

# COMMUNITIES AT THE CENTRE

DEFENDING RIGHTS  
BREAKING BARRIERS  
REACHING PEOPLE  
WITH HIV SERVICES





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# FOREWORD

The HIV epidemic has put a spotlight on the many fault lines in society. Where there are inequalities, power imbalances, violence, marginalization, taboos, and stigma and discrimination, HIV takes hold.

The epidemic is changing: in 2018, more than half of all new HIV infections were among key populations—sex workers, people who use drugs, gay men and other men who have sex with men, transgender people and prisoners—and their partners.

Globally, new HIV infections among young women (aged 15–24 years) were reduced by 25% between 2010 and 2018. This is good news, but of course, it remains unacceptable that 6000 adolescent girls and young women become infected with HIV every week. The sexual and reproductive health and rights of women and young people are still too often denied.

Despite the scale of the challenges and the miles we must still travel together in the AIDS response, I am hopeful. The AIDS response has demonstrated what is possible when people organize and assert their rights. Around the world, people living with HIV and civil society have raised their voices and exerted leadership. As Mariana Iacono says in this report, “I decided to tell the world about how it is to live with HIV—to join the struggle, so that the world can be a little fairer towards us, the people living with HIV.”

When communities organize and people empower each other, oppression can be replaced by rights and access to HIV services can be accelerated. Peer-to-peer counsellors, community health workers, door-to-door service providers, grass-roots activists and networks of people living with or affected by HIV all have key roles to play in the response to HIV. As this report shows, community leadership in the AIDS response helps to ensure that HIV services are relevant to, and reach, the people who need them the most.

The world has committed to achieving the 2030 Agenda for Sustainable Development. As part of that, governments must protect and uphold the human rights of everyone. As the eyes and ears of the AIDS response, communities play a critical role in holding decision-makers to account and demanding political leadership.

**FOR ME, THE AIDS RESPONSE IS ABOUT PEOPLE—  
THE YOUNG WOMEN WHO DON'T KNOW HOW TO KEEP  
THEMSELVES HIV-FREE, THE MEN WHO WON'T OR CAN'T  
SEEK OUT HEALTH CARE, THE TRANSGENDER PEOPLE  
WHO ARE DISCRIMINATED AGAINST AND THE HUNDREDS  
OF THOUSANDS OF PEOPLE WHO DIE EACH YEAR, EVEN  
THOUGH HIV IS PREVENTABLE AND TREATABLE.**

It is in our collective power to overcome the barriers that all too often stand in the way of better health—barriers such as user fees and other hidden costs, harmful laws, stigma and discrimination, lack of knowledge and gender-based violence.

While considerable progress has been made, there is a risk that we will lose momentum. If the world is to be on track to end AIDS by 2030, there must be adequate and predictable financing for development. But, for the first time since 2000, the resources available for the AIDS response globally have declined.

Ending AIDS is a life-saving investment that pays for itself many times over. Increases in donor and domestic funding are crucial, and the Global Fund to Fight AIDS, Tuberculosis and Malaria must be fully funded at its next replenishment.

We have the knowledge and tools we need to end AIDS. We cannot change the virus, but we can change inequalities, power imbalances, marginalization, taboos, and stigma and discrimination. We can change behaviours and societies.

The change we need requires strong collective efforts by both governments and communities. Success is being achieved where policies and programmes focus on people, not diseases—policies and programmes that are designed with communities and that respond to the ways that people live their lives.

With access to knowledge, rights and power, communities are empowered to drive change, to reduce the impact of HIV and to accelerate better health for all.

**Gunilla Carlsson**

UNAIDS Executive Director, a.i.



Babongile Luhlongwane, a community health agent, provides information on antiretroviral therapy to a rural resident in Eshowe, South Africa.

Credit: Gred Lomas/Médecins Sans Frontières

# INTRODUCTION AND SUMMARY

“We used to bury people every Saturday,” remembers Babongile Luhlongwane, a community health agent in Eshowe, South Africa (1). Years later, in one of the places hardest hit by the HIV epidemic, antiretroviral therapy has transformed a dire situation—where an HIV diagnosis once meant certain death—into one of life and hope.

Communities of people living with HIV across the world refused to accept the slow pace of progress against HIV. Local peer support groups grew into national and international activist movements, demanding their right to the highest attainable standard of health, and to be treated with dignity and respect.

However, even when treatment was widely available, many still did not get tested until they were very sick—sometimes too sick—and long after the virus had been passed to others.

**“POVERTY, HOMELESSNESS AND CRIMINALIZED BEHAVIOUR MADE ME INVISIBLE TO THE INDIAN HEALTH SYSTEM. FOR MANY THAT REALITY REMAINS. WE MUST COMMIT TO REACHING POPULATIONS OF PEOPLE LIKE ME. COMMIT THE MONEY TO OVERCOME THE BARRIERS THAT PEOPLE FACE TO ACCESS BASIC SERVICES.”**

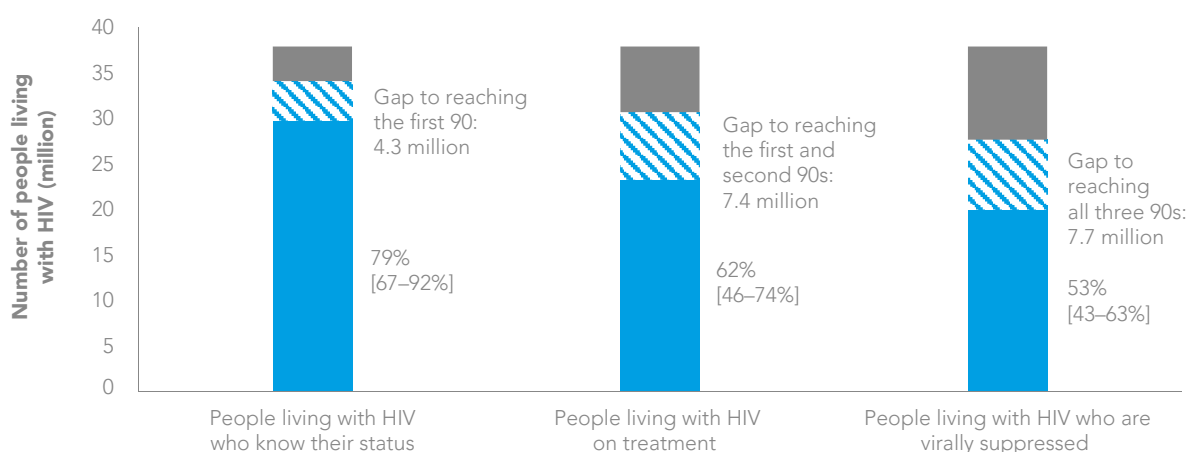
*Dean Lewis, advocate for the rights of people affected by tuberculosis*

“People, they don’t like to go to the clinic for testing—because of the stigma,” explains Ms. Luhlongwane.

Ignorance and fear of HIV has nurtured stigma and discrimination against people living with HIV since the earliest days of the epidemic. Gender inequality, violence against women and girls, and marginalization of the key populations at highest risk of HIV infection—including sex workers, people who inject drugs, prisoners, transgender people, and gay men and other men who have sex with men—pre-date the epidemic by decades, if not centuries. Pushed away by families, friends and entire communities, countless people living with HIV or at high risk of infection have been left stranded and alone, unable to access the services they need.

But once again, civil society has refused to be cast aside. From the birth of the modern lesbian, gay, bisexual, transgender and intersex (LGBTI) liberation movement after the Stonewall uprising 50 years ago; to the coalition of women’s organizations working to make the Beijing Platform for Action for women’s empowerment a reality; to the continuing activism of national, regional and global networks of people living with HIV and key populations—the voices and actions of communities continue to demand their rights and to move the response to the epidemic forward.

“We strive for freedom, and not only freedom from HIV infection... Our needs are far from fully met, so we continue to push and advocate for equitable health access,” says Leigh Ann van der Merwe, Vice-Chair for External Relations and Social Media of the Innovative Response Globally for Transgender Women and HIV. “I believe that none of us are free until we are all free.”

**FIGURE 1.1 HIV testing and treatment cascade, global, 2018**

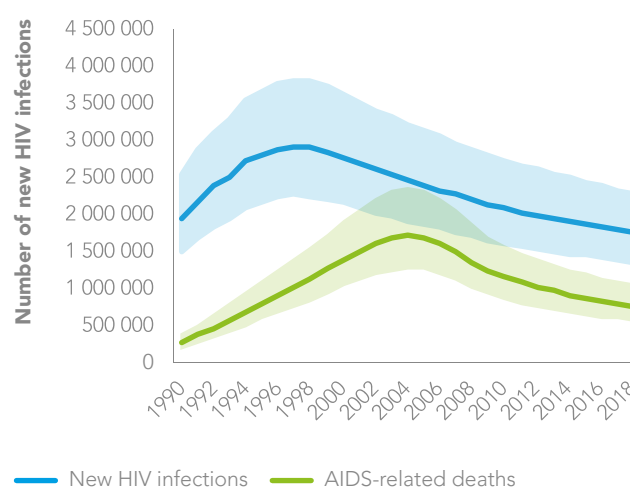
Source: UNAIDS special analysis, 2019; see annex on methods for more details.

### Progress being made, but less each year

Gains continue to be made against HIV, especially in testing and treatment. Nearly four in five people living with HIV globally knew their serostatus in 2018, almost two thirds of all people living with HIV in 2018 were receiving life-saving antiretroviral therapy, and more than half had suppressed viral loads (Figure 1.1). An estimated 23.3 million [20.5 million–24.3 million] of the 37.9 million [32.7million–44.0 million] people living with HIV globally were on treatment, more than three times as many as in 2010.

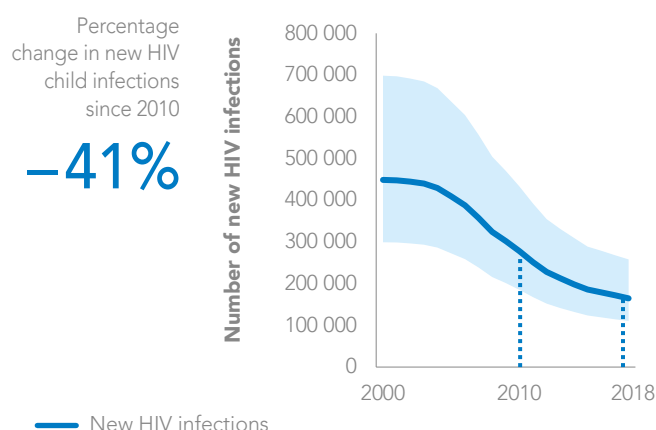
Treatment scale-up has seen deaths from AIDS-related illness decline from a peak of 1.7 million [1.3–2.4 million] in 2004 to 770 000 [570 000–1 100 000] in 2018. Reaching the 2020 milestone of fewer than 500 000 deaths will require further declines of about 135 000 per year (Figure 1.2). Greater provision of antiretroviral therapy to pregnant women living with HIV has driven progress towards the elimination of mother-to-child transmission of HIV. About 160 000 [110 000–260 000] children (0–14 years) globally acquired HIV in 2018 compared to 280 000 [190 000–430 000] in 2010, a 41% reduction. Scale-up of HIV treatment and improvements in the delivery of HIV and tuberculosis services has also greatly reduced tuberculosis-related deaths among people living with HIV.

A combination approach to HIV prevention—including behavioural, biomedical and structural approaches—has achieved steep reductions in HIV infections in a variety of settings. Condom use has increased in most of sub-Saharan Africa for the last decade, and countries are gradually adopting pre-exposure prophylaxis (PrEP) as an additional HIV prevention option. More than 300 000 people globally took PrEP at least once in 2018, a considerable increase from 2017. There also has been remarkable progress towards the 2020 target for voluntary medical male circumcision (VMMC): about 11 million circumcisions have been performed in 15 priority countries since the beginning of 2016, including more than 4 million in 2018.

