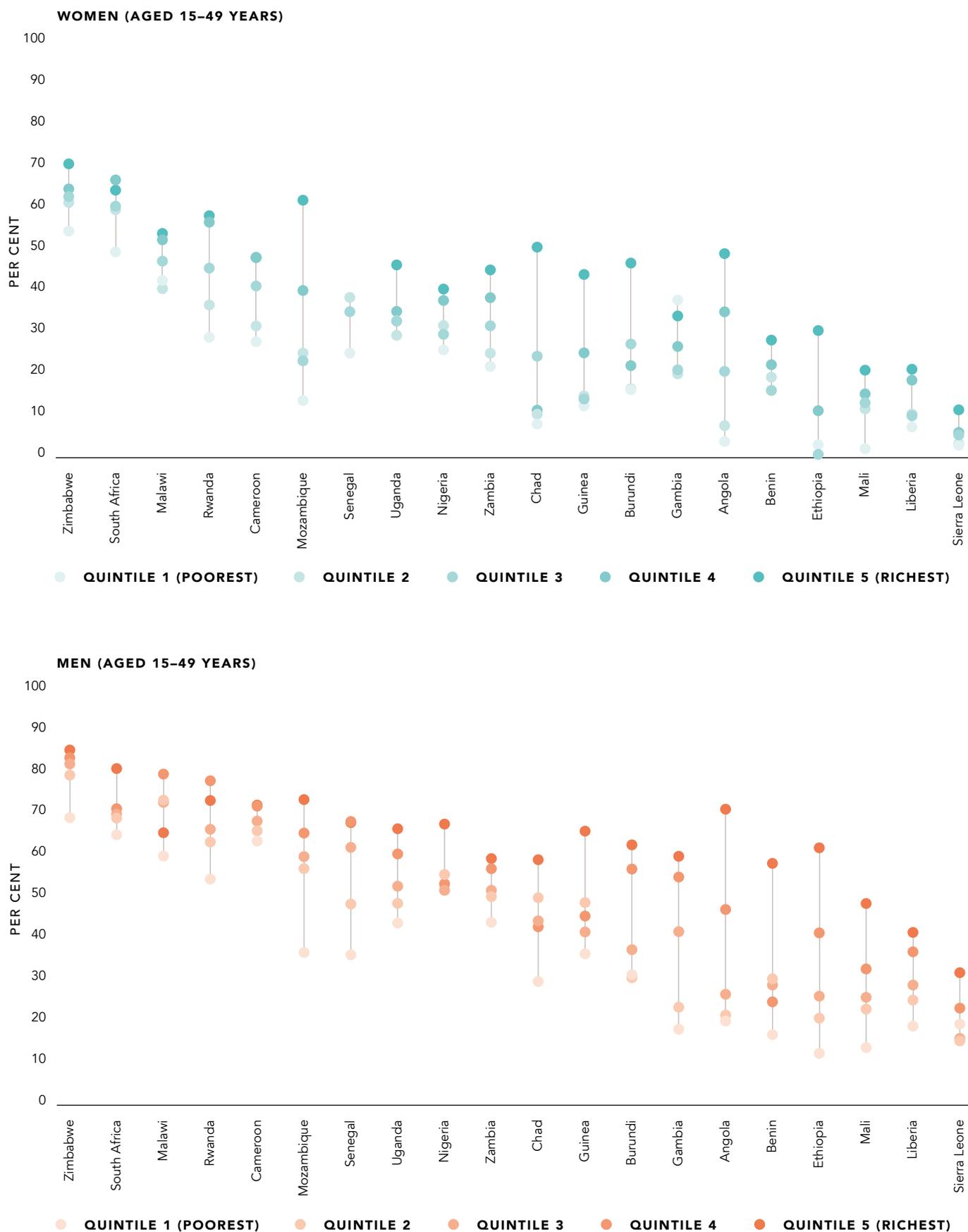
Yet decades into the HIV epidemic, the world is still not fully realizing the many benefits of this prevention method. Gaps and inequities in condom access and use persist, and they are widening in several countries in the context of reduced investments in condom programmes. Condom social marketing programmes are being defunded in sub-Saharan Africa; insufficient availability and promotion of condoms therefore remains a major barrier (6).<sup>1</sup>

In most countries with available data, condom use tends to be more common among people with higher education levels (Figures 2.03a). However, countries like Malawi, South Africa and Zimbabwe show that inequalities of wealth and education do not need to restrain condom programmes. In Zimbabwe, for instance, condom use among even the poorest men is higher than among their wealthiest counterparts in many other countries in sub-Saharan Africa. Zimbabwe's condom programme has received consistent funding and is highly decentralized, using a "total market" approach that draws on the respective strengths of the public and social marketing sectors to reach people in different socioeconomic settings (7).

## Condom social marketing programmes are being defunded in sub-Saharan Africa.

<sup>1</sup> The COVID-19 pandemic has also had an impact: demand for condoms globally reportedly fell by as much as 40% in the first year of the pandemic, when many governments suspended or scaled back condom distribution programmes. Demand began to pick up again during 2021. See: Kumar PP. Malaysia's Karex: COVID lockdowns dented condom demand. In: Financial Times [Internet]. 10 January 2022. The Financial Times; c2022 (<https://www.ft.com/content/7cd804e0-62d9-4eee-9cfe-be8af763b114>).

**FIGURE 2.2** Condom use at last sex with a non-regular partner, by sex and wealth quintile, selected countries, 2015–2020



Source: Demographic and Health Surveys, 2015–2020.

11

**OUT OF 83 COUNTRIES  
REPORT <50% CONDOM USE  
AT LAST SEX AMONG SEX  
WORKERS**

## CONDOM USE AMONG KEY POPULATIONS

Discrimination, harassment and punitive laws make it especially difficult for members of key populations to access and use condoms, despite their higher risk of HIV infection. Punitive laws limit the ability of sex workers to negotiate condom use with clients: it is not uncommon for police to regard the possession of condoms and lubricants as “evidence” of sex work and a basis for harassment, bribery, arrest or violence (8, 9).

Among key populations, condom use at last sex tends to be most common among sex workers (>90% in 24 of 83 countries reporting recent data), though it remains surprisingly infrequent in some places (<50% in 11 countries). The terms under which sex work is performed, social stigma and the legal environment have a major bearing on the ability of sex workers to use condoms with clients (10). In many countries, gay men and other men who have sex with men continue to have limited access to condoms, water-based lubricants and associated safer-sex education (11): condom use at last sex ranges from >70% in 25 of 82 reporting countries to <50% in 15 countries. Only one of 49 countries reported condom use levels of >70% among people who inject drugs, while condom use among transgender people varies from >70% in 19 of 39 countries reporting these data to <50% in nine countries.

There is an obvious need to revive large-scale distribution of free condoms and lubricants to priority populations with the greatest need, including in rural locations (12). Those efforts will pay off the most if they are accompanied by changes in laws and policing practices that make it easier for people to obtain, carry and use condoms when they need them.

Youth ambassador Sihle Mkhize, speaks to young girls (aged 12–17 years) who attend a workshop on contraception and HIV prevention at the Inanda Seminary Clinic in the Inanda township north of Durban, South Africa, 20 December 2021.



## MAXIMIZING THE PREVENTATIVE IMPACT OF TREATMENT

Aside from saving lives, antiretroviral therapy is a powerful tool for preventing HIV infections—though its full potential has yet to be realized. Testing services are not reaching or are inconvenient for large numbers of people living with HIV—especially people belonging to marginalized populations and men, who continue to be less likely to know their status than women living with HIV (see Chapter 1). In addition, treatment interruption among people who manage to start antiretroviral therapy is becoming an increasingly important gap in the chain of prevention, testing and treatment services.

Testing and treatment programmes have been recovering from disruptions experienced early in the COVID-19 pandemic (13). However, they are also contending with other, more enduring difficulties. Hostile legal and social environments push testing and treatment beyond the reach of many people in key populations: use of services can be an intimidating and frustrating experience for those people, as well as for many young people and men in general. Treatment coverage is substantially lower for children compared with adults, and it is also lower for adult men compared with adult women (see Chapter 1). Overcoming that gap is vital both for equity and for breaking the cycle of HIV transmission (14).

**Treatment coverage is substantially lower for children compared with adults, and it is also lower for adult men compared with adult women.**

Almost every country still has untapped opportunities to capitalize on using HIV testing as an entry point for prevention, and on using HIV prevention as an entry point for testing and treatment. Differentiated services that are tailored to local epidemics and the needs of affected populations are an important part of the solution. They include community-led testing, self-testing, task shifting, decentralization and peer-based activities. These approaches put people at the centre, facilitate the effective allocation of resources and can improve the quality and outcomes of HIV treatment and care. In particular, community-led interventions are crucial for ensuring that key populations can access and fully benefit from HIV treatment. HIV (and other health) programmes can also make more routine use of the innovations that have helped sustain treatment services during the COVID-19 pandemic, including wider use of HIV self-testing, multimonth dispensing of antiretroviral medicines, and the use of digital platforms and virtual meeting spaces for counselling and support.

# 9.7

**MILLION [5.2 MILLION–15.1 MILLION] PEOPLE LIVING WITH HIV WERE NOT YET RECEIVING TREATMENT IN 2021**

## THE UNTAPPED POTENTIAL OF ANTIRETROVIRAL-BASED PREVENTION

Antiretrovirals are a core and highly effective component of combination prevention when used for antiretroviral therapy, PrEP or post-exposure prophylaxis (PEP). Full and equitable access to these powerful HIV prevention tools will propel the world much closer to the goal of ending AIDS as a public health threat by 2030.

The massive expansion of HIV testing and access to improved antiretroviral drugs since the early 2000s has saved millions of lives and is helping prevent countless new HIV infections, including steep reductions in vertical HIV transmission. The sustained use of effective HIV treatment regimens is enabling people to reduce their viral loads to undetectable levels, thereby stopping onward sexual transmission (15). Additional prevention choices for women who are at substantial risk of HIV infection include the dapivirine vaginal ring. Since the World Health Organization (WHO) conditionally recommended its provision in January 2021, both the Medicines Control Authority of Zimbabwe and the South African Health Products Regulatory Authority approved the vaginal ring for use in their countries (16, 17). Long-term monitoring of people with HIV who have an undetectable viral load shows that viral suppression is rarely lost, highlighting the validity of the “Undetectable = Untransmittable” message, and the widening use of antiretrovirals as PrEP is leading to sharp reductions in HIV incidence in some settings (18).

But progress on those fronts is highly uneven, and many gaps remain. As of 2021, 9.7 million [5.2 million–15.1 million] people living with HIV were not yet receiving treatment that can protect their health and, if successfully adhered to, prevent onward transmission.

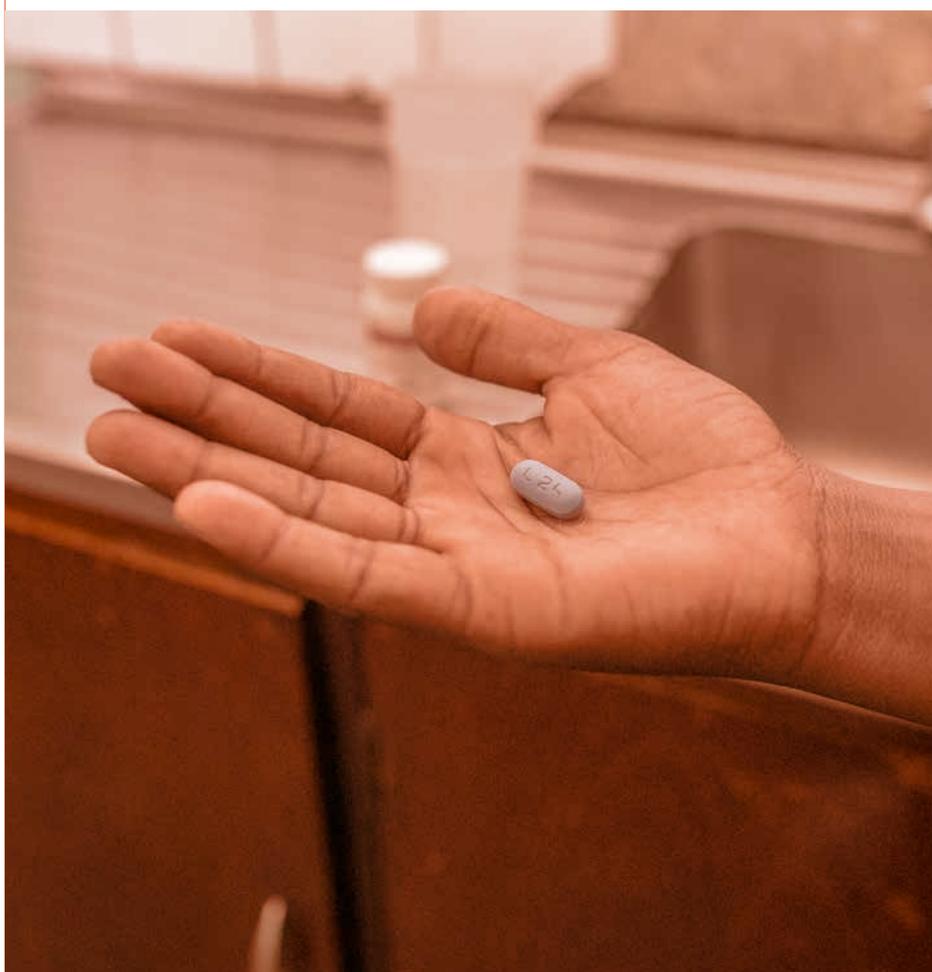


SWING (Service Workers in Group) works with sex workers of all genders, cultures and nationalities across three peer-led drop-in centres tourist “hot-spots” in Thailand.