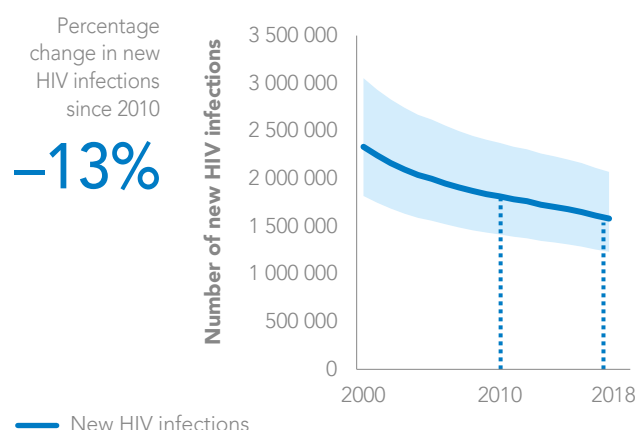
**FIGURE 1.2 Number of new HIV infections and AIDS-related deaths, global, 1990–2018**

Source: UNAIDS 2019 estimates.



**FIGURE 1.3** New HIV infections among children (aged 0–14 years), global, 2000–2018

Source: UNAIDS 2019 estimates.

**FIGURE 1.4** New HIV infections among adults (aged 15 years and older), global, 2000–2018

Source: UNAIDS 2019 estimates.

However, the provision of a comprehensive package of services to the people in greatest need is far from universal. Many countries and entire regions are not on track to reach the targets contained in the United Nations General Assembly's 2016 Political Declaration on Ending AIDS. Median condom use by men at last higher risk sex in 27 sub-Saharan African countries with recent data was only 58.6%, far from the global target of 90% by 2020. Harm reduction services are provided at sufficient scale in just a handful of countries, PrEP use globally is far short of the target of 3 million people by 2020, and less than half of men are circumcised in six high-prevalence countries. The global target of providing antiretroviral therapy to 1.6 million children by 2018 has been missed, and the 41% decline in new HIV infections among children since 2010 is far from the targeted 95% reduction by 2020 (Figure 1.3).

Reductions in HIV infections among adults are also off-track. The annual number of new infections globally among adults (aged 15 years and older) has declined just 13% since 2010 (Figure 1.4). Among children and adults of all ages, annual HIV infections have declined from 2.1 million [1.6 million–2.7 million] in 2010 to 1.7 million [1.6 million–2.3 million] in 2018, a 16% reduction that leaves the world far off the 2020 target of fewer than 500 000 new infections.

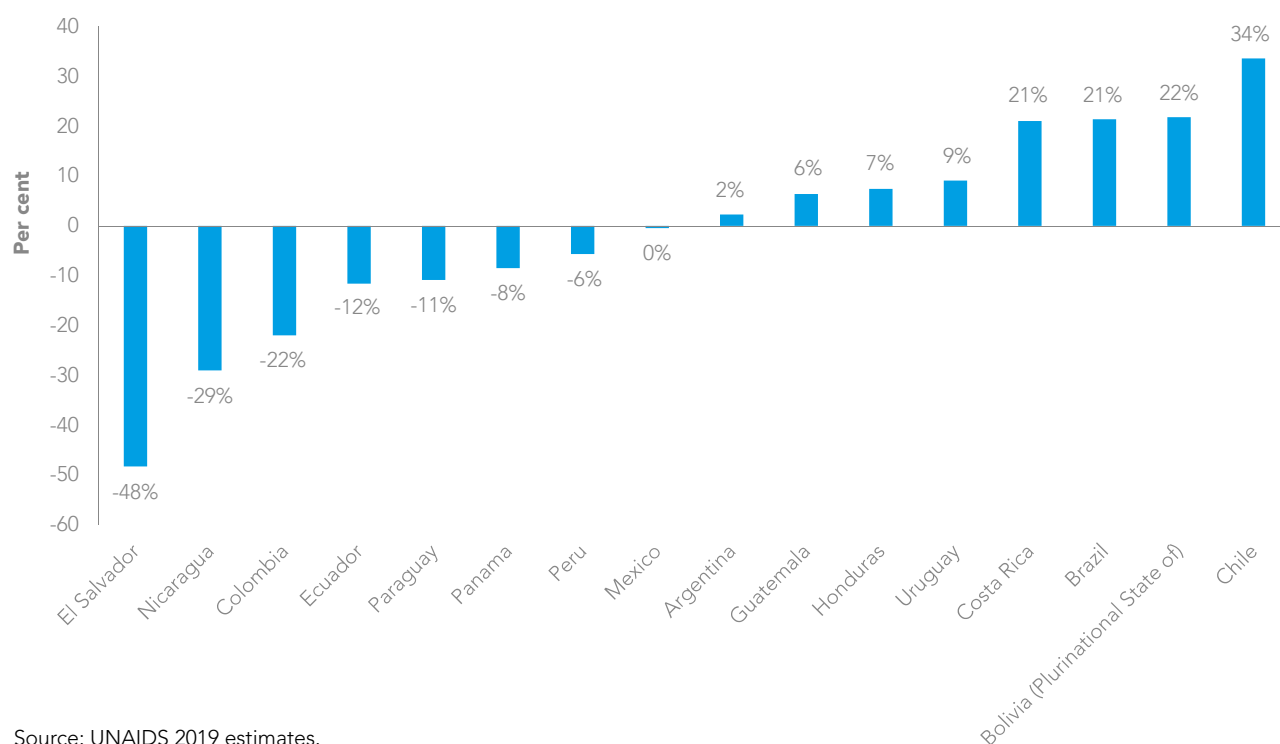
Of additional concern is that global reductions in HIV infections and AIDS-related deaths are getting smaller year-on-year. At the same time, the deadline for reaching the 2020 targets agreed by the United Nations General Assembly is getting closer and closer.

### Diverse trends in regions and countries

Global data hide a variety of regional and country trends. There have been impressive gains in eastern and southern Africa, home to 54% of the world's people living with HIV. AIDS-related mortality in the region declined by 44% from 2010 to 2018, and annual new HIV infections declined by 28% during the same period. By contrast, AIDS-related deaths in the eastern Europe and central Asia and Middle East and North Africa regions have risen by 5% and 9%, respectively, over the eight-year period, and the annual number of HIV infections has increased in three regions: eastern Europe and central Asia (29% increase), Middle East and North Africa (10% increase) and Latin America (7% increase).

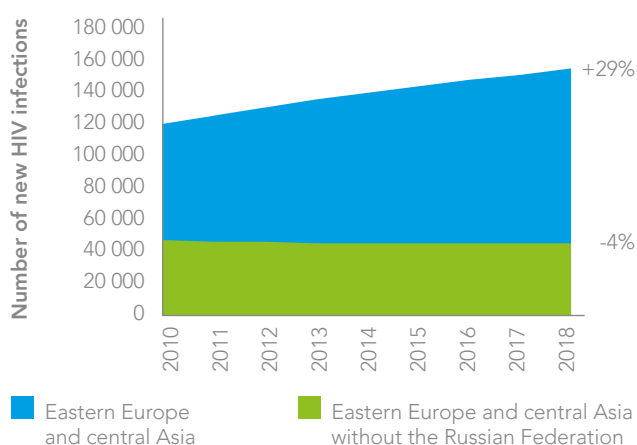
**"STIGMATIZING ATTITUDES AND DISCRIMINATORY BEHAVIOUR—INCLUDING FROM HEALTH-CARE WORKERS—AND THE POLITICAL AND HUMANITARIAN CRISIS IN MY COUNTRY EXPLAIN THE LOW COVERAGE OF ANTIRETROVIRAL THERAPY."**

*Bienvenu Gazalima, Chief Administrator for the Network of People Living with HIV in the Central African Republic*

**FIGURE 1.5** Percentage change in new HIV infections, by country, Latin America, 2010–2018

Source: UNAIDS 2019 estimates.

There are also varied trends within regions. In Latin America, for example, strong reductions in new HIV infections in El Salvador (48% decrease), Nicaragua (29% decrease) and Colombia (22% decrease) since 2010 are offset by increases in new HIV infections in Chile (34% increase), the Plurinational State of Bolivia (22% increase), Brazil (21% increase) and Costa Rica (21% increase) (Figure 1.5). Trends within large countries can have an outsized influence on regional averages. In eastern Europe and central Asia, for example, the regional trend in new infections excluding the Russian Federation (which accounted for 71% of the region's new HIV infections in 2018) is a 4% decline instead of a 29% increase (Figure 1.6).

**FIGURE 1.6** Number of new HIV infections, eastern Europe and central Asia, with and without the Russian Federation, 2010–2018

Source: UNAIDS 2019 estimates.



## Insufficient investment in efforts to reach global AIDS targets

Progress against the epidemic tracks closely with the investments made in national HIV responses. In 2016, the United Nations General Assembly agreed to a steady expansion of investment in the HIV responses of low- and middle-income countries, increasing it to at least US\$ 26 billion by 2020—the amount required to scale up programmes and meet the targets agreed within the 2016 Political Declaration on Ending AIDS.

An increase in the availability of financial resources for HIV responses between 2016 and 2017 suggested that the world was making good on its commitment. However, data from 2018 tell a different story: investment in the HIV responses of low- and middle-income countries decreased by US\$ 900 million (to US\$ 19 billion in constant 2016 US dollars) in just one year.<sup>1</sup>

This decline is a collective failure. Financial data reported to UNAIDS show one-year declines across all sources of investment in HIV responses, including domestic resources, multilateral and bilateral donor programmes, philanthropic organizations and other international sources.

**“DECREASING DONOR FUNDING MAKES IT CHALLENGING TO BUILD CAPACITY AND MOBILIZE OUR COMMUNITY. BUT OUR MOVEMENT IS NONETHELESS BECOMING STRONGER.”**

*Natalia Isaieva, an activist and sex worker who is the director of the nongovernmental organization Legalife-Ukraine*

International investment in the HIV responses of low- and middle-income countries has increased by just 4% between 2010 and 2018. The replenishment of the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) for its next three-year funding cycle is a critical moment to increase international investment and advance efforts toward ending the AIDS epidemic by 2030.

Where funding is available, results are more robust. In eastern and southern Africa, where expenditures per person living with HIV have reached the region's 2020 resource needs estimate, reductions in HIV infections and AIDS-related deaths are approaching the region's 2020 targets (Figure 1.7). In western and central Africa, where the total HIV resources available are just 48% of what is needed by 2020, progress is more gradual (Figure 1.8).

## A community-led, comprehensive approach

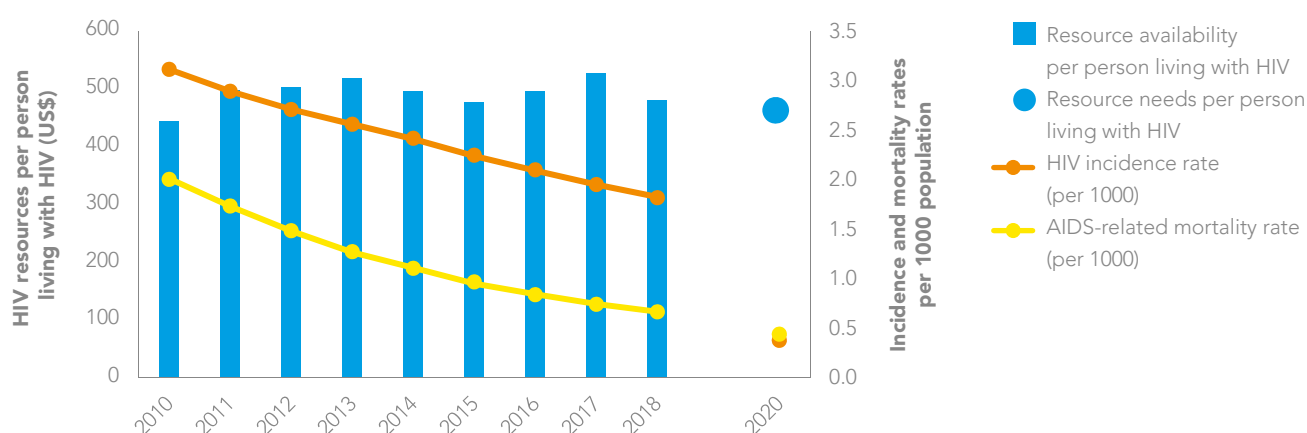
If additional resources are made available, how should they be invested? Myriad lessons have been learned since HIV was first recognized as a global public health threat. One of the common lessons learned in a diversity of geographic, epidemic and cultural settings is that providing a comprehensive set of services tailored by and for the people in greatest need—and removing gender- and human rights-related barriers to service access—is a winning formula that alters HIV epidemics.

Reaching large percentages of the people in greatest need requires a community-based and community-led approach. In South Africa and Zambia, an intensive door-to-door effort by community health workers to promote and provide a range of HIV and health services has achieved the 90–90–90 testing and treatment targets and dramatically reduced new HIV infections (2). In western Kenya, VMMC promoted by community circumcision mobilizers—alongside other HIV prevention interventions and high coverage of antiretroviral therapy—has led to steep reductions in the number of new HIV infections (3). In New South Wales, Australia, strong collaboration between public health authorities and community groups to provide PrEP, combined with immediately starting treatment for all people diagnosed with HIV, has reduced the number of new HIV diagnoses to their lowest level since 1985 (4).

This report contains these and other examples of community-led and community-engaged programmes that show how ending AIDS as a public health threat can be achieved by 2030, as agreed in the 2030 Agenda for Sustainable Development.

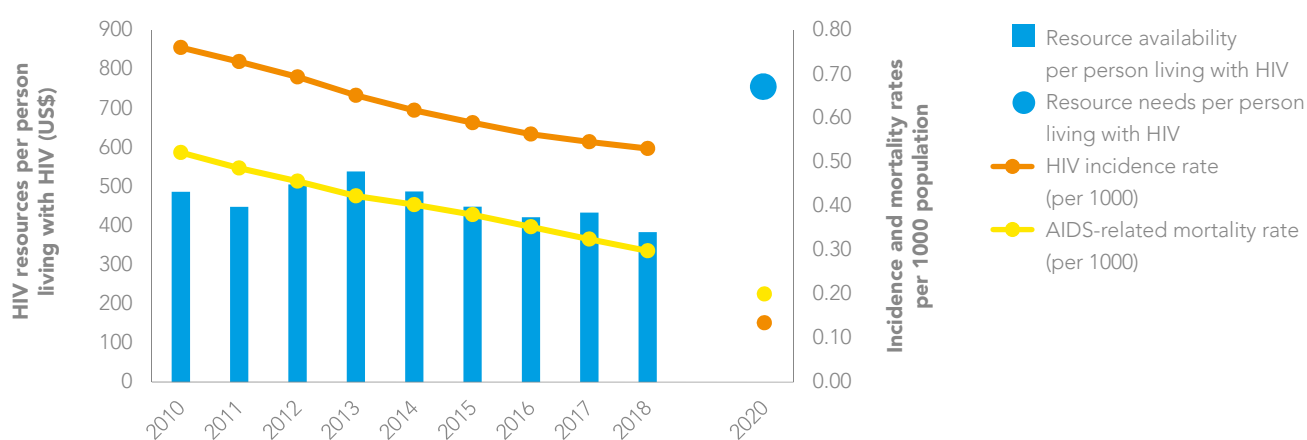
<sup>1</sup> Unless stated otherwise, all financial amounts are expressed in constant 2016 US dollars to facilitate direct comparison with the United Nations General Assembly target.

**FIGURE 1.7** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in eastern and southern Africa, 2010–2018 and 2020 targets



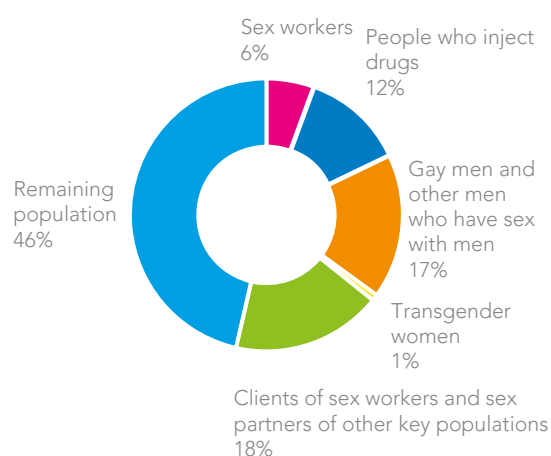
Source: UNAIDS 2019 resource availability and needs estimates; and UNAIDS 2019 estimates.

**FIGURE 1.8** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in western and central Africa, 2010–2018 and 2020 targets



Source: UNAIDS 2019 resource availability and needs estimates; and UNAIDS 2019 estimates.

**FIGURE 1.9** Distribution of new HIV infections by population, global, 2018



Source: UNAIDS special analysis, 2019.

**“STIGMA AND DISCRIMINATION AGAINST THE LGBTI COMMUNITY AND PEOPLE LIVING WITH HIV STILL CREATES MANY ISSUES, BUT COMMUNITY ADVOCATES HAVE HELPED ME BECOME RESILIENT AND TO BE WHO I AM. THEY ALSO REMINDED ME OF HOW IMPORTANT IT IS TO MAINTAIN MY TIES WITH THE COMMUNITY, SINCE THIS IS THE FIRST PLACE I CAN REACH TO FOR HELP.”**

*Anthony Adero Olweny, a Kenyan gay man living with HIV who is working in Washington, DC, as a peer navigator for HIV services*

## Populations left behind

The New South Wales experience underscores the importance of an enabling legal, policy and social environment where the rights of key populations at high risk of HIV infection are protected. Gains have been made against HIV-related stigma and discrimination: for example, the percentage of the world’s population that lives in countries that criminalize same-sex sexual relationships has fallen dramatically in recent years.

However, discriminatory attitudes towards people living with HIV and key populations remain common in too many countries. Discrimination in these countries is often reinforced by criminal laws, aggressive law enforcement, harassment and violence. Criminalization of perceived, potential or actual HIV transmission—and the criminalization of non-disclosure of HIV-positive status—continues to slow the HIV response and violate the rights of people living with HIV in at least 86 jurisdictions around the world.

Strong progress in settings with high HIV prevalence in the general population, such as in eastern and

southern Africa, and a lack of progress in settings where key populations are criminalized and marginalized has seen the global distribution of new HIV infections cross a notable threshold: the majority of global infections in 2018 were among key populations and their sexual partners (Figure 1.9).

Gay men and other men who have sex with men accounted for an estimated 17% of new HIV infections globally, including more than half of new HIV infections in western and central Europe and North America, 40% in Latin America and 30% in Asia and the Pacific. People who inject drugs accounted for an estimated 12% of global infections, including 41% of new HIV infections in eastern Europe and central Asia, and 37% of new infections in the Middle East and North Africa. Sex workers accounted for 6% of global HIV infections, ranging from 14% in western and central Africa to less than 1% in western and central Europe and North America. Transgender women made up a small amount of new HIV infections globally, but they accounted for 5% of new HIV infections in the Caribbean and 4% of new infections in Latin America and western and central Europe and North America.



### Gaps for young people, women and men

Everyone has the right to make their own choices about their sexual and reproductive health and to live free from violence. However, the sexual and reproductive health and rights of women and young people are too often denied, and one in three women globally have experienced physical and/or sexual violence (5). HIV infections among young women (aged 15–24 years) globally are 60% higher than among young men of the same age. This gender disparity is greatest in the regions hardest hit by the epidemic.

Gender inequality and violence against women and girls exacerbate the risk of HIV infection and worsen health outcomes. Evidence from locations with high HIV prevalence in sub-Saharan Africa suggest that intimate partner violence increases susceptibility to HIV, and that

violence (or the fear of violence) is associated with lower treatment access, treatment adherence rates and rates of viral suppression among women and girls (6–8).

HIV and intimate partner violence share common risk factors: poverty, economic stress, gender inequality, social norms, and rigid constructions of masculinity and femininity (which often condone male sexual infidelity, heavy alcohol use and violence within relationships) (9). Evidence from China, South Africa and Uganda suggests that livelihood support and social interventions—including group training for women and men, and community mobilization—can reduce intimate partner violence (10–14). The community-based MAISHA project in the United Republic of Tanzania has reduced violence against women and improved HIV outcomes among women and girls through empowerment training and access to microfinance loans (15).

**“TO HAVE GOOD POLICIES AND PROGRAMMES THAT GIVE YOU BETTER HEALTH OUTCOMES, YOU NEED THE PERSPECTIVE OF THE END USER. WOMEN LIVING WITH HIV MUST BE INVOLVED FROM THE WORD GO. WHATEVER IS DONE MUST HAVE THEIR PERSPECTIVE.”**

*Lillian Mworeko, a leader of the International Community of Women Living with HIV and AIDS Eastern Africa*

Gender inequality is also bad for men and boys. A large body of data strongly suggest that, compared with women, male lifestyles and health behaviours on aggregate put them at greater risk for poor health and premature death. Stigma, prevailing norms of masculinity, the costs associated with attending health facilities, and inconveniently designed services (among other factors) contribute to lower health-seeking behaviour and lower utilization of HIV services among men than women (16–18). Among people living with HIV aged 15 years and older globally, knowledge of HIV status, treatment coverage and viral suppression in 2018 was considerably lower for men than women. The disparity is evident across a range of geographic and epidemic settings.

A holistic approach is needed to reach young people of all genders with the information and services they need to protect themselves from HIV and to exercise their sexual and reproductive health and rights. A substantial body of evidence shows that comprehensive sexuality education plays a central role in the preparation of young people for a safe, productive and fulfilling life in a world where HIV, sexually transmitted infections (STIs), unintended pregnancies, gender-based violence and gender inequality still pose serious risks to their well-being (19). Health facilities, schools and community-led organizations all have important roles to play.

Social media has emerged as both a source of risk and risk mitigation. For instance, an 18-month cohort study in Shenyang, China, showed that HIV incidence among mobile phone dating application users was more than four times higher than it was among non-users (20). In contrast, increasingly sophisticated social media platforms also offer new ways to link people at high risk of HIV infection to prevention services.

However, among countries that reported to UNAIDS in 2019, 40% said that they did not have an education policy that guides the delivery of life skills-based HIV and sexuality education according to international standards in primary schools. A further 16% reported that they did not have such policies for secondary schools. Consequently, an alarming seven in 10 young women in sub-Saharan Africa do not have comprehensive knowledge about HIV (21). Knowledge about HIV prevention among young people has remained stagnant over the past 20 years—with only one in three young people globally demonstrating accurate knowledge about HIV prevention and transmission (21).

## Communities lead the way

Community and civil society advocates are at the forefront of efforts to address structural barriers to HIV services and health care. People living with HIV have led efforts to overturn legislation in Colombia and parts of Mexico that criminalize HIV transmission, while women's and young people's networks continue much-needed activism to demand gender-transformative and more inclusive responses to the HIV epidemic and protections for their sexual and reproductive health and rights. Transgender women are fighting for legal gender recognition, sex workers are pushing politicians to decriminalize sex work, and networks of people who use drugs are advocating for the decriminalization of drug use.

Years of campaigning and strategic litigation by LGBTI groups—supported by human rights organizations and legal and public health experts—have overturned laws that criminalize same-sex sexual relationships in at least nine countries in sub-Saharan Africa, six countries in Asia and the Pacific, and several in Latin America and the Caribbean in recent years (22). Across regions and countries, community-level accountability and oversight mechanisms, such as local health committees and paralegal health advocates, help realize people's right to health and ensure that breaches of rights are remedied.