## INEQUALITIES ARE SKEWING ACCESS TO ORAL PRE-EXPOSURE PROPHYLAXIS

A decade has passed since WHO first recommended the use of oral PrEP as a prevention option for people who are at high risk of HIV infection. Despite some disruptions due to COVID-19, the use of oral PrEP has continued to increase (Figure 2.3), with approximately 1.6 million people in at least 86 countries receiving it at least once in 2021. Adaptations such as multimonth dispensing, virtual demand creation activities and decentralized, community-based and virtual service delivery have coincided with a 157% increase in the number of persons who initiated PrEP in 21 countries between April 2020 and March 2021 (compared to the same period a year earlier).<sup>2,3</sup>

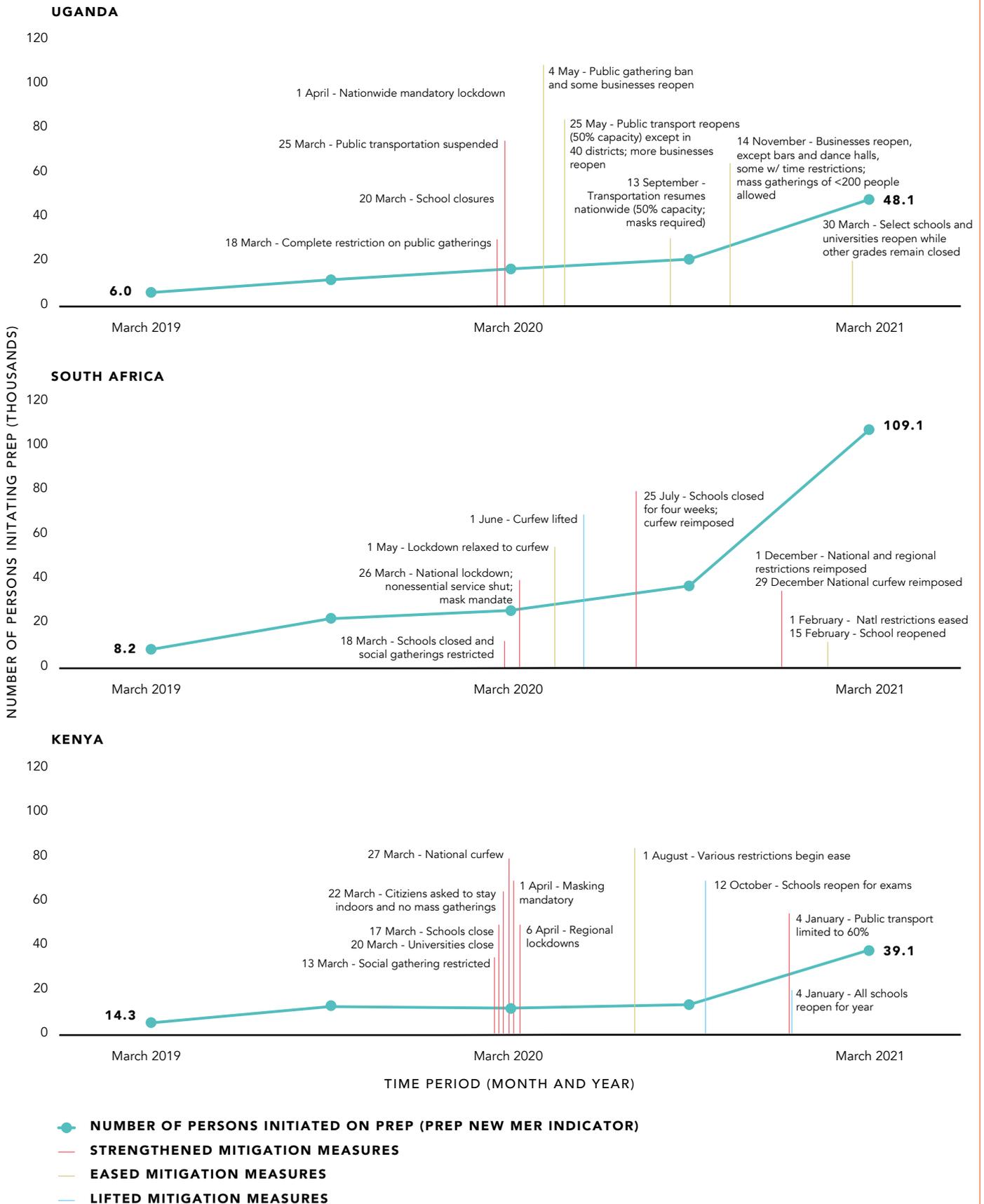
In those 21 countries, most of which are in sub-Saharan Africa, the total number of people using PrEP rose from a little more than 233 000 in the year prior to the COVID-19 pandemic to almost 600 000 in the first year of the pandemic (19).<sup>4</sup>



The Centre for Sexual Health and HIV/AIDS Research Zimbabwe (CeSHHAR Zimbabwe) clinic, Mutare, Zimbabwe, 6 November 2019.

- 2 Users were able to initiate PrEP through programmes supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR).
- 3 The 21 PEPFAR-funded countries are: Botswana, Cameroon, the Democratic Republic of the Congo, the Dominican Republic, Eswatini, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, Rwanda, South Africa, the United Republic of Tanzania, Thailand, Uganda, Ukraine, Viet Nam, Zambia and Zimbabwe.
- 4 The exceptions were the Dominican Republic, Thailand, Ukraine and Viet Nam.

**FIGURE 2.3** Pre-exposure prophylaxis (PrEP) uptake, by country and reporting period, with select COVID-19 mitigation strategies

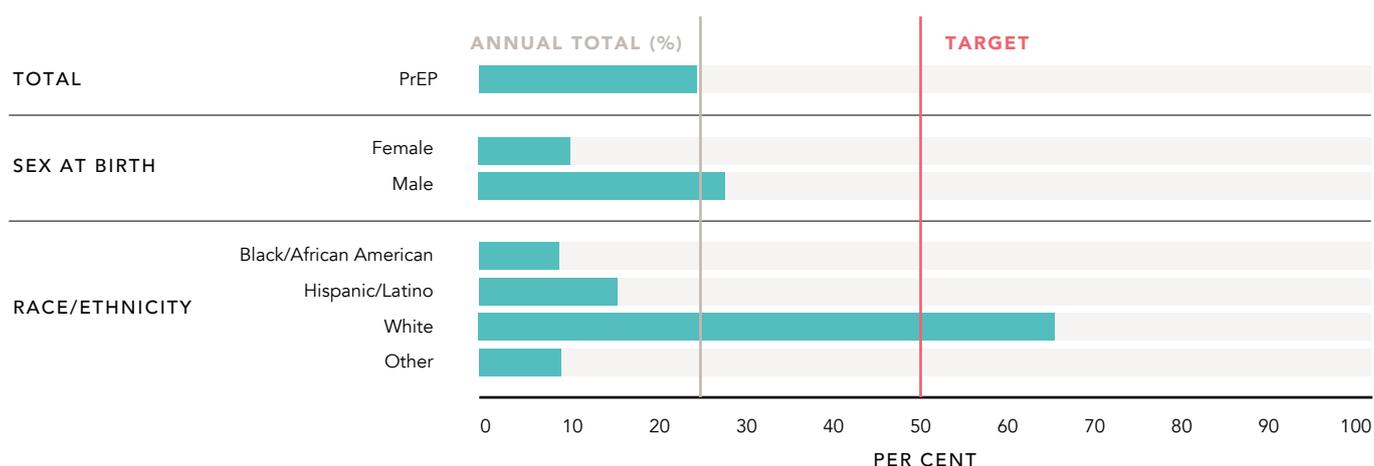


Source: Kerzner M, De AK, Yee R, Keating R, Djomand G, Stash S et al. Pre-exposure prophylaxis (PrEP) uptake and service delivery adaptations during the first wave of the COVID-19 pandemic in 21 PEPFAR-funded countries. PLoS One. 2022;17(4):e0266280.

Since the decision to use PrEP rests with the individual (and does not have to be negotiated with a partner), it has enormous potential to help reduce HIV infections among key populations everywhere and among girls and women in sub-Saharan Africa. High coverage and use of oral PrEP through large scale roll-out has led to marked reductions in new HIV infections in some high-income settings—notably Australia, England and Scotland, and in cities in the United States of America—over and above the contributions of HIV treatment, especially among gay men and other men who have sex with men (17–23).

However, access to oral PrEP remains much too low for it to affect the course of the global epidemic. Despite recent increases, oral PrEP use is concentrated in several high-income countries and five countries in sub-Saharan Africa—Kenya, Nigeria, South Africa, Uganda and Zambia. In high-income countries, racial and socioeconomic disparities are skewing awareness and use of PrEP (24–26).

**FIGURE 2.4** Pre-exposure prophylaxis (PrEP) coverage during 2020 (COVID-19 pandemic) among persons aged 16 years and older, by selected characteristics, United States and Puerto Rico



Source: HIV Surveillance Report, 2020. Vol. 33. Atlanta (GA): Centers for Disease Control and Prevention (United States); 2022 (<https://www.cdc.gov/hiv/library/reports/hiv-surveillance/vol-27-no-3/content/national-profile.html>).

**22–  
60%**

**PREP SUPPORT GROUPS  
BASED AT DROP-IN CENTRES  
IN NAIROBI, KENYA, HELPED  
IMPROVE PREP ADHERENCE  
AND RETENTION AMONG  
FEMALE SEX WORKERS  
FROM 22% TO 60% AFTER 12  
MONTHS**

## **MAKING PRE-EXPOSURE PROPHYLAXIS WORK FOR EVERYONE WHO NEEDS IT**

Achieving wide, effective use of PrEP can be a challenge. Boosting awareness and knowledge among potential users, including through social media, is vital because PrEP needs to be normalized as an effective HIV prevention option. That includes fostering understanding and acceptability of it across different communities in order to lessen stigma associated with its use (27). Most of all, it requires large-scale, predictable funding so that PrEP can be made a realistic and accessible option for more people who need it. This is especially a challenge in middle-income countries that have large numbers of key populations, but where donor funding is highly rationed.

Where PrEP is available, appropriate use of differentiated service delivery methods (such as peers, nurses or pharmacists) will help people get the most out of this prevention option (28). Accessing PrEP will be easier if services are designed and offered in flexible ways that fit the needs and lives of potential users (e.g., by using convenient locations and hours of operation). PrEP services also can be decentralized and linked to other community-led services and supports that are adept at providing the kinds of differentiated services that people need and use. For example, PrEP support groups based at drop-in centres in Nairobi, Kenya, helped improve PrEP adherence and retention among female sex workers from 22% to 60% after 12 months (29). South Africa and Viet Nam have introduced mobile PrEP clinics; in other countries community-led drop-in centres have been important service points. Adaptations such as multimonth dispensing, the use of information technology and bigger roles for community-led organizations have all been vital for increasing PrEP coverage, and embedding those adaptations in routine service delivery will reach more people (19). Whatever the strategy, however, it is crucial to recognize that PrEP is not an isolated intervention: it is best offered as part of a package of HIV and sexual health services.

Out-of-pockets costs also should be eliminated or reduced to a minimum, and health-care staff should be educated about the benefits of this prevention method (30). Age-of-consent laws should be changed (or workarounds should be explored) if they are preventing young key populations from receiving and using PrEP (31, 32). Research shows that key and priority populations, especially young people among those groups, sometimes struggle to use the daily PrEP regimen consistently, or that they stop using it and replace it with another prevention method. Fear of stigma, incomplete knowledge about HIV and PrEP, and concerns about or experiences with side effects are among the reasons cited for interrupting or halting PrEP use (28, 33, 34).

Strategies that focus on enabling individuals to align their PrEP use with potential exposure to HIV (i.e., “on-demand” PrEP use) can help people take control of their prevention choices (35). The service should be nonjudgmental, with PrEP framed as an empowering option, rather than strictly as a way to avoid HIV. This is especially important for young key and priority populations, who need to access PrEP in ways that are informative and stigma-free, and that respect confidentiality (27).

# CAMBODIA'S PHASED SCALE-UP OF PRE-EXPOSURE PROPHYLAXIS

Cambodia has made remarkable progress in responding to HIV. By 2017, the country had reached the 90–90–90 Fast-Track Targets for HIV testing and treatment. Since 2010, the number of people newly infected with HIV has fallen by 50%.

Now Cambodia aims to travel the last mile to end AIDS as a public health threat by 2025, five years ahead of the global target. Scale-up of PrEP is a cornerstone of Cambodia's efforts to reach this milestone.

**Now Cambodia aims to travel the last mile to end AIDS as a public health threat by 2025, five years ahead of the global target.**

Persuaded by the substantial body of evidence on PrEP's effectiveness, Cambodia opted not to undertake a smaller pilot project for PrEP, but to instead focus on broad scale-up from the outset. The National Centre for HIV/AIDS, Dermatology and STD (NCHADS) took a collaborative and partnership approach to planning and scale-up, working in tandem with UNAIDS, WHO, FHI360-EpiC and communities to build momentum for PrEP scale-up and to ensure service quality (Figure 2.5).

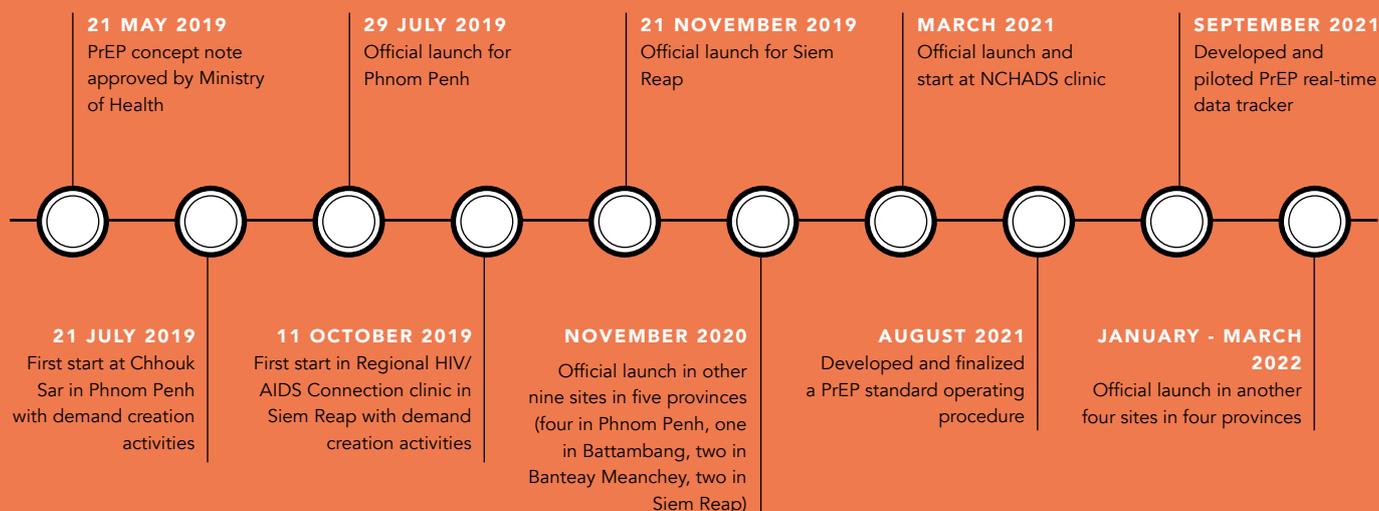
Led by NCHADS and with support from UNAIDS, Cambodia assessed different PrEP service delivery and demand creation models to identify the optimal approaches. This exercise generated a series of recommendations to guide the scale-up, including the use of community-led PrEP service delivery. The country adopted standard operating procedures for PrEP in January 2022, including through same-day PrEP delivery by community-based organizations.

#### Next page

A new PrEP client at NCHADS Health Clinic in Phnom Penh, Cambodia on 17 June 2022.



Mylan [www.mylan.com](http://www.mylan.com)  
Tenofvir Disoproxil Fumarate / Lamivudine  
Fumarate de Ténofvir Disoproxil / Lamivudine  
Tablets / Comprimés  
300 mg/300 mg  
POM | Schedule 2 | PP  
30 Tablets/Comprimés

**FIGURE 2.5** Phased implementation of pre-exposure prophylaxis (PrEP) in Cambodia, 2019–2022

Source: National Centre for HIV/AIDS, Dermatology and STD (NCHADS) presentation, May 2022. Cambodia.

In line with its Strategic Plan for HIV and STI Prevention and Care in the Health Sector 2021–2025 (HSSP 2021–2025), Cambodia endorsed a national target of enrolling 10 000 cumulative clients in 15 priority provinces by 2023. Additional funding has yet to be mobilized to cover the cost of PrEP for the remaining clients.

Cambodia used evidence to guide its PrEP implementation. Key populations at highest risk were prioritized for scale-up, and priority provinces for PrEP roll-out were selected based on population size estimates for key populations, with a particular focus on gay men and other men who have sex with men and transgender women. UNAIDS supported the national HIV programme in assessing health facilities in priority provinces to ensure sufficient infrastructure, staffing, equipment and resources for a smooth start-up and implementation.

**The national technical team provided coaching and on-site technical support to providers at PrEP sites to support implementation and address bottlenecks as they arose.**

The national technical team provided coaching and on-site technical support to providers at PrEP sites to support implementation and address bottlenecks as they arose. Coaching specifically focused on technical aspects of PrEP services, and on collecting and using real-time data for programme monitoring.

# 3023

**INDIVIDUALS HAVE INITIATED  
PREP THROUGH MARCH 2022**

# 30%

**OF PREP USERS ARE YOUNG  
PEOPLE (AGED 15 TO 24 YEARS)**

Community-based organizations and networks have worked to raise awareness within communities and build demand for PrEP services. Groups of providers and community outreach workers were created at each service site using the Telegram application, which allows timely communication and information-sharing about PrEP. In addition, outreach workers are able to use these Telegram groups to book appointments for PrEP service for their clients. Community-centred demand creation activities included physical outreach, special events, and online and social media use (through influencers and community leaders). These were complemented by an NCHADS social and behaviour change campaign that was run through social media. Community-based organizations also refer community members to PrEP services, and they have also intervened to ease the economic burden (such as transportation costs) that can be associated with PrEP access.

Through March 2022, 3023 individuals have initiated PrEP and 1944 people are currently using PrEP. Among PrEP users, 69% are gay men and other men who have sex with men, 17% are transgender people and 12% are female entertainment workers.<sup>1</sup> Young people (aged 15 to 24 years) comprise 30% of PrEP users. Phnom Penh, the capital city, accounts for 78% of PrEP users, and there is very high retention: 70% among gay men and other men who have sex with men and female entertainment workers, and 80% among transgender women and the partners of people living with HIV.

PrEP is proving to be a powerful and welcome addition to HIV prevention efforts focused on the populations at greatest risk. "I take PrEP because I'm selling sex and have many partners, and my partners don't always use a condom," said Pen, a 34-year-old transgender woman living in Phnom Penh. "PrEP is helping protect me from HIV infection."

The convenience of PrEP is an important selling point for members of key populations in Cambodia. "I don't face much challenge taking PrEP since the service is available over the weekend, so I don't have to ask for time off from my workplace," says Hay, a 24-year-old man whose male partner is HIV-positive. "For me, PrEP is easy to take, with no side effects at all. I can do my daily work as usual."

Cambodia is now using programme data to identify and address ongoing challenges. Steps are being taken to strengthen demand creation activities, make clinics as user-friendly as possible, further build the capacity of providers, generate better data to understand why people discontinue using PrEP and strengthen supply chain management systems to avoid drug stock-outs. The country is also working to ensure the long-term sustainability of PrEP by integrating it as an ongoing service in government-run clinics.

<sup>1</sup> Female entertainment workers are defined as women or girls who exchange sexual services for money or goods, either regularly or occasionally.

# FIGHTING STIGMA AGAINST TRANSGENDER PEOPLE IN BRAZIL

With a risk of HIV that is 14 times greater than that of women in the adult population (aged 15 to 49 years), transgender women have a pressing need for access to PrEP and other components of combination prevention. However, social exclusion—along with stigma and discrimination and the risk of violence—makes it difficult for many transgender people to obtain the information and services they need.

In 2021, UNAIDS launched the FRESH Project in partnership with Casa Florescer, a pioneering transgender welcoming centre in São Paulo, Brazil. The project uses contingency management, a process of positive reinforcement, to promote healthy behaviours. The project design draws on evidence that different kinds of incentives can improve health outcomes, including viral suppression of HIV (36).

FRESH began with a workshop for transwomen focused on contingency management, self-care and combination prevention. Ambassadors and influencers among the residents of Casa Florescer were identified to help promote the project goals.

In the 10 days following the workshop, photographer Sean Black— who specializes in portraying lesbian, gay, bisexual, transgender and intersex (LGBTI) people, especially people living with HIV—taught participants photographic techniques that they then used to document their own daily experiences. The 24 transgender women who completed the 10-day programme were recognized for their photos by being invited to participate in a beauty day, which included the services of a professional stylist and a photo shoot by Sean Black.

**“It was incredible to realize, over the days, how many of the women had a very negative opinion of themselves, reflecting the stigma they suffer from society.”**

– Photographer Sean Black



"It was incredible to realize, over the days, how many of the women had a very negative opinion of themselves, reflecting the stigma they suffer from society," said Black. "They discovered themselves as the beautiful and unique people they are and understood how fundamental it is to take care of themselves."

Photos from the photo shoot were exhibited at an event in São Paulo, celebrating the International Day Against Homophobia, Transphobia and Biphobia. During the event, FRESH participants shared their thoughts and emotions about participating in the initiative and the lessons they had learned.

At least one of the participants in the project has reportedly started PrEP. "The discussion about combination prevention and PrEP is very relevant and impactful," said Amanda Félix, of Casa Florescer. "I take care of myself [and] my husband, too. We've been together for five years. Initiatives like this need to happen more often and in more places."

## CAN LONG-ACTING INJECTABLES TAKE HIV PREVENTION TO THE NEXT LEVEL?

Long-acting antiretrovirals for PrEP can add a major boost to HIV prevention—if pricing and other barriers limiting their use are overcome.

Both oral and long-acting injectable PrEP are safe, well-tolerated and highly effective for preventing HIV infection (37). Whereas oral PrEP is taken daily or in anticipation of sexual intercourse, injectable cabotegravir (a new antiretroviral medicine that is also used to treat people with HIV) provides eight weeks of continuous protection against HIV infection through a single intramuscular injection. This can sidestep some challenges associated with oral PrEP, such as difficulties taking oral pills consistently and people's fear of stigma associated with taking antiretrovirals.

Two randomized controlled trials that compared long-acting injectable cabotegravir to oral PrEP found a 79% reduction in the risk of HIV acquisition among study participants receiving long-acting injectable cabotegravir (CAB-LA) when compared with participants receiving oral PrEP. It bears emphasizing that both oral PrEP and CAB-LA are highly effective in reducing HIV acquisition: in the two trials, significantly lower adherence to oral PrEP was largely responsible for the higher risk reduction seen in people taking CAB-LA (38–40).<sup>5,6</sup>

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5 The HPTN 084 study enrolled more than 3200 women in Botswana, Eswatini, Kenya, Malawi, South Africa, Uganda and Zimbabwe.

6 Analysis of the study data indicates that there were one third as many new HIV infections among people taking CAB-LA injections as there were among those taking oral PrEP (using tenofovir disoproxil fumarate plus emtricitabine, or TDF/FTC). The overall number of infections among people taking either version of PrEP was very low.

**79%**

**REDUCTION IN THE RISK OF  
HIV ACQUISITION AMONG  
STUDY PARTICIPANTS  
RECEIVING LONG-ACTING  
INJECTABLE CABOTEGRAVIR**

Rather than replacing oral PrEP, long-acting injectables therefore offer an additional choice that can increase the number of people using effective methods for preventing HIV infections. The United States Food and Drug Administration granted regulatory approval for the use of CAB-LA for PrEP in the United States in December 2021, and regulatory approval is expected in several other countries (37). WHO will release guidelines on CAB-LA for prevention in July 2022.

Long-acting injectables does have its own challenges, however. For example, it requires clinical support for administering and tracking injections (41). The rapid development of implementation science to guide the large-scale adoption of long-acting injectable PrEP will be vitally important to understand the outstanding issues and implementation approaches for populations who urgently need effective prevention choices.

Affordability is also a major concern: a year's supply of CAB-LA was priced at approximately US\$ 22 200 (US\$ 1850 per month) in the United States in early 2022, and modelling studies from South Africa and the United States show that current pricing drastically limits the potential public health impact of this prevention option (42–45).