However, despite the clear effectiveness of community-led approaches, these efforts face an uphill battle in many countries. Civil society in about one third (37%) of the 95 countries with available data reported the existence of at least one restriction against the registration or operation of community-based organizations that deliver HIV services, including

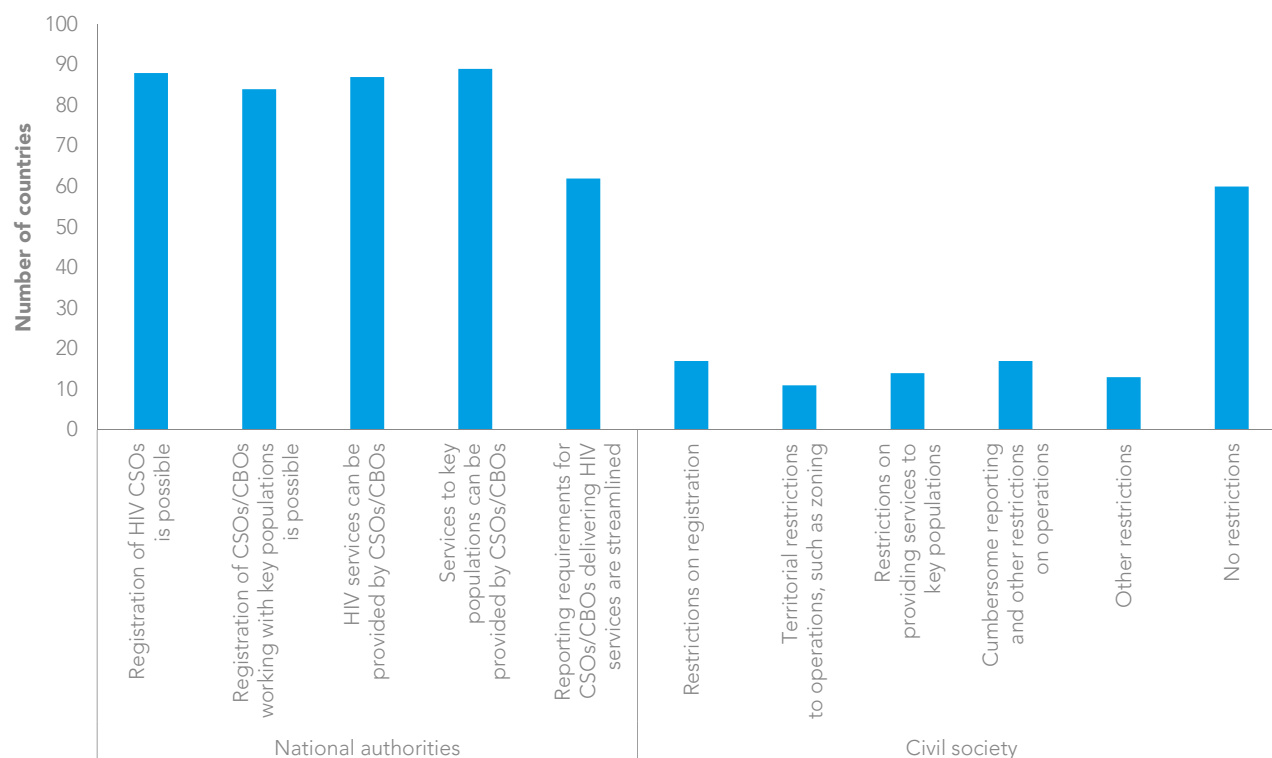


**"I DECIDED TO RECORD VIDEOS AND UPLOAD THEM TO YOUTUBE TO DOCUMENT MY JOURNEY WITH HIV. IN MY FIRST VIDEO, I EXPLAINED SOME OF MY SYMPTOMS FROM MY INITIAL INFECTION. I WAS SO SURPRISED THAT IT WAS VIEWED ABOUT 2 MILLION TIMES! SO I DECIDED TO UPLOAD MORE VIDEOS TO HELP EDUCATE PEOPLE AND REDUCE STIGMA AND DISCRIMINATION AGAINST PEOPLE LIVING WITH HIV."**

*Acep Saepudin, a prominent, openly gay social media influencer in Indonesia*



**FIGURE 1.10** Countries reporting safeguards and restrictions for the registration and operation of civil society and community-based organizations that deliver HIV services, global, 2019



Note: CSO = civil society organization and CBO = community-based organization

Data included in the graph are from 95 countries that reported on these questions from both national authorities (National Commitments and Policy Instrument, Part A) and civil society (National Commitments and Policy Instrument, Part B).

Source: 2019 National Commitments and Policy Instrument.

**"WE ARE THE EXPERTS IN OUR OWN LIVES AND THE MOST INVESTED IN OUR SAFETY, HEALTH AND RIGHTS. SO WE ARE PROVIDING TESTIMONY IN GOVERNMENT INQUIRIES AND LAW REFORM PROCESSES ABOUT THE NEGATIVE IMPACT OF PUNITIVE LAWS."**

*Jules Kim, Chief Executive Officer of Scarlet Alliance, Australian Sex Workers Association*

restriction on registration and service provision (Figure 1.10). Lack of social contracting or other mechanisms allowing for domestic funding of community-led service delivery were reported by civil society in 31 countries (Figure 1.11).

More than three decades of experience has clearly shown that communities are at the centre of efforts to end AIDS as a public health threat, but their significant contribution is too often set aside or made more difficult by politicians or public health officials who have little or no knowledge of the lives and experiences of the people they are charged to serve.

**FIGURE 1.11** Countries reporting safeguards and restrictions for the registration and operation of civil society and community-based organizations that deliver HIV services, global, 2019



Note: Data included in the graph are from 107 countries that reported on at least one of these questions.

Source: 2019 National Commitments and Policy Instrument.

Communities play many roles: they are advocates, service providers and human rights defenders who hold governments accountable for their commitments. The examples cataloged within the pages of this report are a few among myriad efforts—from the grass roots to national and international levels—that are confronting discrimination, demanding lives that are free from harassment and violence, sharing knowledge, and providing services to people at high risk of HIV infection and people who are too often denied health services. When these roles are embraced and supported, the results are transformational.

"With the knowledge that people are getting [from community health workers], more people are taking care of themselves. They adhere to their treatment," says Ms Luhlongwane, the community health agent in Eshowe. "People are alive." ■

**"NATIONAL, REGIONAL AND GLOBAL ADVOCACY ON HIV AND TUBERCULOSIS WORKS BEST WHEN IT IS INFORMED BY VOICES FROM THE GROUND ... WITHOUT THESE VOICES, THE POLICIES AND DECISIONS MADE AT THE GLOBAL LEVEL WILL BE EMPTY AND DESTINED TO FAIL, AS THEY DO NOT TAKE REALITIES INTO ACCOUNT."**

*Allan Maleche, Executive Director of the Kenya Legal and Ethical Issues Network on HIV and AIDS (KELIN)*

## MEETING THE 90–90–90 TARGETS THROUGH INTENSIVE COMMUNITY MOBILIZATION

South Africa manages the world's largest antiretroviral therapy programme, aiming to provide treatment, suppress viral loads and secure the health of 19% of the world's people living with HIV.

This massive infectious disease response contends with significant challenges. Steady progress has been achieved in recent years, but 46% [42–49%] of people living with HIV in South Africa had unsuppressed viral loads in 2018.

Retaining patients in care is a particular challenge (23). In KwaZulu-Natal province, where one in four adults (aged 15–59 years) were living with HIV in 2016, a community-based approach to HIV testing that links people to treatment and supports them to remain in care has achieved the 90–90–90 targets in Eshowe town, rural Eshowe and Mbongolwane ahead of the 2020 deadline (Figure 1.12) (24, 25).<sup>2</sup>

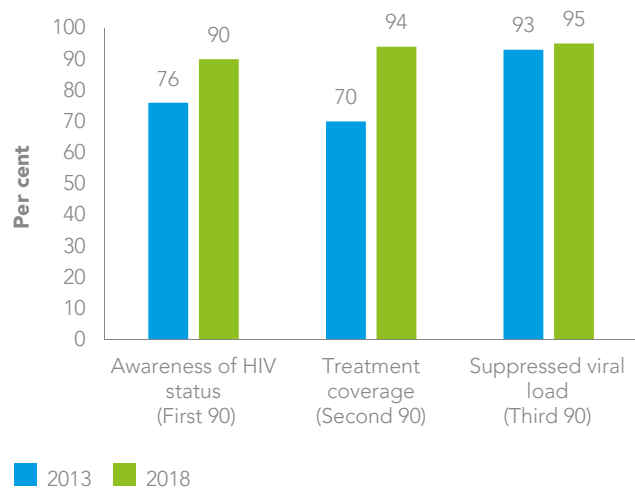
The Bending the Curves project—managed by Médecins Sans Frontières (MSF), in collaboration with the local health system and local nongovernmental organizations—aims to involve entire communities in the response to ensure that services and support reach the people who need them. High levels of community engagement are achieved through ongoing community mobilization, advocacy and partnerships.

For example, community advisory boards—made up of traditional leaders, traditional health practitioners, civil society representatives, women, young people, people with disabilities and people living with HIV—discuss the project activities and provide input. Similarly, annual youth camps are held with student representatives from each school, and school learning support agents and representatives of the Department of Education also seek input and advice from young people (26).

### Lay counsellors: prevention, testing, linkages to services and adherence support

Another crucial factor in the project's success has been the work of lay counsellors as part of the provision of services in communities. Lay counsellors, or community health workers, provide services across the cascade

**FIGURE 1.12** Progress towards 90–90–90 testing and treatment targets, Eshowe and Mbongolwane, South Africa, 2013 and 2018



Source: Province of KwaZulu-Natal Department of Health, Médecins Sans Frontières. Mbongolwane and Eshowe: KwaZulu-Natal HIV Impact Surveys, 2013–2018.

of care in both community settings and health-care facilities. They provide HIV counselling and testing, antiretroviral therapy initiation counselling, treatment planning, point-of-care CD4 monitoring and adherence counselling. Between 2012 and 2016, these lay cadres performed the majority of all HIV testing and counselling in the area covered by the project (27).

Community settings for service delivery include houses, community sites, schools and mobile testing units. Mobile units (consisting of vans or tents) visit schools, taxi ranks, shopping malls, sporting events, churches and industrial areas to provide services. Lay counsellors also provide services at fixed sites: two urban, one rural and one at a technical and vocational college. Other lay providers include community caregivers, who provide health education, home-based care for the very ill and adherence support (27).

“They will tell you ‘because I want to see my children going to college. I want to be healthy.’ [And the counsellors say,] if you have these goals, how are you going to achieve them if your viral load is high, because

<sup>2</sup> Results were preliminary at the time of publication.



now you're going to get sick, and you're not going to be able to reach your goals," says Lindi Khoza, a lay counsellor in Mbongolwane (28).

Similar efforts to engage lay counsellors in the provision of HIV testing and differentiated models of care are being employed in other parts of South Africa.

### Targeted services: young people

In schools, the Bending the Curves programme aims to help high school students make informed decisions about their sexual and reproductive health, and to reduce new HIV and tuberculosis infections. In 2018, health education sessions were conducted in 33 high schools, reaching 12 038 learners and covering topics such as: the importance of knowing your health status; information about HIV and tuberculosis prevention, treatment and adherence; HIV-related stigma and discrimination; sexual behaviour and health; sexual and gender-based violence; and teenage pregnancy. Other services include HIV counselling and testing, tuberculosis and STI screening, pregnancy testing, youth health dialogues, youth health camps and training for lay youth counsellors (26).<sup>3</sup>

### Services for men

Data from the Bending the Curves project show that reaching young men with HIV testing and treatment services is a major challenge (25, 29). This is despite a number of initiatives within the project that are pitched specifically at men, including a male clinic at a taxi rank and those focusing on voluntary medical male circumcision (VMMC). For the latter, recruitment and mobilization are conducted in high schools and through community health agents, and transport is provided to and from weekend VMMC camps. In 2017, 2133 boys were circumcised thanks to the project (26).