## **States show that current pricing drastically limits the potential public health impact of this prevention option.**

This does not mean that CAB-LA cannot be sold at an affordable price: analysis done by the Clinton Health Access Initiative suggests that significant drug cost reductions can be achieved with collective effort and the involvement of generic manufacturers in the long-term. UNAIDS, community networks and nongovernmental organizations are urging the drug's manufacturer to grant a generic license for its production, along with supportive technology transfers (46). The manufacturer has indicated a willingness to explore possible voluntary licensing arrangements in low- and middle-income countries (47, 48).

## **IN SUB-SAHARAN AFRICA, ADOLESCENT GIRLS AND YOUNG WOMEN FACE HIGH RISKS OF HIV INFECTION**

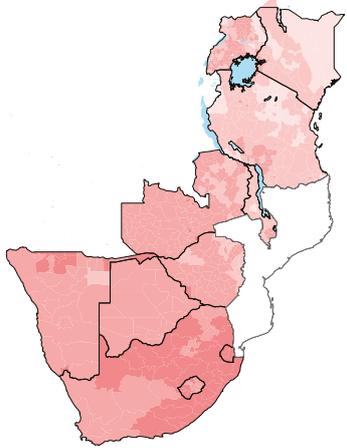
Globally, almost three out of five—or 250 000 [150 000–360 000] of the 400 000 [250 000–570 000]—young people who acquired HIV in 2021 were adolescent girls and young women. In sub-Saharan Africa, they accounted for almost four in five new infections among young people. Within this group, there are subpopulations of adolescent girls and young women who are at higher risk of HIV than others (Figure 2.6).

## **Almost three out of five young people who acquired HIV in 2021 were adolescent girls and young women.**

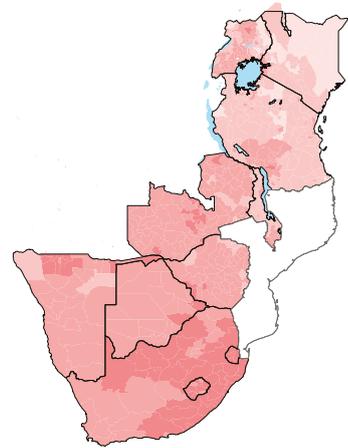
In areas where HIV incidence exceeds 1%, there is a need for intensive combination prevention, including condoms, HIV testing, antiretroviral access (Undetectable = Untransmittable), community outreach and availability of PrEP for individuals who face the highest risk of infection. Global guidance suggests that where HIV incidence exceeds 3%, there also should be extensive promotion and high coverage of PrEP, plus additional empowerment support for the most vulnerable.

**FIGURE 2.6** District level HIV incidence among adolescent girls and young women (aged 15–24 years) by sexual risk strata, eastern and southern Africa, 2021

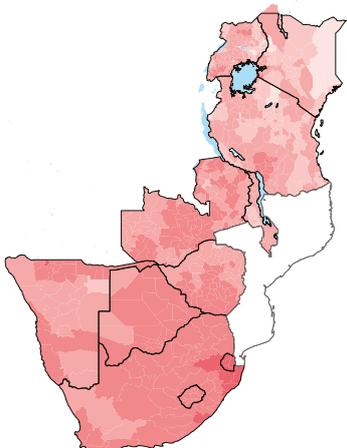
**ALL ADOLESCENT GIRLS AND YOUNG WOMEN (AGED 15–24 YEARS)**



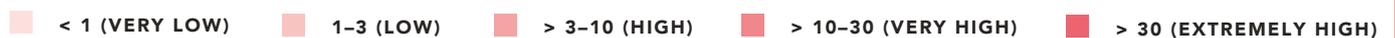
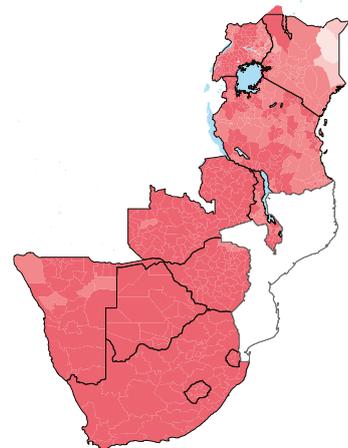
**ADOLESCENT GIRLS AND YOUNG WOMEN (AGED 15–24 YEARS) WHO ARE SEXUALLY ACTIVE WITH ONE COHABITATING PARTNER**



**ADOLESCENT GIRLS AND YOUNG WOMEN (AGED 15–24 YEARS) WHO ARE SEXUALLY ACTIVE WITH NON-REGULAR SEXUAL PARTNERS**



**ADOLESCENT GIRLS AND YOUNG WOMEN (AGED 15–24 YEARS) FROM KEY POPULATIONS WHO ARE SEXUALLY ACTIVE**



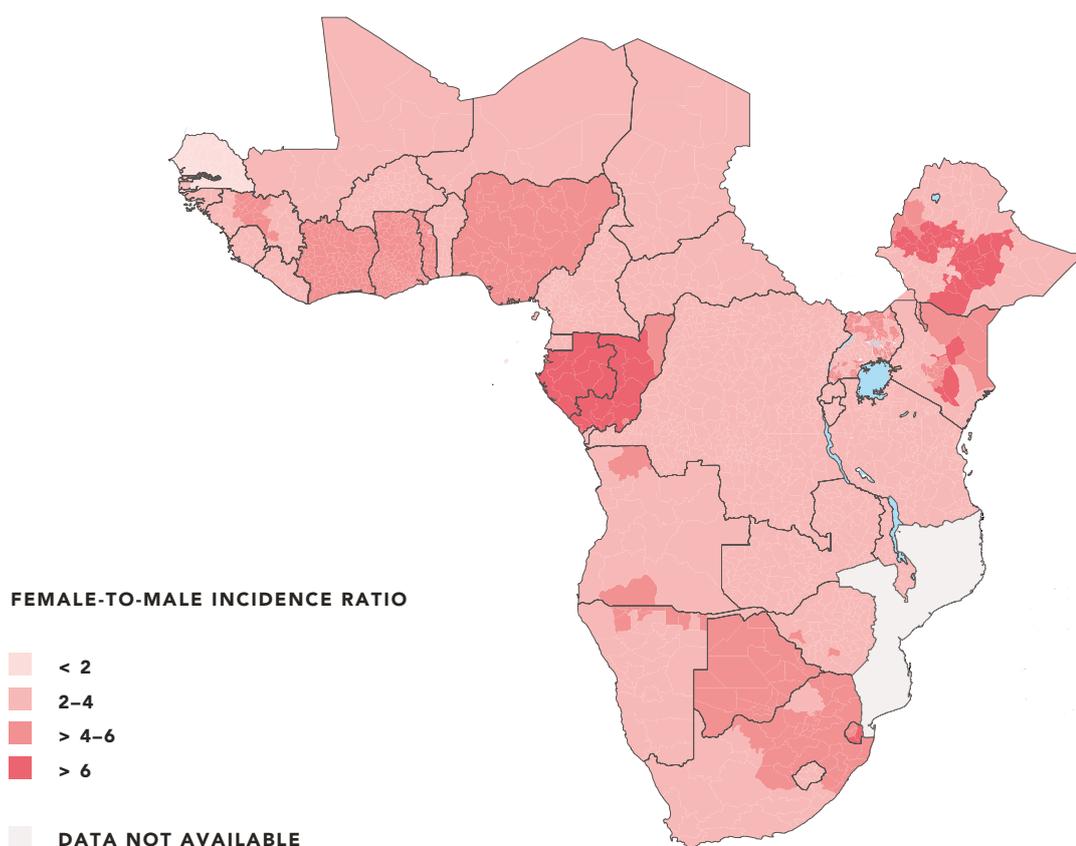
Source: Howes A, Risher KA, Kinh Nguyen V, Stevens O, Jia KM, Wolock TM, et al. Spatio-temporal estimates of HIV risk group proportions for adolescent girls and young women across 13 priority countries in sub-Saharan Africa. medRxiv. 2022:2022.2007.2012.22277551.

Note: New HIV infections per 1000 uninfected population.

Note: Twelve countries are included in the map.

Stark sex-related disparities define the HIV epidemic in sub-Saharan Africa. On average, the rate of new infections across the region is more than three times higher among adolescent girls and young women than among their male peers, a ratio that has widened since 2000. At the subnational level, HIV incidence in adolescent girls and young women in some countries is more than six times higher than in men and boys (Figure 2.7).

**FIGURE 2.7** Female-to-male HIV incidence ratio among adolescents (aged 15–24 years), subnational levels, sub-Saharan Africa, 2021



Source: UNAIDS epidemiological estimates, 2022.

Note: Analysis available for 37 countries in sub-Saharan Africa with data available at the subnational level. Countries not included are Comoros, Djibouti, Eritrea, Madagascar, Mauritania, Mauritius, Mozambique, Seychelles, Somalia, South Sudan and Sudan.

Prevention programmes that focus on adolescent girls and young women are having an impact: worldwide between 2000 and 2021, new HIV infections among them fell by 55%, and the rate of that decline has accelerated in the past decade. Dedicated combination prevention programmes for adolescent girls and young women are operating in more than 40% of high-incidence locations in 19 countries in sub-Saharan Africa, but they need to become more plentiful to ensure access in 95% of places where HIV incidence is (49).

## **GENDER INEQUALITY AND DISCRIMINATION KEEP THE HIV EPIDEMIC GOING**

Gender inequalities are slowing progress in reducing HIV infections among adolescent girls and young women (50, 51). They rob women and girls of their fundamental rights to education, health and economic autonomy, and they deprive them of control over their sexual lives—with gender-based violence a perennial threat. In addition, laws and policies frequently seem in denial that, across the world, significant proportions of adolescent girls start having sex at young ages (52, 53). As a result, adolescent girls in many countries cannot access HIV information, condoms and other contraceptives, or sexual and reproductive health services without the consent of a parent or guardian (see Chapter 3).

HIV prevention is most effective when women and girls control their bodies and sexual lives, are free from violence, and can use the services and receive the support they need. This underscores the value of bringing together biomedical tools and behavioural and structural interventions, and focussing them on settings where HIV incidence is highest (46, 49). These combined interventions are doubly important for women who belong to key populations, as they typically experience multiple forms of discrimination, gender-based violence and injustice, and they are at very high risk of HIV infection (47, 50). In addition, combination prevention programmes achieve the best results when young women are actively involved in shaping and implementing them, which makes greater investment in women-led and community-rooted organizations vital.

## **Combination prevention programmes achieve the best results when young women are actively involved in shaping and implementing them.**

Scale is an issue: HIV prevention must shift from fragmented projects to large-scale programmes that combine HIV prevention, gender-based violence prevention, and access to comprehensive sexual and reproductive health services with components that support girls to stay in school, empower women and girls, and build equitable gender relations. The HERStory project in South Africa, for example, emphasizes high school completion, prevention tools such as condoms and PrEP, sexual and reproductive health services, and interventions that address gender-based violence (48).

Biomedical tools also remain crucial. Technologies such as PrEP (including long-acting injectable versions and vaginal rings) offer great promise and are yet to be scaled up and made available to most women and adolescent girls who are at high risk of HIV (47).

## COMPREHENSIVE SEXUALITY EDUCATION

Quality comprehensive sexuality education enables young people to acquire the knowledge, attitudes and skills they need to make sensible decisions about their sexual and reproductive lives—and stay HIV-free (51). It has been shown to delay sexual initiation, increase the use of condoms and contraceptives, reduce teen pregnancies, and support the prevention of HIV and other STIs (52–55). When sexuality education addresses gender inequality and power dynamics in relationships, it can be fivefold more effective at preventing STIs and unplanned pregnancies than curricula that ignore those issues (61).

Despite this, comprehensive sexuality education is not universally supported, with adults in some communities claiming that it encourages promiscuity and risk-taking. The evidence does not support those beliefs, and at least 85% of 155 reporting countries now have policies or laws that cater for the provision of sexuality education in schools, according to the latest UNESCO-led analysis of comprehensive sexuality education worldwide (56). A total of 78 countries mandate life skills-based HIV and sexuality education in both primary and secondary schools (56).

Policy and legal frameworks, however, do not guarantee concerted or quality implementation; indeed, UNESCO's analysis found that curricula were poorly taught in many countries (56). As a result, the information that young people receive is often incomplete and ambiguous. For instance, survey data from sub-Saharan Africa (2015–2020) show that only 37.6% of youth (aged 15 to 24 years) had comprehensive knowledge about HIV (62, 63). These knowledge gaps extend to other aspects of sexual and reproductive health, including other STIs and contraception.

Quality comprehensive sexuality education must be available to all adolescents and young people, in and out of school, and it should incorporate issues of gender, rights and sexual identity. Ideally, curricula would reflect the fact that sex is tied up with pleasure-seeking, curiosity and self-expression, as some programmes are doing in Ghana and Kenya, for example (64, 65). Consultative approaches—involving teachers, learners, parents and civil society—can be used to update curricula, as countries as diverse as Jamaica, the Lao People's Democratic Republic and Sweden have done. Reliable linkages to youth-friendly sexual and reproductive health and rights services—and, in settings where HIV is a major threat, to HIV prevention, testing, treatment and care—are an essential part of quality comprehensive sexuality education (56).