The Philandoda Male Wellness clinic, established in 2017, aims to provide community-based and convenient services for men, including: HIV counselling and testing; screening for tuberculosis and STIs (and treatment or referral, as necessary); referral for VMMC; condom provision; treatment initiation, counselling and medication pick-up; medical consultations; and screening and referral for other chronic conditions. The clinic receives 100 to 150 clients a month, and according to a recent survey, clients rated it higher than general health services for staff interactions, wait times, opening hours and location (30).

### Supporting viral suppression through differentiated models of care

Differentiated models of care, including community models of care, help the local health system manage ever-increasing numbers of patients (27, 31, 32). An increasing number of people living with HIV in Eshowe and Mbongolwane are accessing their treatment through differentiated models of care (Figure 1.13). Community health workers provide health education in clinic waiting rooms and assist with the facilitation of adherence clubs and community treatment groups. They describe to patients their support options, either one-on-one or at health education discussions; after this, people can select the methods of treatment delivery and adherence support that suit them best (33). This approach has helped achieve 92% viral load suppression among those receiving adherence support (27).

A wide range of options is available, including approved community pick-up points, where people can collect their medication every month, and fast lane pick-up, which allows people to collect their medication every two months directly at facility pharmacies without having to queue. Both options include biannual clinical visits with an annual blood test. Individual care is also available for those who either want or need to visit a clinic every one or two months, and enhanced adherence counselling is provided to those who need additional help to achieve viral suppression (27, 33).

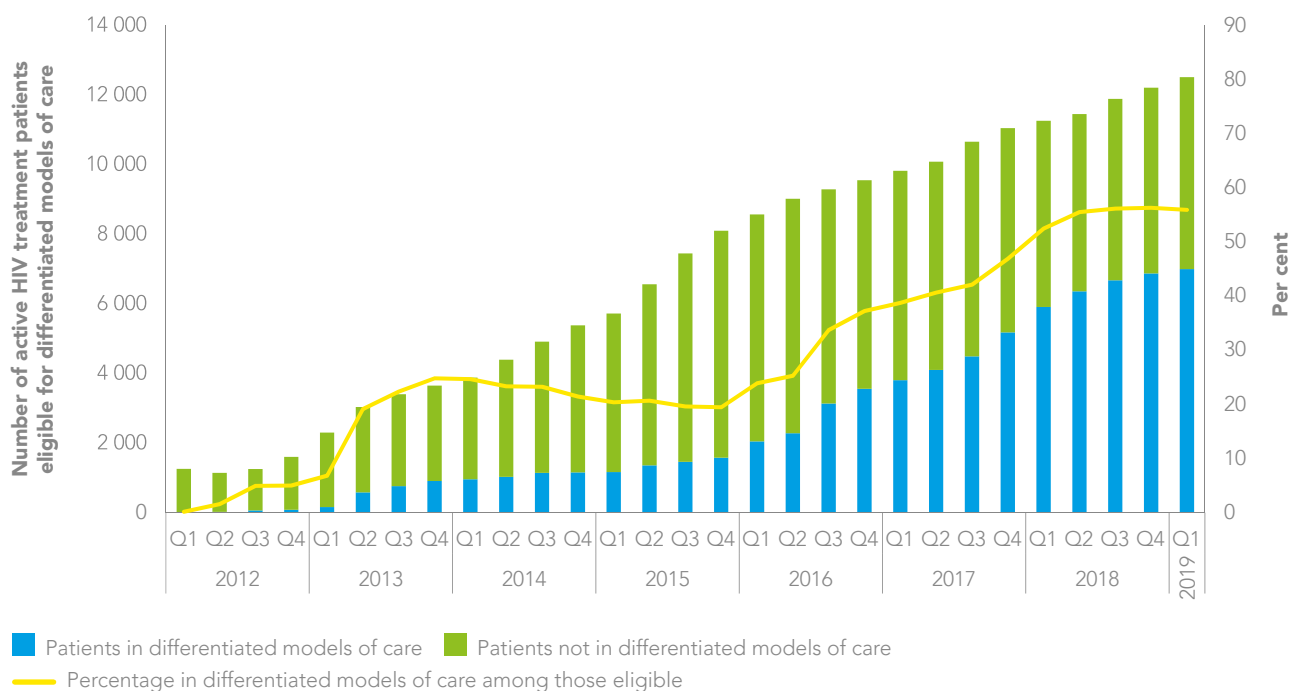
The members of community antiretroviral therapy groups (CAGs), patient-led groups of three to eight people living with HIV, take turns visiting a health-care facility to collect two-month antiretroviral medication refills for all members of the group; they also attend a clinical consultation (34). This can be particularly useful if members live in a rural area where it is hard to get to a clinic.

Adherence clubs are lay counsellor-led groups of up to 30 people with a suppressed viral load who have been taking medication longer than 12 months and are over the age of 18. They meet every three months in facilities or communities to collect medication refills, and they have a clinical consultation once a year. The clubs also provide peer support (31, 34).

"The thing that's helped me a lot since joining the clubs ... is at the clinic, I was waiting three to four hours

3 Detailed implementation guidance is available online at <https://www.msf.org.za/schoolhealthtoolkit>.

**FIGURE 1.13** Enrolment in differentiated models of care, urban and rural areas, Eshowe and Mbongolwane, South Africa, 2012–2019



Source: Differentiated models of care: Mbongolwane and Eshowe, uMlalazi Municipality, King Cetshwayo District, KwaZulu Natal, South Africa. Cape Town: Médecins Sans Frontières; 2019.

because it's always very full," explains Ms L (not her real name), an adherence club member. "But being in a club, I arrive at nine, [and] within an hour, we are done and going back to our homes" (31).

Other groups include prevention of mother-to-child transmission groups and postnatal support groups, in which mothers access their antiretroviral therapy and retention support, as well as a package of services that includes health services for their infants and sexual and reproductive health services for themselves. Women whose children have reached 20 months of age can then transfer to an adherence club (34).

Once a month, counsellors also run weekend support groups for children living with HIV aged 7 to 18 years. The children receive a clinical assessment, medication and individual consultations to support them through the process of status disclosure and maintaining

treatment adherence. Those aged 13 to 18 also receive sexual and reproductive health services (34).

Data show that each method may reach a different combination of clients. Generally speaking, community-based models are more popular among patients who live in rural settings and among those who attend facilities where larger numbers of people are on antiretroviral therapy (34). Mobile and stand-alone sites are particularly effective at reaching young women at risk of HIV and young men who may not attend health facilities. Mobile sites also see more first-time testers.

The populations reached also vary by location, with college- and school-based interventions naturally reaching younger people, and stand-alone urban sites and mobile sites reaching older people. Door-to-door testing reaches men and women of all ages, and it is particularly effective for testing children. ■

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# COMMUNITY ENGAGEMENT





# STATE OF THE EPIDEMIC

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## AT A GLANCE

Gains continue to be made against the epidemic, but those gains are getting smaller year-on-year.

There has been steady progress in the reduction of AIDS-related deaths, but efforts to reach the 2020 target for reductions in HIV infections are clearly off-track.

Gains in eastern and southern Africa are driving global progress. In much of the rest of the world, there are worrying setbacks in key countries and entire regions.

More than half of new HIV infections in 2018 were among key populations and their sexual partners.

An epidemic transition metric suggests that a diverse group of 19 countries are on the path to ending AIDS. Many more countries are not.

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Overall progress against the HIV epidemic is measured through the calculation of estimates of new HIV infections and deaths from AIDS-related causes. Countries input the best available HIV surveillance and programmatic data into mathematical models to produce annual epidemiological estimates, and UNAIDS then aggregates country estimates into regional and global ones.

Each year, newly available data from countries and improvements in the models lead to adjustments in these estimates—not just year-on-year, but across the entire curve of annual estimates, from the current year back to the beginning of the epidemic. New evidence about the impact of antiretroviral therapy on mortality has been used to refine assumptions in the model, and this has produced lower estimates of AIDS-related deaths than the estimates from the previous year (see annex on methods).

Trends, however, remain similar: there has been steady global progress in the reduction of AIDS-related deaths

over the last decade, and more gradual progress in the reduction of new HIV infections.

These gains are getting smaller year-on-year, and the deadline for reaching the 2020 targets agreed by the United Nations General Assembly is getting closer and closer. Efforts to reduce HIV infections are clearly off-track, and while reductions in AIDS-related deaths are stronger, mortality-reduction targets could also be missed.

The global picture obscures a wide diversity of trends among countries and regions. In recent years, there have been worrying rises in annual HIV infections and AIDS-related mortality in key countries and entire regions. The largest reductions in annual HIV infections and AIDS-related deaths have occurred in the region hardest hit by the epidemic: eastern and southern Africa. Progress in the rest of the world, where HIV infections are predominantly among key populations, is considerably slower. The majority of global infections in 2018 were among key populations and their sexual partners. ■

## A one third decline in AIDS-related deaths

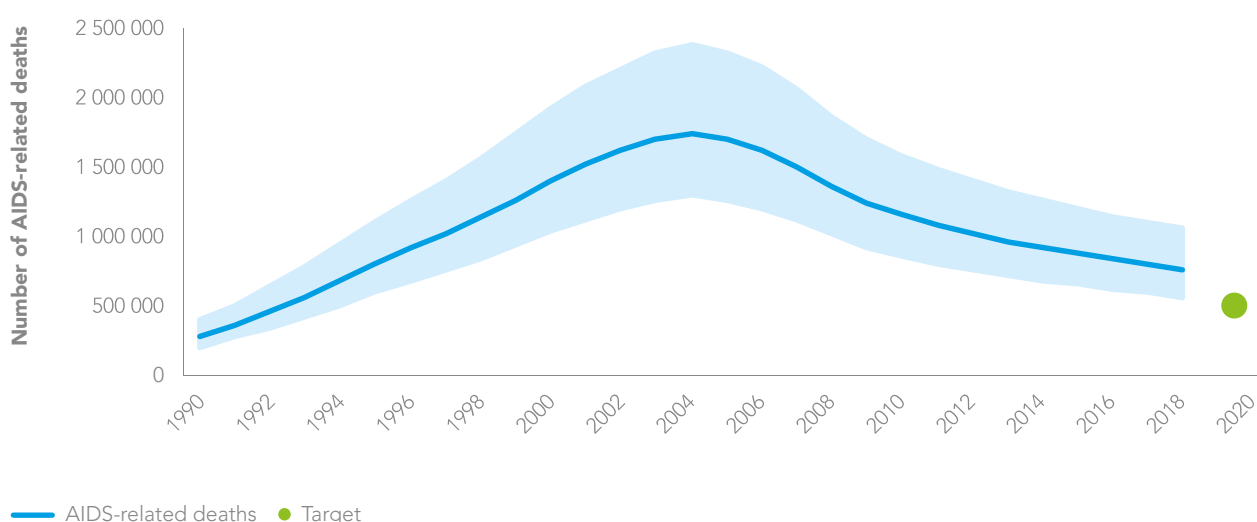
The annual number of deaths from AIDS-related illness among people living with HIV (all ages) globally has fallen from a peak of 1.7 million [1.3 million–2.4 million] in 2004 to 770 000 [570 000–1 100 000] in 2018. Since 2010, AIDS-related mortality has declined by 33%. Reaching the 2020 milestone of fewer than 500 000 deaths will require further declines of about 135 000 per year (Figure 2.1).

The global decline in deaths has largely been driven by progress in eastern and southern Africa, which is home

to 54% of the world's people living with HIV. AIDS-related mortality in the region declined by 44% from 2010 to 2018, to 310 000 [230 000–400 000]. By comparison, AIDS-related deaths in western and central Africa declined by 29%, to 160 000 [110 000–230 000] (Figure 2.2).