# 85%

OF 155 REPORTING COUNTRIES NOW HAVE POLICIES OR LAWS THAT CATER FOR THE PROVISION OF SEXUALITY EDUCATION IN SCHOOLS, ACCORDING TO THE LATEST UNESCO-LED ANALYSIS OF COMPREHENSIVE SEXUALITY EDUCATION WORLDWIDE

# 78

COUNTRIES MANDATE LIFE SKILLS-BASED HIV AND SEXUALITY EDUCATION IN BOTH PRIMARY AND SECONDARY SCHOOLS

## UNEVEN COVERAGE OF PREVENTION FOR KEY POPULATIONS

Access to combination HIV prevention services among key populations remains limited across most of the world (see Figure 1.4 in Chapter 1). In some settings, prevention services for certain key populations are wholly absent, even though they are at markedly greater risk of acquiring HIV than the population as a whole (Figure 0.9 in Introduction). Key populations and their sexual partners accounted for 70% of HIV infections worldwide in 2021 and 94% of infections outside of sub-Saharan Africa (see Figure 0.8 in Introduction). Their vulnerabilities sometimes also overlap: a review of recent surveys found that a median 3.6% of sex workers and 1.8% of gay men and other men who have sex with men injected drugs, compared to 0.2% in the adult global population (aged 15 to 64 years) (Figure 2.8).

### SCALING UP HARM REDUCTION PROGRAMMES

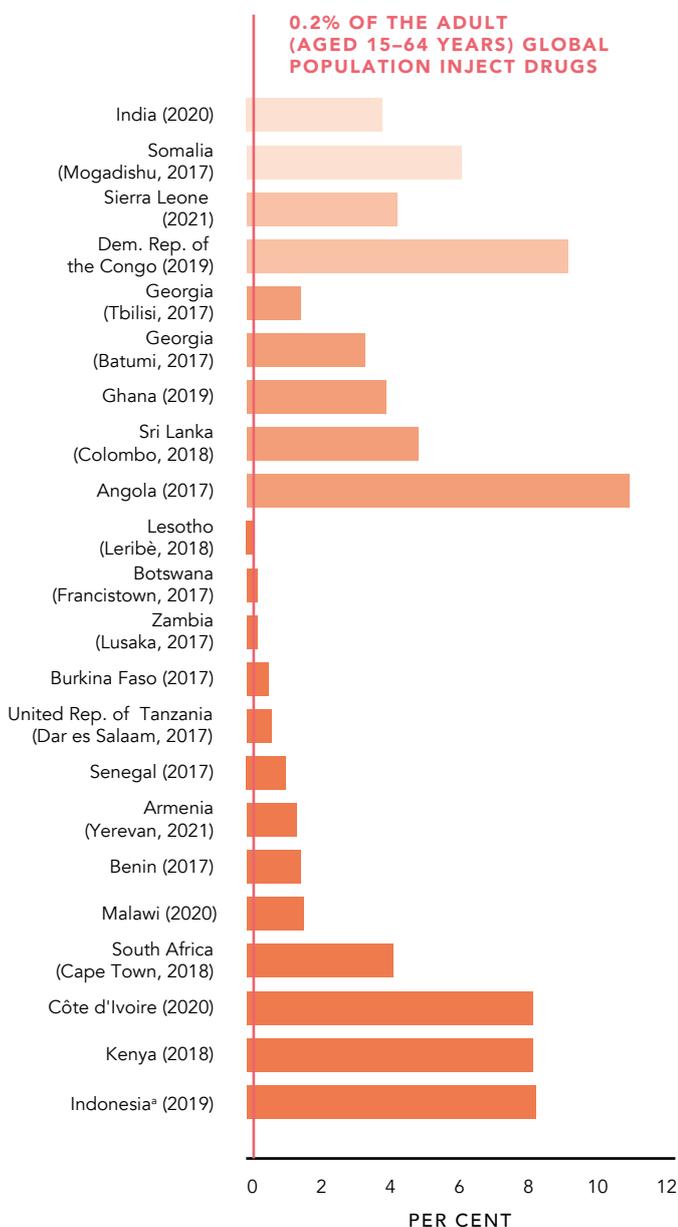
Harm reduction services for people who inject drugs are rarely provided on a meaningful scale. In 2021, harm reduction services were available in 87 countries, mostly on a small scale and mainly in urban areas. In Asia and the Pacific and in eastern Europe and central Asia, regions where injecting drug use is an important driver of many national epidemics, opioid agonist therapy reached only 9% and 4%, respectively, of people who inject drugs. In contrast, people who inject drugs accounted for 10% of new adult HIV infections worldwide in 2021, with the proportion rising to almost 20% outside of sub-Saharan Africa. In most regions that provided data, relatively high percentages (>70%) of people who inject drugs reported using a sterile needle and syringe at last injection, but only about 42% were reached with a full range of relevant HIV prevention services.

Worldwide, 64 countries have explicit language in support of harm reduction in their national strategies, and while uptake of harm reduction strategies within countries has been slow, there are encouraging examples of change. For instance, Uganda introduced opioid agonist therapy services nationwide in 2021 (66). Algeria, Egypt and Pakistan also approved opioid agonist therapy in 2021–2022, and Viet Nam approved scale-up of its take-home methadone programme (see the Viet Nam feature story in Chapter 2) (67, 68).

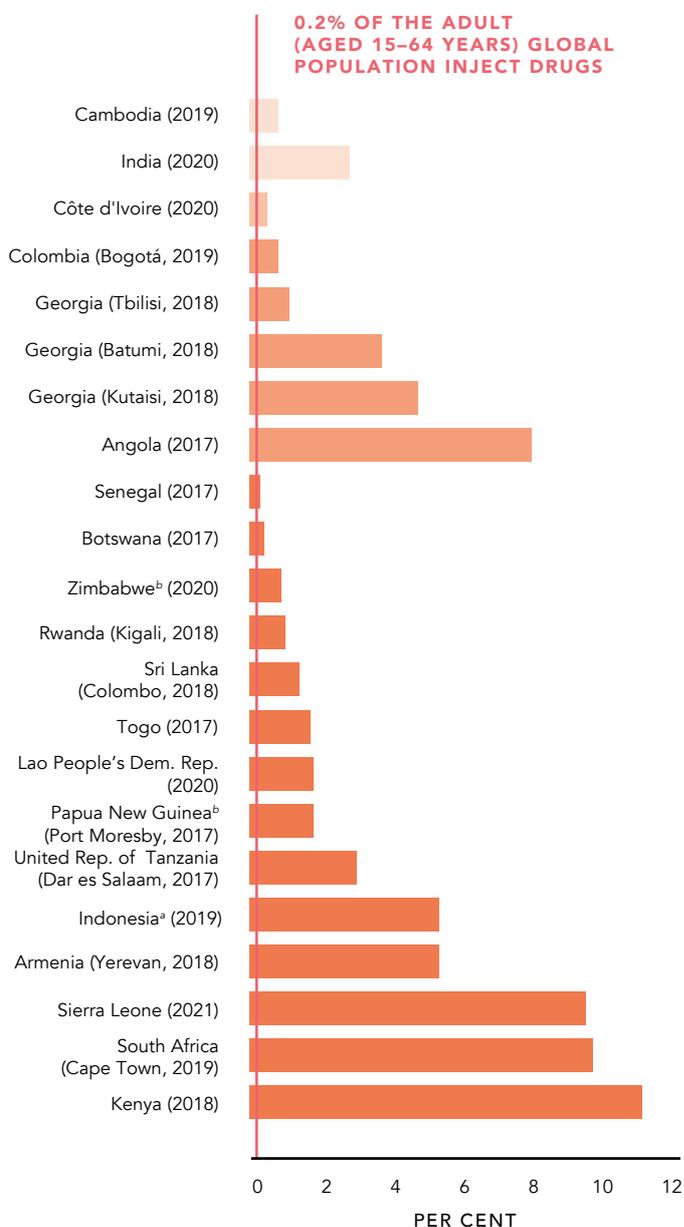
Across key populations, stigma and discrimination and punitive laws and policies increase HIV vulnerability and reduce access to prevention services. In the case of people who inject drugs, immediate action is needed to replace all forms of compulsory drug and HIV testing and compulsory drug treatment with voluntary, non-coercive approaches.

**FIGURE 2.8** Overlapping layers of vulnerability among sex workers and gay men and other men who have sex with men, 2017–2021

**SEX WORKERS**



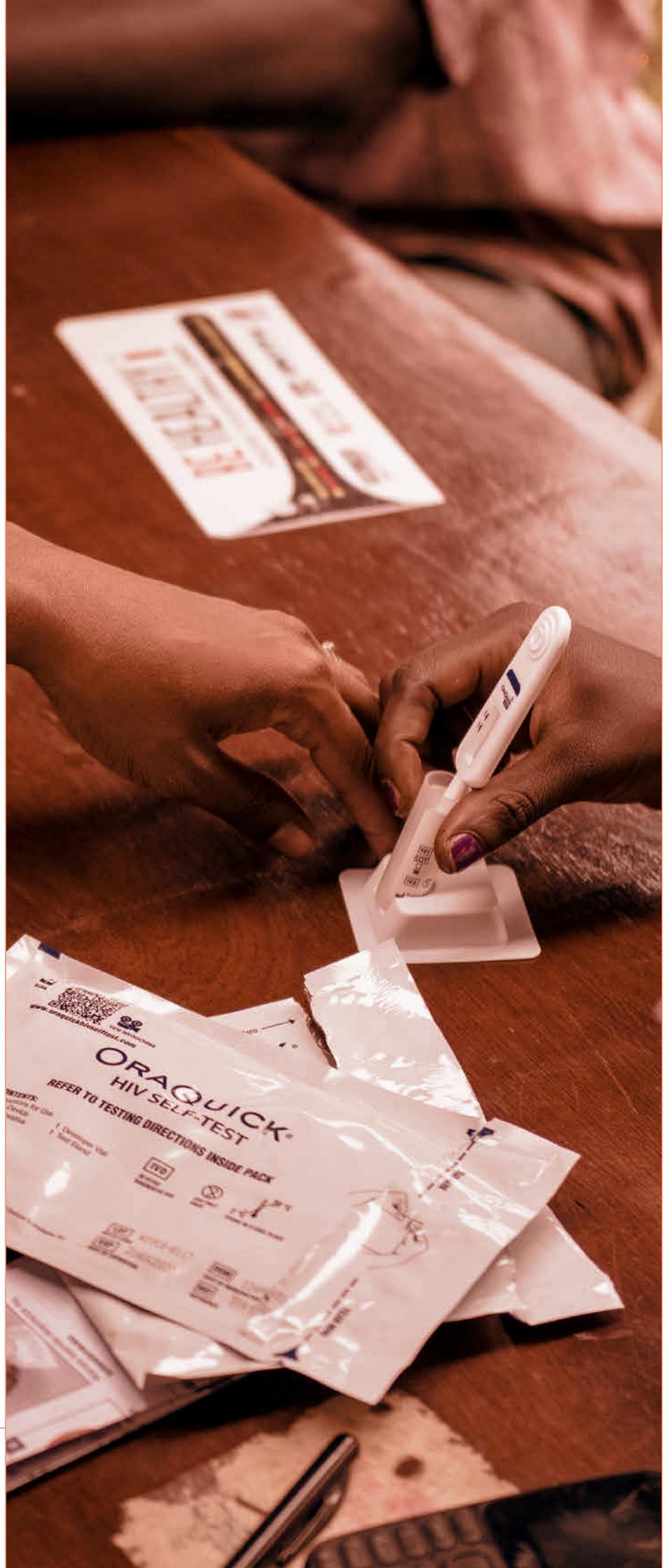
**GAY MEN AND OTHER MEN WHO HAVE SEX WITH MEN**



- INJECTED DRUGS IN THE PAST THREE MONTHS
- INJECTED DRUGS IN THE PAST SIX MONTHS
- INJECTED DRUGS IN THE PAST 12 MONTHS
- EVER INJECTED DRUGS

<sup>a</sup> Adolescents and young people only  
<sup>b</sup> Including transgender women

Source: Integrated biological and behavioral surveys (see references at the end of the chapter); World drug report 2021. Vienna: United Nations Office on Drugs and Crime; 2021 (<https://www.unodc.org/unodc/en/data-and-analysis/wdr2021.html>).



Harm reduction workshop at the Uganda Harm Reduction Network's drop-in centre in Mukono, Uganda, 24 October 2019.

# SCALING UP AT-HOME METHADONE PROGRAMMES IN VIET NAM

When COVID-19 lockdowns threatened the ability of people to access methadone, the Viet Nam Ministry of Health, with the active support of UNAIDS and other United Nations (UN) agencies, implemented a new policy for take-home methadone. A three-province national pilot project, as well as a separate programme in Ho Chi Minh City, demonstrated the effectiveness of take-home methadone as a strategy to ensure continuous service access and improve health outcomes among people who inject drugs.

After early national action prevented explosive outbreaks of COVID-19 infection during the early waves of the pandemic, Viet Nam experienced a spike in COVID-19 cases in August and September 2021 (69). The 2021 spike increased the burden on health systems, while stringent lockdowns disrupted services and made people hesitant to daily attend health clinics.

These interruptions made it difficult for people to access methadone. Viet Nam has provided methadone maintenance therapy since 2008; as of March 2021, it had more than 51 000 people receiving methadone maintenance therapy in 341 clinics and 232 drug dispensing points in 63 provinces or cities.

**These programmes achieved robust levels of retention, with 88% of people enrolled in the multiprovince pilot still receiving take-home methadone after six months.**

During the national pilot study, take-home methadone was provided to 232 people in seven centres in Lai Chau province, to 355 people in nine centres in Dien Bien and to 361 people in five centres in Hai Phong. In the separate programme in Ho Chi Minh City, take-home methadone reached 4415 people in 23 clinics. Among recipients of multiday, take-home methadone, HIV prevalence was high—18.1% in the three-province pilot, and 30.1% in Ho Chi Minh City—and the prevalence of hepatitis C was even higher (70, 71).

#### Next page

Ms Oanh, a 56-year-old living with HIV, enrolled in both antiretroviral and methadone maintenance therapy since 2017. Dien Bien, Viet Nam, May 2022.



These programmes achieved robust levels of retention, with 88% of people enrolled in the multiprovince pilot still receiving take-home methadone after six months. As the number of take-home doses increased over time, the low discontinuation rates declined even further. Low rates of adverse events were also reported, with none of the individuals enrolled in the Ho Chi Minh City programme having overdose symptoms, and only 3.2% of participants intentionally reduced or skipped a dose.

"An independent mid-term review showed that this initiative met the demand of [methadone maintenance] clients," said Dr Phan Thi Thu Huong, Director General of the Viet Nam Authority for HIV/AIDS Control. "The demonstrated pilot also showed with appropriate monitoring it is safe for clients to take home methadone doses. The initiative was especially meaningful and much appreciated by clients in the context of COVID-19 outbreak that made going to methadone clinics on a daily basis very difficult.

"We have doubled the geographic scope of the pilot in 2022 and plan to incorporate guidance for take-home doses in the updated national opioid substitution therapy guideline in 2023."

## **Ninety-nine per cent of people enrolled in both the multiprovince and Ho Chi Minh City projects expressed satisfaction with the programme.**

Ninety-nine per cent of people enrolled in both the multiprovince and Ho Chi Minh City projects expressed satisfaction with the programme. Take-home methadone helped overcome some of the key barriers to service use that were cited by clients, including expenses, transport and the time required to attend the clinic. According to qualitative interviews with participants and clinicians, take-home methadone also improved adherence to treatment and boosted earning potential by reducing the need for workers to go to the clinic each day.

These benefits were apparent to Ms Oanh, a 56-year-old living with HIV in Dien Bien who had been enrolled in both antiretroviral and methadone maintenance therapy since 2017. Prior to the COVID-19 pandemic, Ms Oanh cycled four kilometres to the methadone clinic every day, rain or shine. Methadone maintenance therapy has enabled her to avoid using heroin and improved her overall health and well-being. After becoming eligible for the maximum six take-home doses during the pilot project, Ms Oanh only has to come to clinic once a week, leaving her with more time for herself and enabling her to stay home when the weather is poor. She hopes to see take-home methadone continued and scaled up, and she urges that this approach should remain accessible and without added cost for people who inject drugs who, like her, have limited incomes.

This important reform is a key step towards an approach to drug use that is grounded in health- and human rights-based integrated harm reduction and stigma reduction interventions. Further efforts are needed to maintain and scale up this innovative initiative on multiday take-home methadone maintenance therapy in order to improve the quality of life of people who use drugs in Viet Nam.

### **Next page**

Methadone dose dispensed at the District Health Center of South Tu Liem, Hanoi, Vietnam.

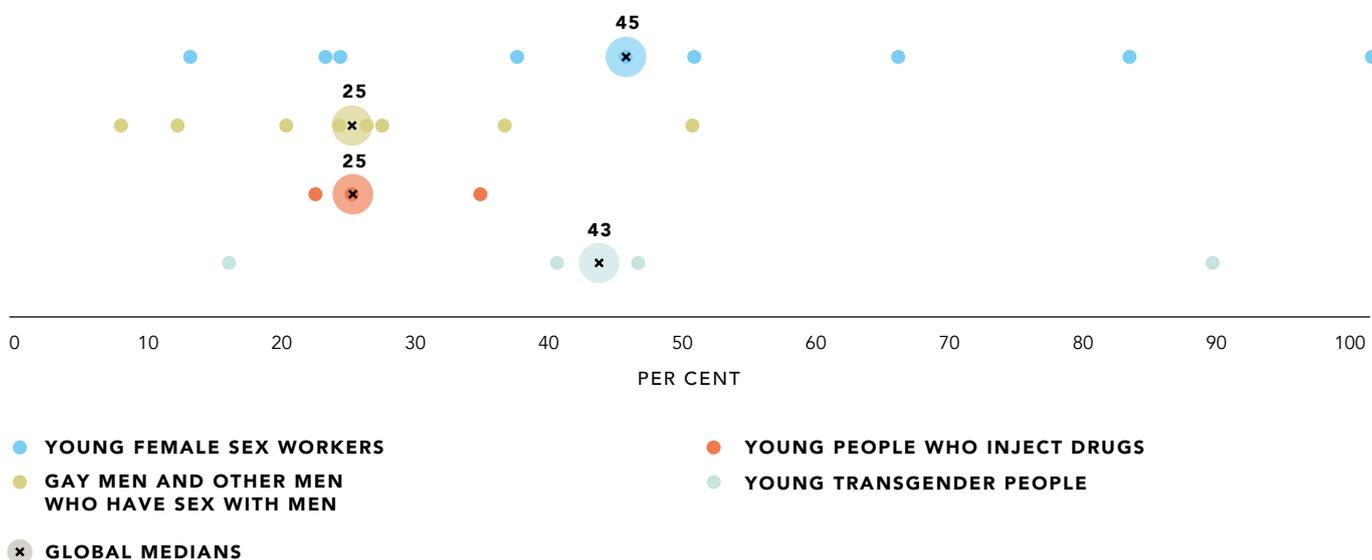


## YOUNG KEY POPULATIONS LEFT IN THE SHADOWS

The HIV-related needs of young key populations are especially neglected. Data on HIV infection trends and service coverage among young key populations are lacking in many places, but when countries do collect and study these data, they discover that, outside sub-Saharan Africa, young key populations account for most new infections among young people. In Asia and the Pacific, for example, almost all new HIV infections in young people are among key populations and their sex partners (72).

Available evidence indicates that young key populations face at least as many barriers to HIV prevention services, including accessing and using PrEP, as their older counterparts. In Asia and the Pacific, less than half of young key populations on average were accessing comprehensive HIV prevention services between 2017 and 2021 (with significant variation between countries and different key populations) (Figure 2.9) (72). Criminalization of their behaviours, harassment and violence at the hands of law enforcement personnel, and everyday stigma and discrimination push these young people away from the services and support they need. Age-of-consent requirements and judgmental attitudes of health-care workers, along with concerns about privacy and confidentiality, are additional obstacles (73).

**FIGURE 2.9** Comprehensive HIV prevention coverage among young key populations (aged 15–24 years), selected countries, Asia and the Pacific, 2017–2021



Source: UNAIDS Global AIDS Monitoring, 2022 (<https://aidsinfo.unaids.org/>).

Note: Prevention coverage is measured as the percentage of people in a key population who report having received a combined set of HIV prevention interventions in the past three months (at least two out of three services): (1) given condoms and lubricants; (2) received counselling on condom use and safe sex; (3) tested for STIs (for transgender people, sex workers and gay men and other men who have sex with men) or received sterile needles or syringes (for people who inject drugs).

Note: The median for young key populations prevention coverage is calculated based on nine reporting countries for female sex workers, eight reporting countries for gay men and other men who have sex with men, four reporting countries for transgender people, and three reporting countries for people who inject drugs.

These barriers are all surmountable. HIV interventions for young key populations are likely to perform better if they include peer support and are designed and run by community-led organizations that include adolescents and young people (74). Legal reforms or workarounds can circumvent obstructive laws and practices, while training and closer monitoring can reduce stigma and discrimination at health facilities. Clinic opening hours and services can also be adapted to suit the lived realities of young key populations.

E-health services are a promising innovation that are particularly convenient and relevant to young key populations. HIV programmes can do a better job of using the Internet, social media and dating platforms to share information and link young key populations to relevant services (73). The LoveYourSelf project in the Philippines, for example, operates an online, app-based condom distribution service called SafeSpacesPH, which allows young people to access condoms without embarrassment or stigma. In Thailand, the TestMeNow system allows young people to easily book an HIV test online and then take that test at a community-based or private sector clinic (75).



The Lighthouse Social Enterprise is a youth-led LGBTI organization that provides HIV prevention services to people from key populations, including young people, Viet Nam, 2021.

# 5 TIMES

PEOPLE IN PRISON ARE  
FIVE TIMES MORE LIKELY TO  
BE LIVING WITH HIV THAN  
ADULTS IN THE GENERAL  
POPULATION

## PEOPLE IN PRISON: OUT OF SIGHT, OUT OF MIND

HIV, tuberculosis, viral hepatitis (notably hepatitis C) and now COVID-19 are major threats to the nearly 12 million people worldwide who are held in prisons and detention facilities on any given day (76). Incarcerated people are five times more likely to be living with HIV than adults in the general population; data reported to UNAIDS in recent years show that, on average, more than 3% of the global prison population is living with HIV. Overcrowding, poor ventilation and malnutrition, which put people living and working in prisons and other closed settings at higher risk of HIV and tuberculosis infection, are also putting them at higher risk of being infected with SARS-CoV-2 and of experiencing serious health consequences when they are infected (77, 78).

Although women represent a minority (7%) of the global prison population, some studies suggest that incarcerated women may be more likely to be living with HIV than men in prison or women in the wider community (79–81). The groups at highest risk of infection with HIV are often also those at increased risk of incarceration, such as people who inject drugs and sex workers, because many countries criminalize their behaviours. Average HIV prevalence among women in prison was almost 4% ( $n = 25$  countries) through 2021, compared with almost 3% ( $n = 50$  countries) among men.

A small but slowly increasing number of countries provide at least some HIV-related services in places of incarceration: between 2017 and 2022, 52 countries reported providing condoms and lubricants, seven had needle and syringe programmes, and 27 provided opioid agonist therapy to prisoners and other incarcerated people. Many of these services rely heavily on donor funding and support. They are also unevenly distributed across prisons and tend to be poorly linked to national HIV, public health or occupational health and safety programmes. A lack of political will is the biggest underlying barrier (82–84).

There are, however, encouraging examples of change. In 2020, Kenya implemented its first prison-based opioid agonist therapy site for women, men, staff and surrounding communities. In 2021, HIV prevention programmes, including condom distribution, were operating in prisons across Kazakhstan. Ukraine launched a small prison-based opioid agonist therapy programme in 2021 and was treating 72 people in six institutions as of September 2021, with plans underway to expand the programme. Canada has implemented needle exchange programmes in 11 federal correctional institutions. In the Republic of Moldova, the national prison administration provided 142 000 needles and syringes in prisons in 2021, and five civil society organizations teamed up to offer HIV testing in prisons. Fifteen of 17 prisons have now been certified as offering the same level of health-care services as the wider community. In Malawi, with support from the United Nations Office on Drugs and Crime (UNODC), prison health clinics are providing health care to approximately 1200 people living and working in four prisons.

## COMBINATION PREVENTION FOR BOYS AND MEN

Globally, the number of men and boys (aged 15 to 49 years) acquiring HIV has declined by 27% since 2010, compared to 32% among women and girls. The majority of new HIV infections outside sub-Saharan Africa, however, occur in men and boys, primarily during unprotected sex with other men or unsafe injecting drug use. In sub-Saharan Africa, most men acquiring HIV do so during unprotected heterosexual sex.