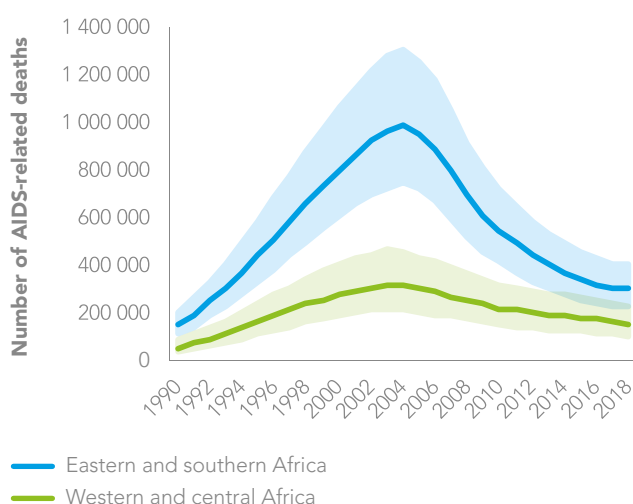
Outside of sub-Saharan Africa, there has been a 20% decline in AIDS-related deaths, to 300 000 [230 000–420 000] (Figure 2.3). AIDS-related deaths in the eastern Europe and central Asia and Middle East and North Africa regions have risen by 5% and 9%, respectively, over the eight-year period. ■

**FIGURE 2.1** Number of AIDS-related deaths, global, 1990–2018 and 2020 target



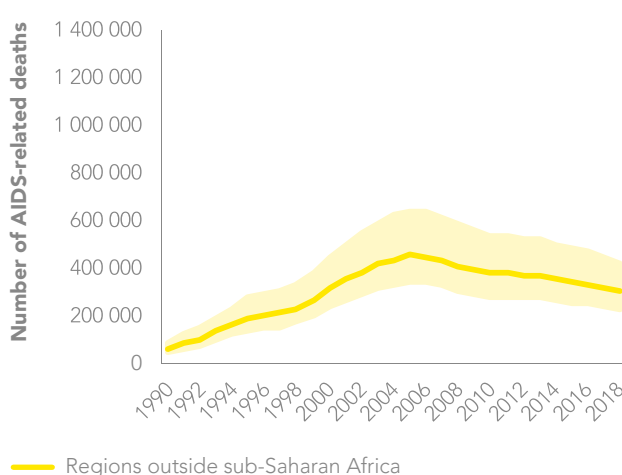
Source: UNAIDS 2019 estimates.

**FIGURE 2.2** Number of AIDS-related deaths, eastern and southern Africa and western and central Africa, 1990–2018



Source: UNAIDS 2019 estimates.

**FIGURE 2.3** Number of AIDS-related deaths, regions outside sub-Saharan Africa, 1990–2018



Source: UNAIDS 2019 estimates.

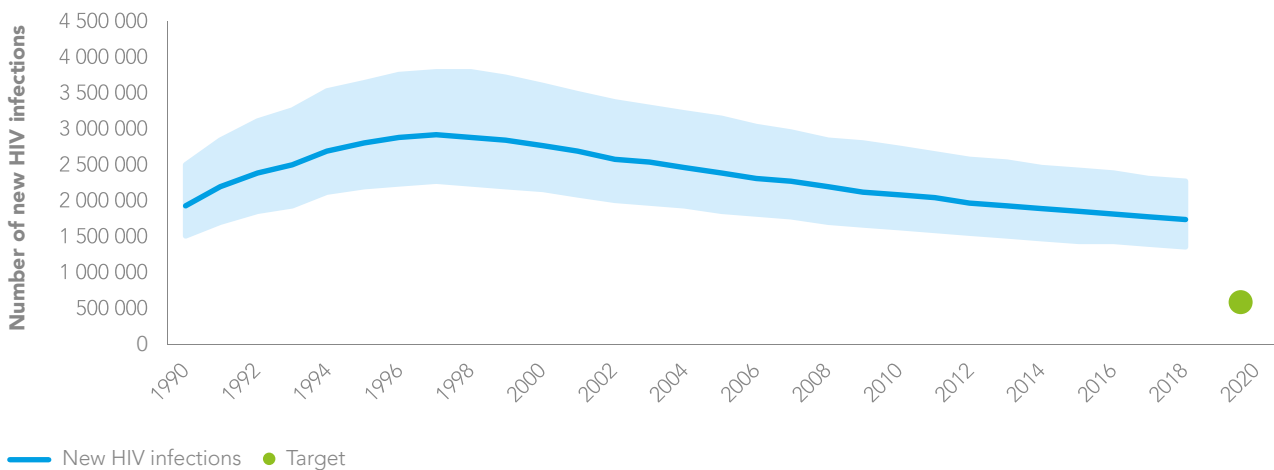


## New HIV infections declining gradually

The annual number of new HIV infections globally continued to decline gradually in 2018. Since a peak of 2.9 million [2.3 million–3.8 million] new infections (all ages) in 1997, year-on-year declines have grown smaller. The annual number of new infections (all ages) since 2010 has declined from 2.1 million [1.6 million–2.7 million] to 1.7 million [1.6 million–2.3 million] in 2018, a 16% reduction that leaves the world far off the 2020 target of fewer than 500 000 new infections (Figure 2.4).

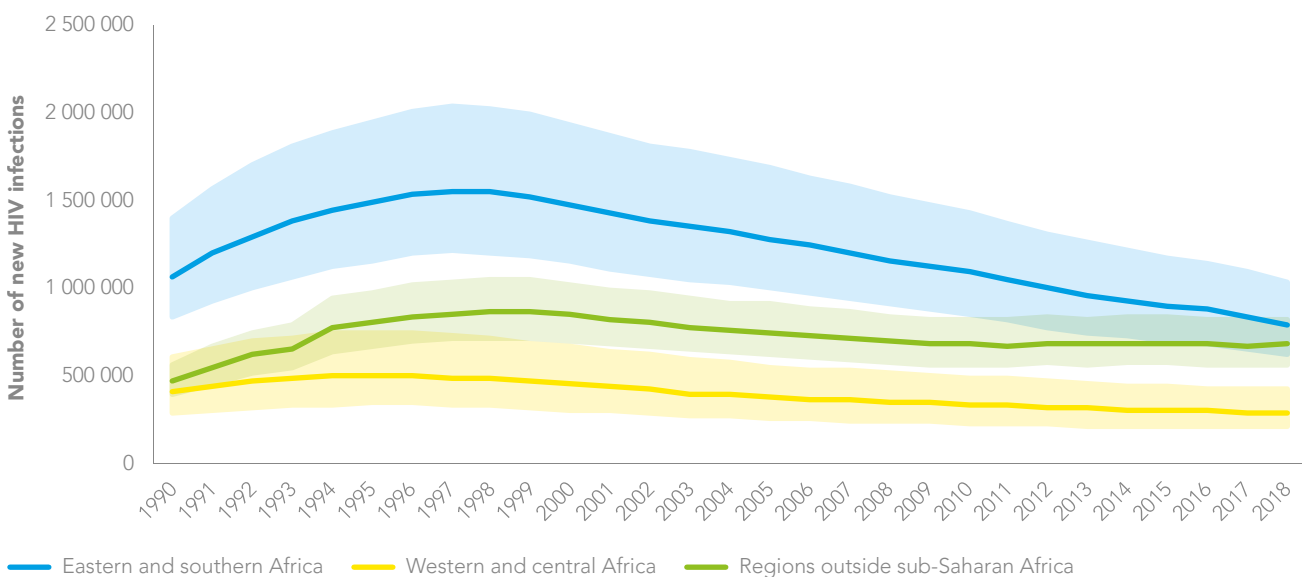
As is the case with AIDS-related mortality, the reduction in new HIV infections between 2010 and 2018 was strongest in eastern and southern Africa (28% decline). Progress was also made in the Caribbean (16% decline), western and central Africa (13% decline), western and central Europe and North America (12% decline), and Asia and the Pacific (9%). However, the annual number of new HIV infections has risen in eastern Europe and central Asia (29% increase), the Middle East and North Africa (10% increase) and Latin America (7% increase). Regional gains and setbacks combine to produce a flat 10-year trend in new infections outside of sub-Saharan Africa (Figure 2.5).

**FIGURE 2.4** Number of new HIV infections, global, 1990–2018 and 2020 target

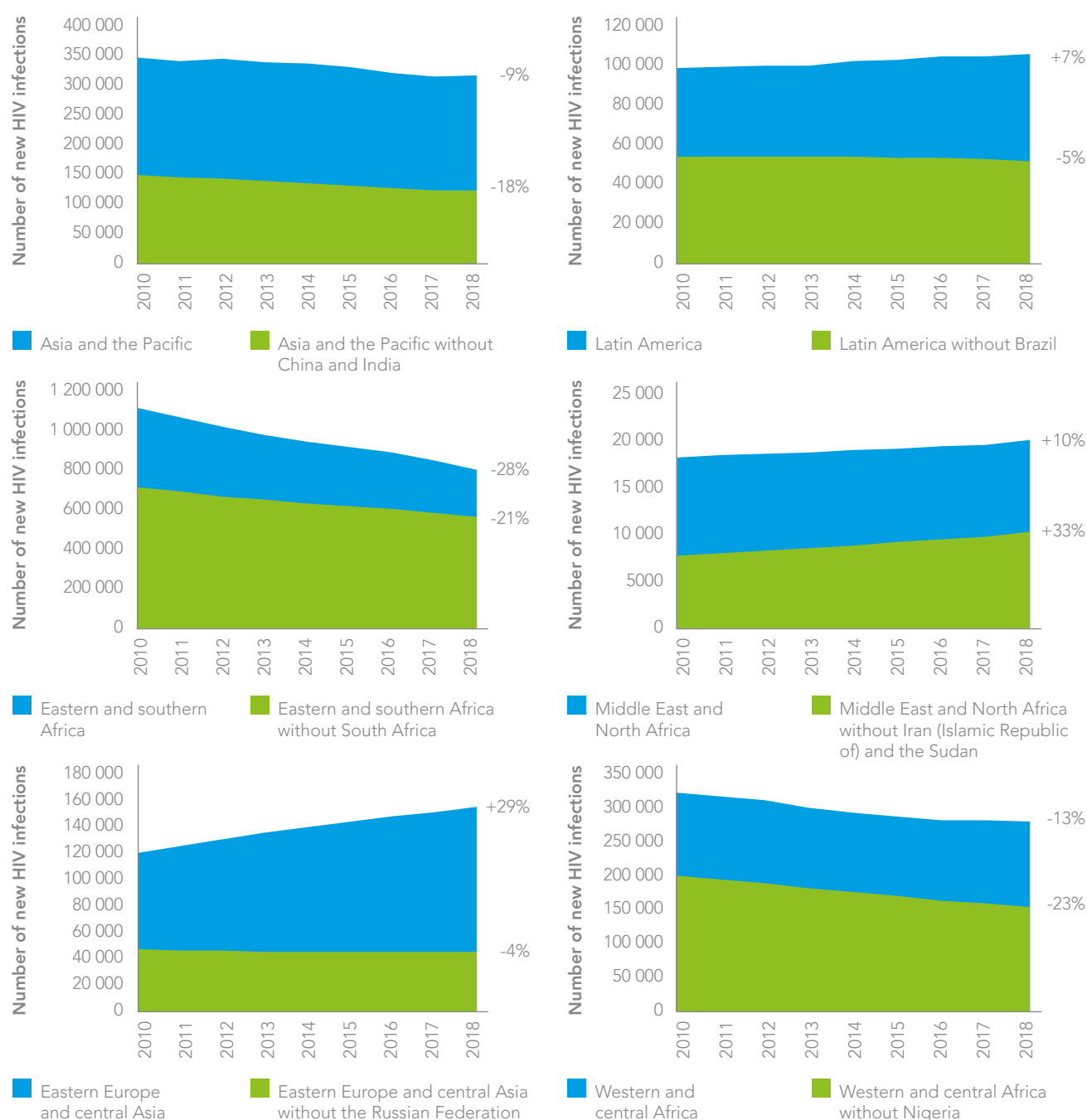


Source: UNAIDS 2019 estimates.