Knowledge of HIV among men and boys still tends to be low: in almost all of Asia and the Pacific and sub-Saharan Africa, fewer than half of them have basic knowledge of HIV. In most regions, adult men are less likely than adult women to know their HIV status and, if HIV-positive, start and stay on antiretroviral therapy (85). These trends are partly shaped by prevailing codes of masculinity that emphasize stoicism, independence and strength—stereotypes that mislead men and their health-care providers alike. Approaches used in One Man Can (in South Africa), MAISHA (in the United Republic of Tanzania) and other projects have shown the potential to improve gender norms, change harmful codes of masculinity and support engagement of boys and men in HIV and other health services (86–90). Other factors are also at play. Many health service models—and men themselves—present health care as mainly a female concern, and health-care workers are often poorly equipped to address men’s health issues (91). In some regions, facility-based HIV services are often organized around reproductive, maternal and child health services (14, 92–94). Gay men and other men who have sex with men and transgender people face additional obstacles due to stigma and discrimination or outright homophobia and transphobia.

HIV services are also not sufficiently integrated into the health services that men do attend, whether they go on their own behalf or as caregivers. Studies from Malawi show that 82% of men visited health facilities in the previous 12 months, often while accompanying children or spouses, but that most of those visits were to outpatient departments, where HIV services are seldom offered (95, 96). In Brazil, it’s estimated that nine in 10 expectant fathers join their female partners on at least one prenatal care visit (97). These are ideal opportunities to offer men HIV and other health information and services. Service access can also be improved by extending clinic hours a few times a week, reducing waiting times, having consulting spaces that offer some privacy and training health workers to make health-care visits feel less intimidating to men (94). Outreach strategies also should be stepped up to reach men and adolescent boys in places where they congregate (98, 99).

For greater impact, programmes should avoid treating men as an undifferentiated group. They are diverse, and their reasons for not using services vary between different social classes, groupings and contexts (14). Strategies that use a people-centred approach and provide HIV services in ways that are relevant, respectful and convenient will be more effective at preventing HIV among men and boys, and improve outcomes for all (100).

# 82%

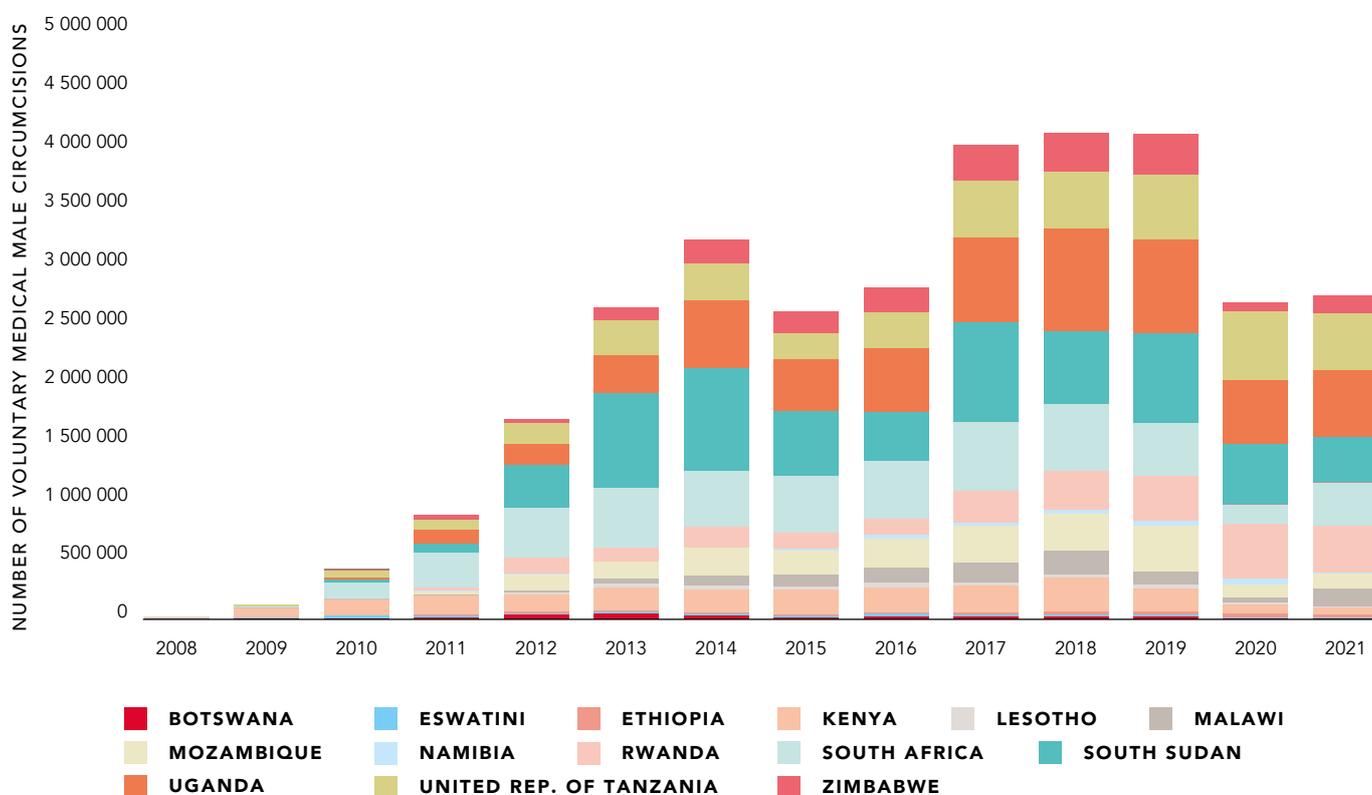
OF MEN IN MALAWI VISITED HEALTH FACILITIES IN THE PREVIOUS 12 MONTHS

## VOLUNTARY MEDICAL MALE CIRCUMCISION: A ONE-TIME INTERVENTION THAT IS EFFECTIVE AND AFFORDABLE

High coverage of VMMC can help bring about significant reductions in new HIV infections in eastern and southern Africa (where all 15 priority countries for VMMC programmes are located), especially if it is combined with high levels of antiretroviral therapy in women and girls (101). As a one-time intervention, VMMC is considerably more cost-effective than prevention interventions that require repeated delivery (1).

More than a dozen African countries have been operating VMMC programmes since 2007, but those programmes were badly disrupted during the first year of the COVID-19 pandemic (Figure 2.10). According to one estimate, there was a 34% reduction in the number of VMMCs performed in 2020 in 15 priority countries compared to 2019 (102). Countries have since resumed their programmes, but uptake has generally not returned to pre-COVID-19 levels, partly due to reduced funding.

**FIGURE 2.10** Annual number of voluntary medical male circumcisions, 15 priority countries, eastern and southern Africa, 2008–2021



Source: UNAIDS Global AIDS Monitoring, 2022 (<https://aidsinfo.unaids.org/>).

Thus far, VMMC programmes have reached younger age groups, delaying their impact on HIV transmission (103). The focus has now shifted towards increasing coverage among adult men who are at higher risk of HIV infection, which can be more challenging. It requires investment in adaptations that address barriers to access and boost demand, especially for men with lower incomes and those living in rural areas. Hindrances include men's concerns about possible pain and adverse effects, low perceptions of HIV risk, and worries that circumcision might be seen as abnormal in their communities (104–107). Concerns about loss of income while undergoing and recovering from the procedure, as well as transport expenses, also appear to inhibit uptake (108). VMMC services that are offered mainly in urban areas and workplace and school settings may also miss many low-income men, especially those in rural areas.

Mobile outreach has been shown to reach more men and boys in poorly-serviced areas. For instance, outreach services built around partnerships with community-based organizations in Zambia saw a tenfold increase in VMMC uptake among men aged 19 to 34 years (109). There also are indications that financial compensation can increase VMMC uptake: when the equivalent of two days' minimum wage (about US\$ 6) was offered to cover lost wages in Malawi, men aged 20 years and over were much more likely to accept an offer of VMMC (110, 111). Similarly, the introduction of financial incentives in a study from Zambia coincided with an increase in VMMC uptake from 3% to 37% (108).

## **Outreach services built around partnerships with community-based organizations in Zambia saw a tenfold increase in voluntary medical male circumcision uptake among men aged 19 to 34 years.**

Linking VMMC with services for female partners has also shown promise (111). In Rwanda, a VMMC programme is focusing on partners of adolescent girls and young women who are participating in the PEPFAR DREAMS initiative, while a project in Botswana is focusing on the male partners of women who have undergone cervical cancer screening (111). Sustainable VMMC programmes will require a gradual evolution towards integrating the service into national health systems.

## WE CAN DO BETTER AT PREVENTING AND TREATING HIV IN CHILDREN

Fewer children are acquiring HIV than a decade ago, but there were still 160 000 [110 000–230 000] new infections among children (aged 0 to 14 years) in 2021. Analysis of data is clarifying why and where these infections are still occurring. Countries that have drastically reduced vertical HIV transmission have done so with very high coverage of HIV testing and treatment among pregnant women living with HIV, which has been achieved in part by a comprehensive shift to treat all policies (see the Botswana feature story in this Chapter). This approach allows women living with HIV to start antiretroviral therapy well before conception and to achieve low viral load during pregnancy and beyond.

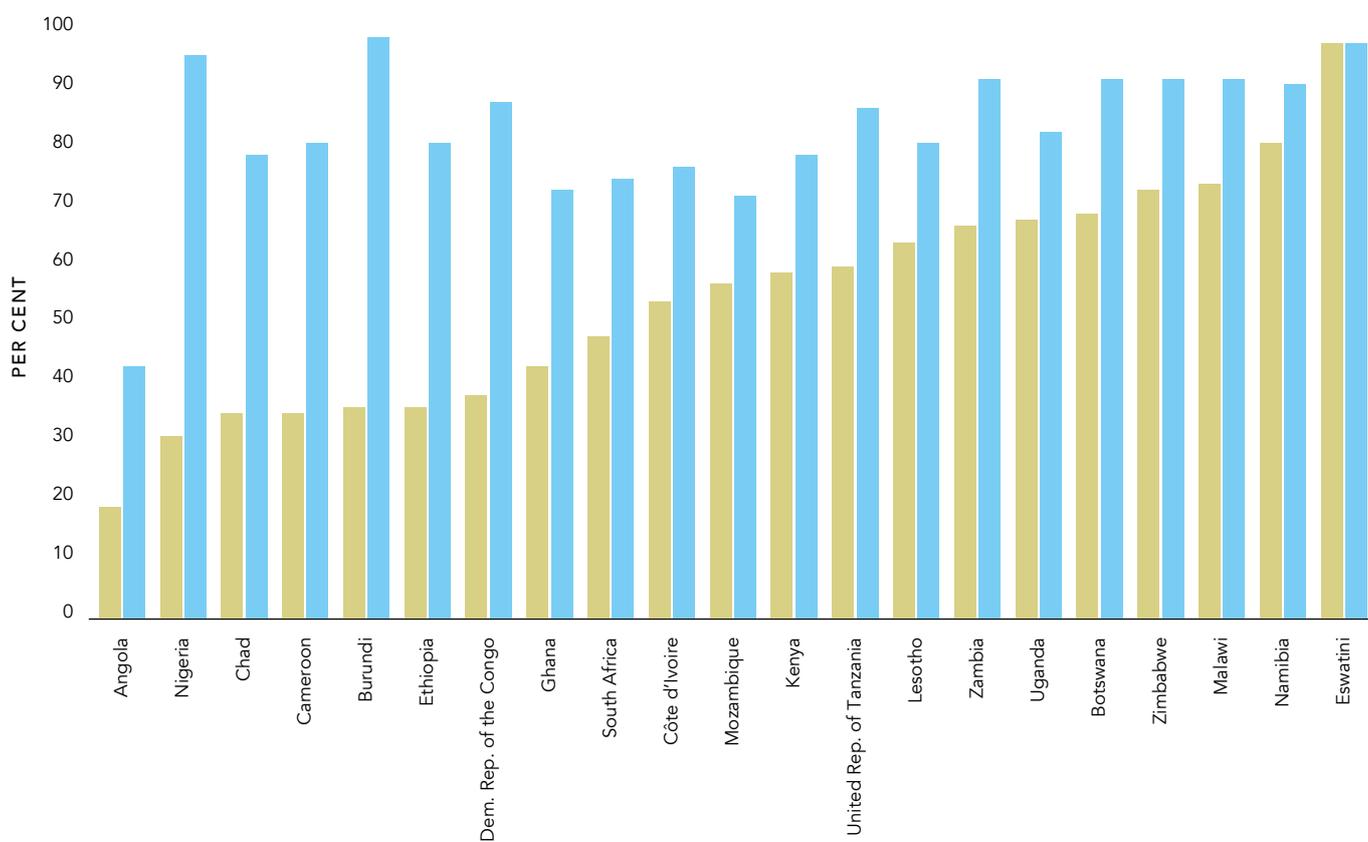
# 160 000

NEW HIV INFECTIONS AMONG CHILDREN (AGED 0 TO 14 YEARS) IN 2021

Mothers and pregnant women must be able to access health services safely and conveniently. Human rights, gender equality and community engagement therefore must feature at the heart of country strategies to eliminate vertical HIV transmission. This is underscored by reports that women living with HIV in some countries (including Botswana, Kenya, Malawi, Uganda, the United States, Zambia and Zimbabwe) have been prosecuted for breastfeeding and allegedly exposing newborns to HIV infection (112, 113).