**FIGURE 2.5** Number of new HIV infections, eastern and southern Africa, western and central Africa, and regions outside sub-Saharan Africa, 1990–2018



Source: UNAIDS 2019 estimates.

**FIGURE 2.6** Trends in new HIV infections, by region, 2010–2018

Source: UNAIDS 2019 estimates.

Varied country-level trends can be obscured by regional averages, especially in regions where there are one or two countries that account for a majority of new HIV infections (Figure 2.6). In most cases, larger countries report lower performance than their smaller regional neighbours. A prime example is eastern Europe and central Asia, where the regional trend, excluding the Russian Federation (which accounted for 71% of the region's new HIV infections in 2018), is a 4% decline instead of a 29% increase, or in Latin America, where excluding Brazil results in a 5% decline in new HIV

infections instead of a 7% increase. Similarly, the exclusion of China and India from Asia and the Pacific results in a more rapid 18% decline in new infections. In some cases, removing countries with larger epidemics reveals poorer performance in the rest of the region. The exclusion of South Africa from eastern and southern Africa results in a shallower decline of 21% (compared to 28%), and excluding the Islamic Republic of Iran and the Sudan in the Middle East and North Africa shows that new HIV infections in the other countries of the region increased by 33% (compared to 10%). ■

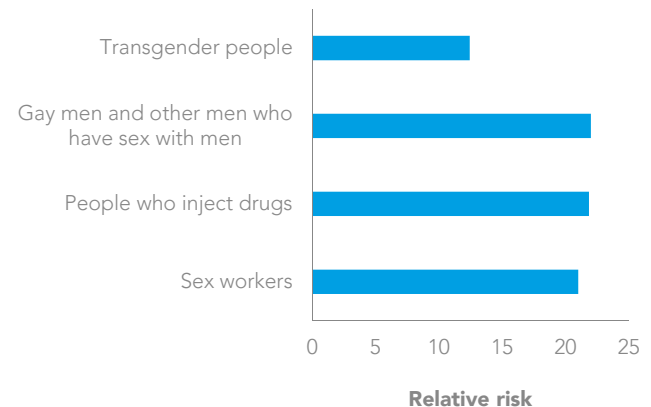
## More than half of new infections are among key populations and their sexual partners

Key populations make up a small proportion of the general population, but they are at extremely high risk of HIV infection. Available data suggest that the risk of HIV acquisition among gay men and other men who have sex with men was 22 times higher in 2018 than it was among all adult men. Similarly, the risk of acquiring HIV for people who inject drugs was 22 times higher than for people who do not inject drugs, 21 times higher for sex workers than adults aged 15–49 years, and 12 times higher for transgender people than adults aged 15–49 years (Figure 2.7).

Strong progress in settings with high HIV prevalence in eastern and southern Africa, where HIV is predominantly transmitted within the general population—combined with a mixture of progress and setbacks in lower prevalence regions—has seen the global distribution of new HIV infections in 2018 cross a notable threshold: the majority of global infections were among key populations and their sexual partners. (Figure 2.8)

Gay men and other men who have sex with men accounted for an estimated 17% of new HIV infections globally, including more than half of new HIV infections in western and central Europe and North America, 40%

**FIGURE 2.7** Relative risk of HIV acquisition by subpopulations aged 15–49 compared to adults aged 15–49 in the total population, global, 2018



Note 1: Relative risk compares the incidence of two populations. Incidence for sex workers, people who inject drugs and transgender people was estimated and then divided by the global incidence of HIV among adults aged 15–49, estimated using the Spectrum models. Incidence for gay men and other men who have sex with men was estimated and then divided by the global incidence of HIV among male adults aged 15–49.

Note 2: Transgender people estimates are derived only in the Asia and the Pacific, Caribbean, Latin America, and western and central Europe and North America regions.

Note 3: Relative risk is interpreted as follows: sex workers have 21 times greater risk of acquiring HIV than adults aged 15–49 in the total population.

Source: UNAIDS special analyses using Spectrum 2019 results and 2019 Global AIDS Monitoring submissions, supplemented by data from published literature.



in Latin America, 30% in Asia and the Pacific, 22% in the Caribbean, 22% in eastern Europe and central Asia, 18% in the Middle East and North Africa, and 17% in western and central Africa.

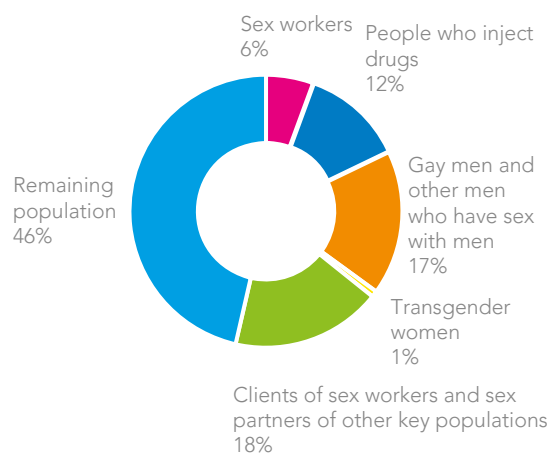
People who inject drugs accounted for an estimated 12% of global infections, including 41% of new HIV infections in eastern Europe and central Asia, 37% of new infections in the Middle East and North Africa, and 13% in Asia and the Pacific. Sex workers accounted for 6% of global HIV infections, ranging from 14% in western and central Africa to less than 1% in western and central Europe and North America. Transgender women made up a small amount of new HIV infections globally, but they accounted for 5% of new HIV infections in the Caribbean and 4% of new infections in Latin America and western and central Europe and North America. ■

#### UNAIDS DATA AVAILABLE AT AIDInfo

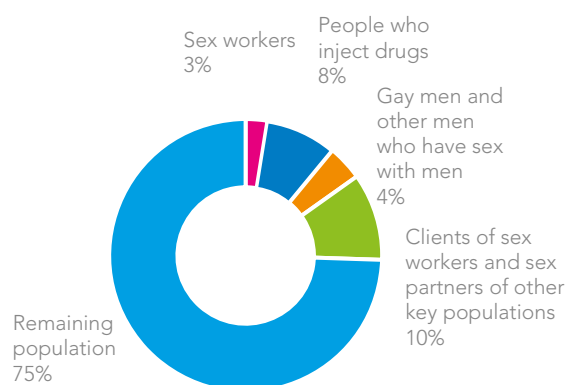
The data in this document are just a sample of the data available from UNAIDS. Additional data presented in spreadsheets, maps and graphs are available at [aidsinfo.unaids.org](https://aidsinfo.unaids.org). These include:

- Estimates of new HIV infections, AIDS-related deaths and numbers of people living with HIV by different age groups and by sex.
- Additional Global AIDS Monitoring indicators on prevention, mother-to-child transmission, 90–90–90 targets and stigma and discrimination.
- A Key Population Atlas of maps with the latest available data on key populations at increased risk of HIV infection.
- An HIV financial dashboard that brings together into a single platform more than 85 different indicators on HIV financial resources.
- A database of policy indicators collected from countries using the National Commitments and Policy Instrument.
- Subnational data for selected countries
- Comparable data over multiple years and across countries, which can also be extracted to spreadsheets for further analysis.

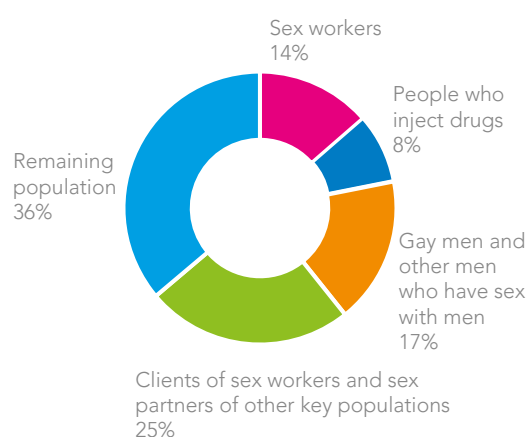
**FIGURE 2.8** Distribution of new HIV infections (aged 15–49 years), by population group, global, 2018



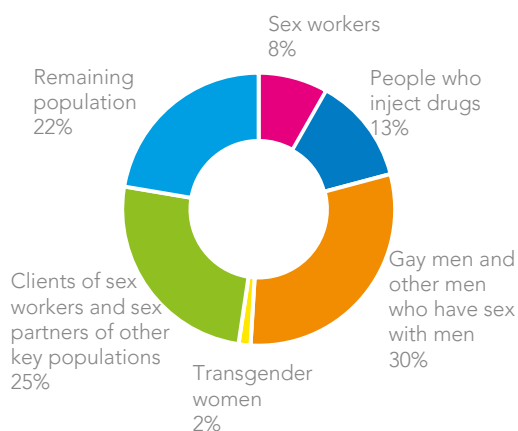
**FIGURE 2.9** Distribution of new HIV infections (aged 15–49 years), by population group, eastern and southern Africa, 2018



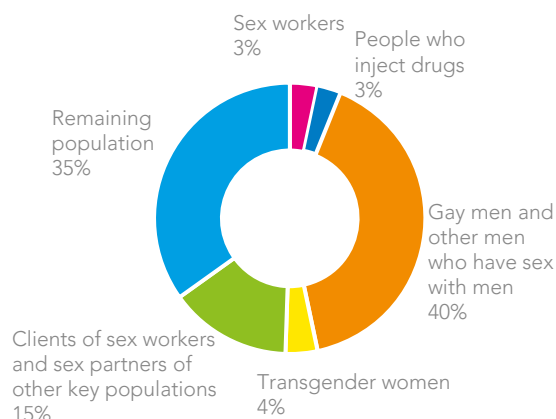
**FIGURE 2.10** Distribution of new HIV infections (aged 15–49 years), by population group, western and central Africa, 2018



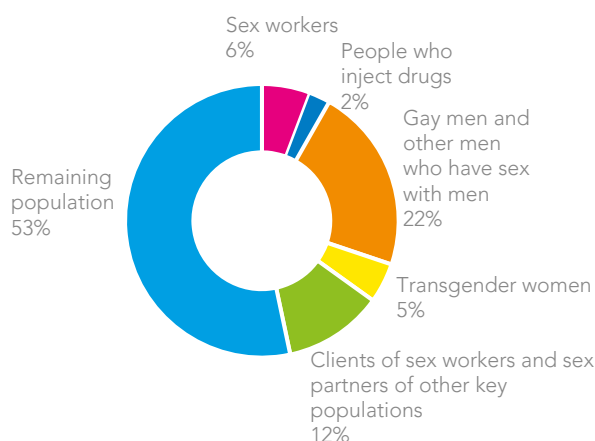
**FIGURE 2.11** Distribution of new HIV infections (aged 15–49 years), by population group, Asia and the Pacific, 2018



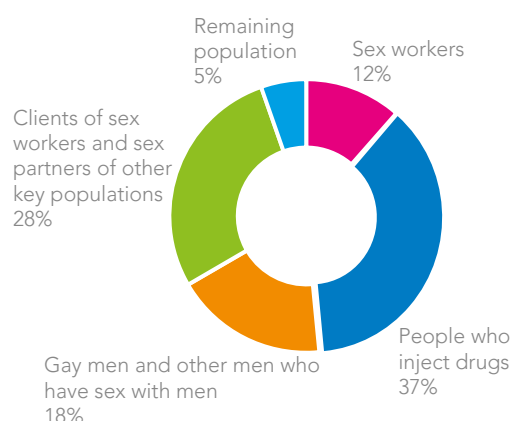
**FIGURE 2.12** Distribution of new HIV infections (aged 15–49 years), by population group, Latin America, 2018