In addition, an estimated 800 000 [640 000–990 000] children living with HIV are still not receiving HIV treatment, with child antiretroviral therapy coverage especially low in western and central Africa (35% [28–41%]) and eastern and southern Africa (56% [45–71%]) (see Figure 2.11). This is mainly due to a failure to test all children who have been exposed to HIV and link those who have acquired HIV to treatment and care. Representative data from seven countries in eastern and southern Africa from 2015–2017 show that 10% of children diagnosed with HIV were not on treatment, and that 48% were not virally suppressed (114). Ensuring point-of-care testing, lowering the cost of test kits and simplifying screening procedures can improve the chances of identifying undiagnosed children living with HIV and ensuring that they receive life-saving treatment.

**FIGURE 2.11** Antiretroviral therapy coverage among children (aged 0–14 years) and adults (aged 15+ years) living with HIV, selected countries, 2021



Source: UNAIDS epidemiological estimates, 2022 (<https://aidsinfo.unaids.org/>).

## WHY SO MANY CHILDREN ARE STILL ACQUIRING HIV

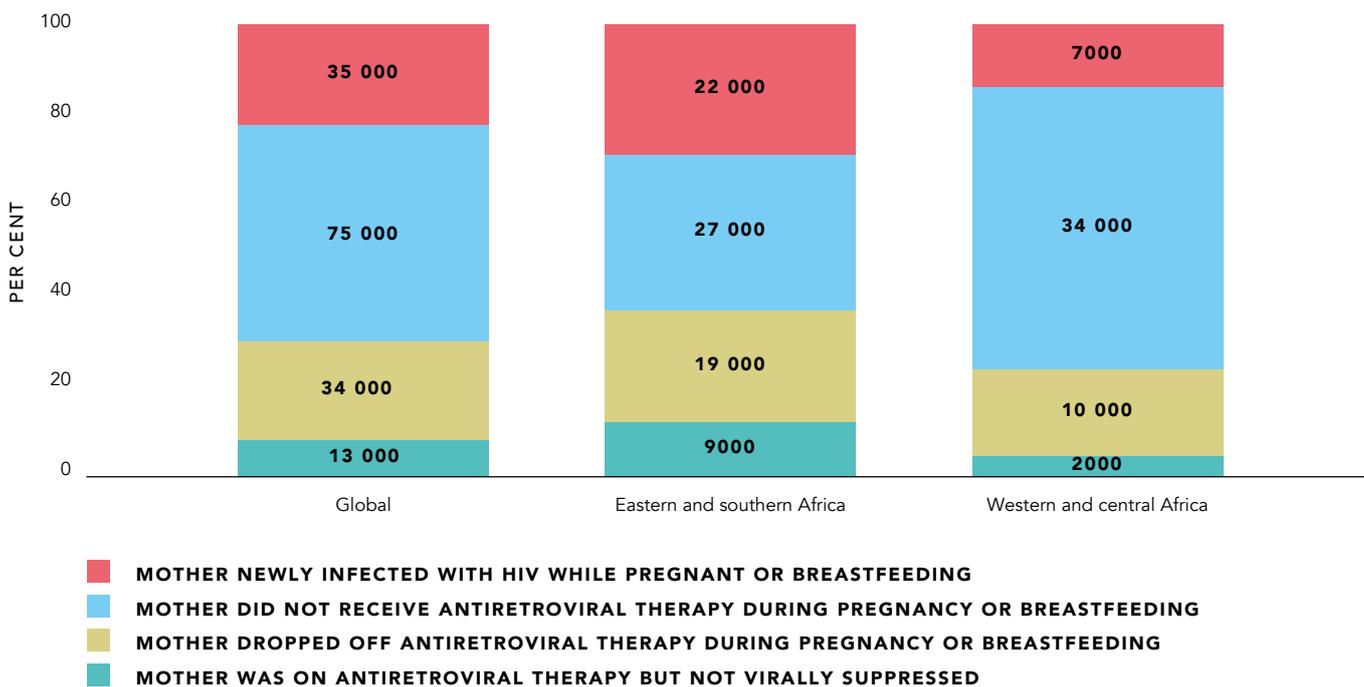
A clearer picture is emerging about why so many children are still acquiring HIV. Analysis of data from HIV programmes and modeling (Figure 2.12) shows that almost half of new HIV infections in children (75 000 of an estimated 160 000 infections) are due to HIV-positive women not receiving antiretroviral therapy. HIV services are missing these women, many of whom avoid HIV services for fear of stigma and discrimination. Legal barriers (such as age-of-consent regulations and laws that criminalize key populations) also make it difficult for them to be tested for HIV and start antiretroviral therapy before pregnancy. This leads to more undiagnosed cases and more onward transmission. Those legal obstacles should be removed.

## Almost half of new HIV infections in children are due to HIV-positive women not receiving antiretroviral therapy.

In addition, more than 34 000 new child HIV infections occur when mothers are not able to remain on treatment during pregnancy or breastfeeding. Limited access to facilities, unexpected costs (including user fees), HIV-related stigma and discrimination, drug side effects and difficulties adhering to treatment all contribute to poor retention. Removing user fees (see the Cameroon feature story in Chapter 5) and improving the quality of treatment and care (including the use of optimized treatment regimens and trusted support from mentor mothers and other peers) can help remove those hindrances (115).

A further 35 000 new infections occur when programmes miss women and girls who newly acquire HIV during pregnancy or breastfeeding periods. This is a major driver of vertical HIV transmission in eastern and southern Africa, where almost half of new child infections are occurring. Proven HIV prevention choices, including PrEP, should be promoted for pregnant and lactating women and their partners in areas with high HIV incidence. Pregnant and breastfeeding women who do not know their HIV status should be encouraged and supported to access testing and, if needed, rapidly start treatment. Finally, the remaining 13 000 vertical infections occurred because the mother was receiving treatment but was not virally suppressed.

**FIGURE 2.12** Percentage of new vertical HIV infections by cause of transmission, global and selected regions, 2021



Source: UNAIDS epidemiological estimates, 2022 (<https://aidsinfo.unaids.org/>).

Intimate partner violence is an ever-present threat. In addition to the harm done to survivors, the violence can also make it difficult for women living with HIV to stay on treatment or in care, exposing them to HIV-related illness and their children to HIV. In a recent systematic review of 14 studies from sub-Saharan Africa, the prevalence of violence among HIV-positive pregnant women ranged from 18% to 63% (116, 117). All women, including pregnant and breastfeeding women, must be protected against intimate partner violence and receive stronger support and redress if they experience such violence (118).

# BOTSWANA LEADS THE WAY FOR HIGH HIV BURDEN COUNTRY CERTIFICATION ON THE PATH TO ELIMINATE VERTICAL HIV TRANSMISSION

In December 2021, Botswana became the first high HIV burden country to be certified by the WHO Global Validation Advisory Committee (GVAC) as having achieved a critical milestone along the path to eliminating vertical HIV transmission. As striking as what Botswana has achieved, however, is how it went about documenting this achievement—using the certification process as an avenue to empower women living with HIV and reinforce their fundamental rights.<sup>1</sup>

Botswana is the first high HIV burden country to be certified for achieving the required indicators for the Silver Tier on the “Path to Elimination of HIV” criteria that were introduced in 2017 (Figure 2.13) (119). The Silver Tier requires an HIV case rate of fewer than 500 per 100 000 live births, a vertical HIV transmission rate of under 5% and the provision of antenatal care and antiretroviral treatment to more than 90% of pregnant women.

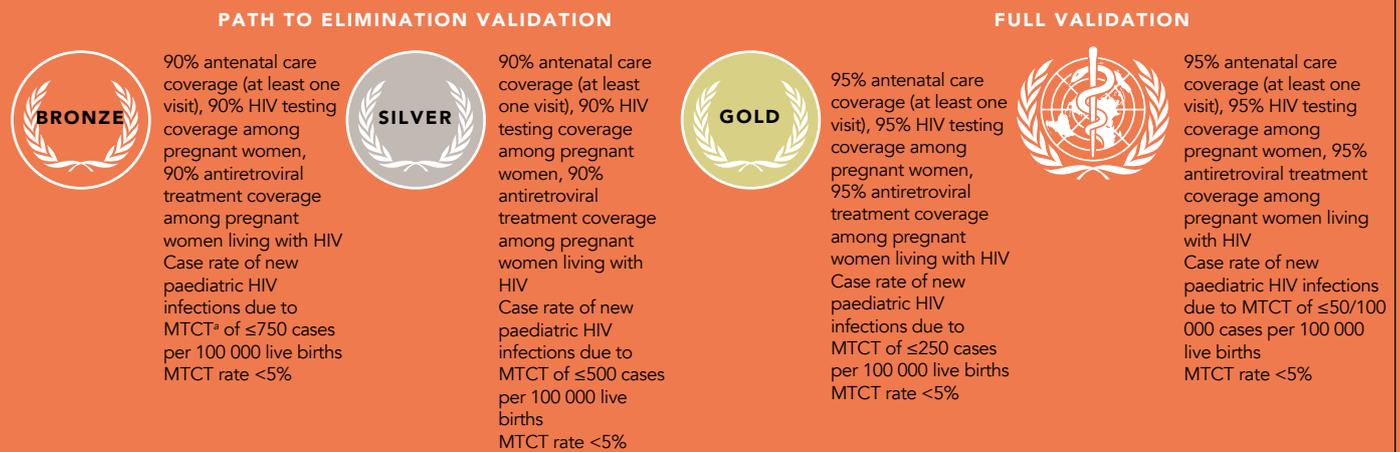
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Health-care assistant Thapelo Makgokgowe visits a mother and her child in a clinic in Gaborone, Botswana, in May 2022.

<sup>1</sup> As of December 2021, 15 countries and territories—Anguilla, Antigua and Barbuda, Armenia (HIV only), Belarus, Bermuda, Cayman Islands, Cuba, Dominica, Malaysia, the Maldives, the Republic of Moldova (syphilis only), Montserrat, Sri Lanka, St Kitts and Nevis and Thailand—have been certified for eliminating vertical HIV and syphilis transmission. Countries apply using standardized criteria for the assessment of programme performance, data and laboratory systems, and they ensure the integration of human rights, gender equality and community engagement under a process overseen by the United Nations Children’s Fund (UNICEF), UNFPA, WHO and UNAIDS.



**FIGURE 2.13** The path to elimination of vertical transmission of HIV



Source: Adapted from: Global guidance on criteria and processes for validation: elimination of mother-to-child transmission of HIV, syphilis and hepatitis B virus. Geneva: WHO; 2021 (<https://www.who.int/publications/i/item/9789240039360>).

<sup>a</sup> MTCT = mother-to-child transmission of HIV.

**95%**

**OF PREGNANT WOMEN IN BOTSWANA WERE RECEIVING ANTIRETROVIRAL THERAPY IN 2021**

UNAIDS data show that over 95% of pregnant women in Botswana were receiving antiretroviral therapy in 2021, up from 77% in 2010. Vertical transmission rates were only 2.2%, down from 9.0% a decade earlier. According to a woman living with HIV in Kgalagadi South, “I have three children . . . I breastfed all three, and all of them were given medication for prevention of HIV.”

Botswana placed women living with HIV at the centre of the process of documenting the country’s prevention success. With the support of UNAIDS, the International Community of Women living with HIV oriented networks of women living with HIV to administer the human rights assessment tool to their networks in 10 of Botswana’s districts.<sup>2</sup> These networks led the process, and the Government of Botswana provided logistical support to ensure the engagement of women living with HIV within a safe space. Women living with HIV, who are represented on the National Validation Committee, also reviewed a draft of the national validation report.

GVAC validated that Botswana’s programmes and services to eliminate vertical HIV transmission are consistent with international, regional and national standards on human rights, gender equality and community engagement. As one woman living with HIV in Kweneng West remarked, “the nurses and health-care officers give the option for all to test-and-treat. It is always a clear choice, and not a forced one.”

The Botswana Ministry of Health, with the engagement of women living with HIV and the support of the Joint Programme, convened a workshop in May 2022 to foster partner and stakeholder involvement for ensuring that rights-based approaches are used to maintain the country’s Silver Tier certification—and its possible progression to the Gold Tier.

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 “I am not sure whether it has been 13 or 14 years since I have been living with HIV. I have this wonderful boy, who was born HIV-free. His name is Luce. My husband is also living with HIV. We both knew that one day there would be a way for us to bring up HIV-free children.” Kesego Basha-Mupelli, Botswana, December 2014.

2 These included the Botswana Network of People Living with HIV (BONEPWA+), Bomme Isago (a local partner of the International Community of Women living with HIV) and the Botswana Network on Ethics, Law and HIV/AIDS (BONELA).



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