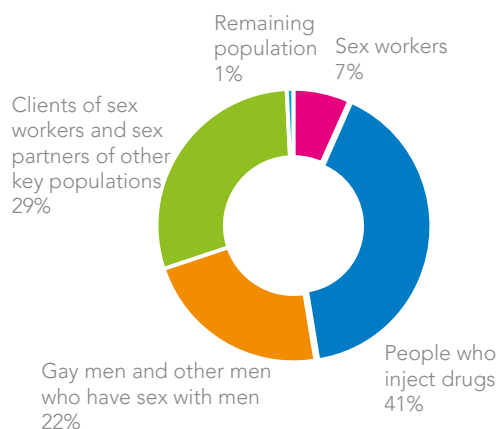
**FIGURE 2.13** Distribution of new HIV infections (aged 15–49 years), by population group, Caribbean, 2018



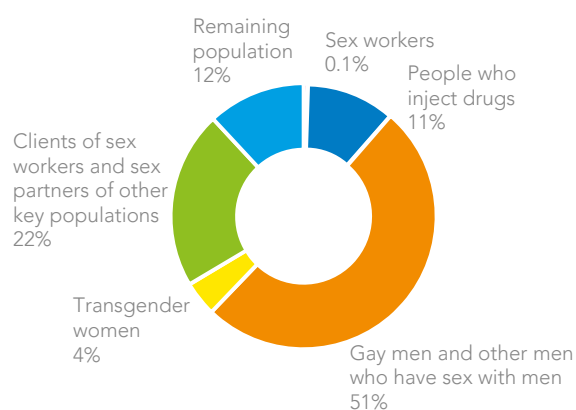
**FIGURE 2.14** Distribution of new HIV infections (aged 15–49 years), by population group, Middle East and North Africa, 2018



**FIGURE 2.15** Distribution of new HIV infections (aged 15–49 years), by population group, eastern Europe and central Asia, 2018



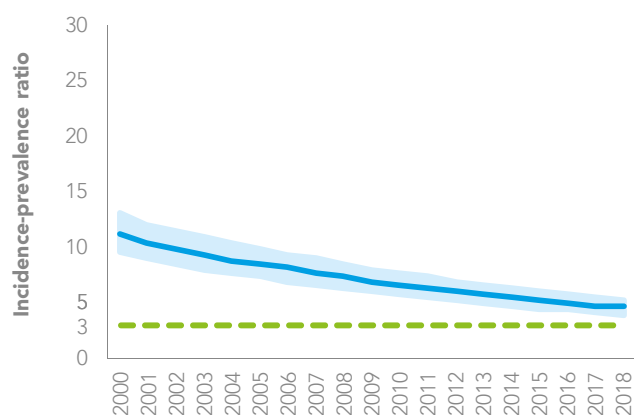
**FIGURE 2.16** Distribution of new HIV infections (aged 15–49 years), by population group, western and central Europe and North America, 2018



Source: UNAIDS special analysis, 2019.

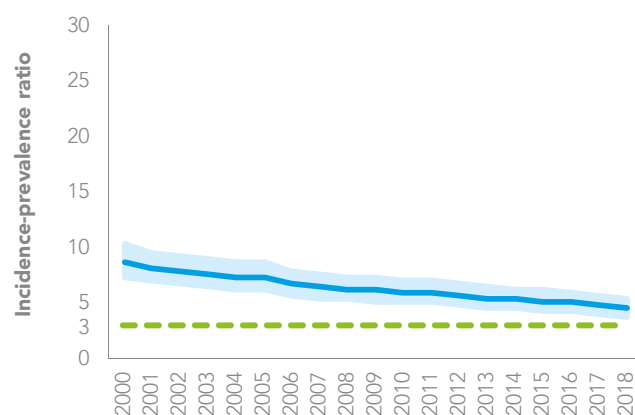
**FIGURE 2.17** Ratio of new infections to people living with HIV, global and by region (incidence-prevalence ratio), 2000–2018

### Global



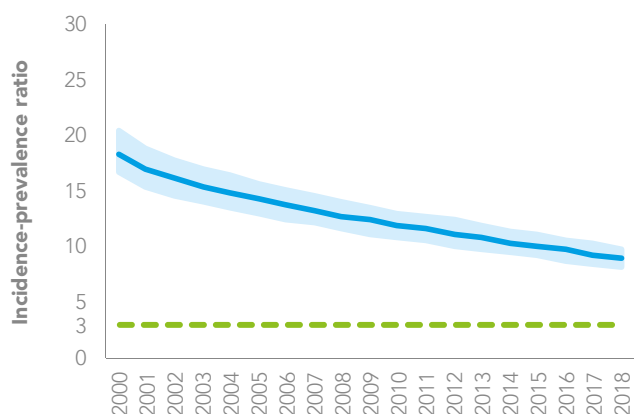
— Incidence-prevalence ratio — Target value

### Caribbean



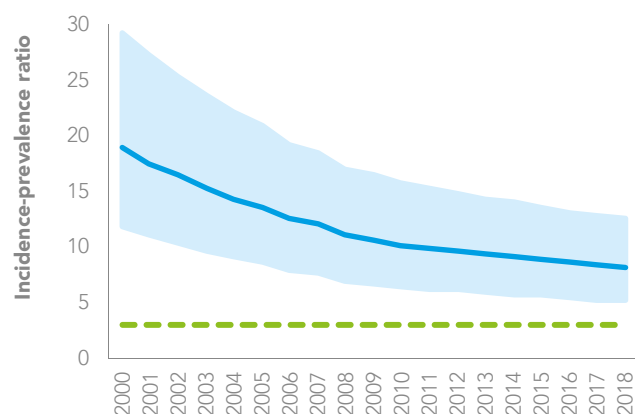
— Incidence-prevalence ratio — Target value

### Eastern Europe and central Asia



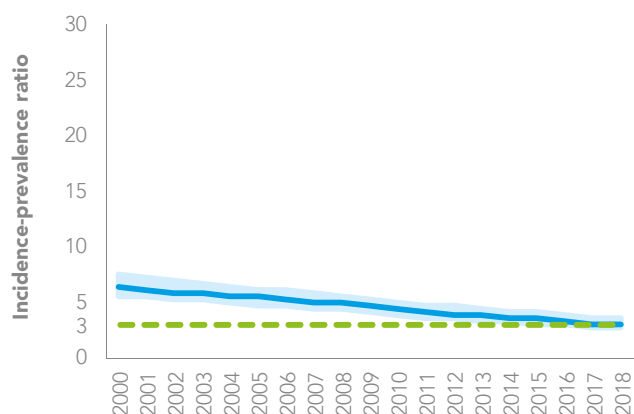
— Incidence-prevalence ratio — Target value

### Middle East and North Africa



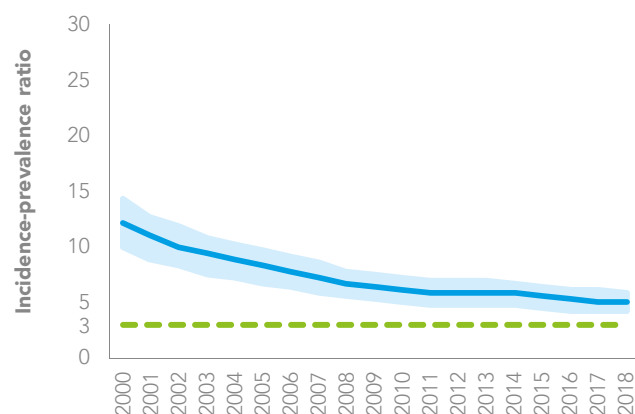
— Incidence-prevalence ratio — Target value

### Western and central Europe and North America



— Incidence-prevalence ratio — Target value

### Asia and the Pacific



— Incidence-prevalence ratio — Target value

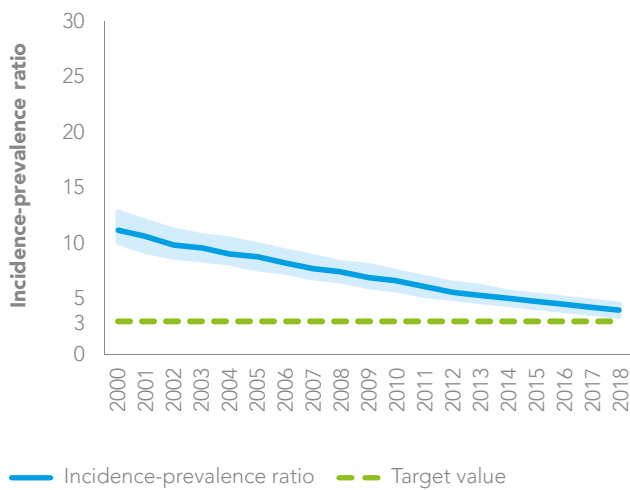
## Epidemic transition

Recent trends in new HIV infections and AIDS-related mortality can only show part of the story of a country or regional HIV response. For example, the 2010 baseline for 2020 targets hides strong gains made by many countries before 2010 (compared to countries that scaled up their HIV responses more recently). Epidemic transition metrics have been developed by UNAIDS and its partners as complementary measures that countries can use to better track their progress towards ending AIDS as a public health threat.

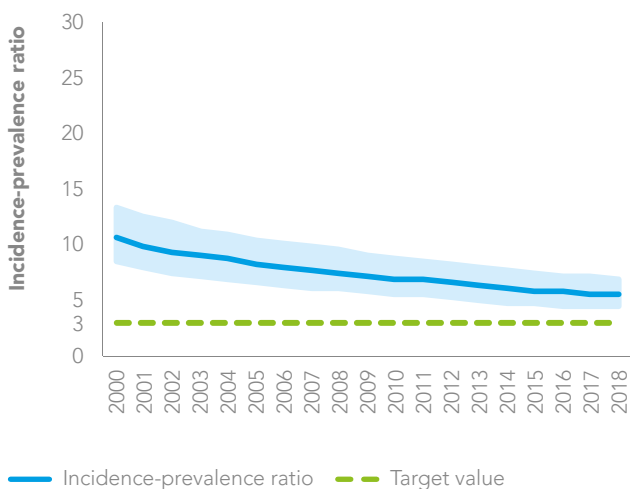
One such metric, the incidence-prevalence ratio, uses the number of new HIV infections and the number of people living with HIV within a population to produce the inverse of the average duration of time a person lives with HIV in an epidemic that remains stable over many years. An epidemic transition benchmark of 3.0%—three HIV infections per 100 people living with HIV per year—corresponds to an average life expectancy after infection of 30 years (1). At this average life expectancy, the total population of people living with HIV will gradually fall if the country is below the 3% benchmark. However, if the number of new infections per 100 people living with HIV per year is greater than three, the population of people living with HIV will grow over time. The 3.0% benchmark thus combines two desirable conditions: long, healthy lives among people living with HIV and reductions in new infections.

The global incidence-prevalence ratio has declined from 11.2% in 2000 to 6.6% in 2010 to 4.6% in 2018, reinforcing the conclusion that important progress has been made against the epidemic. Despite this, the world is not yet on track to end AIDS as a public health threat by 2030. Western and central Europe and North America, where treatment coverage is generally high and a comprehensive set of HIV prevention options are available to a large percentage of people at risk of HIV, had an incidence-prevalence ratio of 3.1% in 2018, meaning that the UNAIDS benchmark has nearly been met in this high-income region. Performance in other regions ranged from 3.9% in eastern and southern Africa, 4.6% in the Caribbean, 5.4% in both Latin America and Asia and the Pacific, 5.5% in western and central Africa, 8.0% in the Middle East and North Africa, and 9.0% in eastern Europe and central Asia (Figure 2.17).

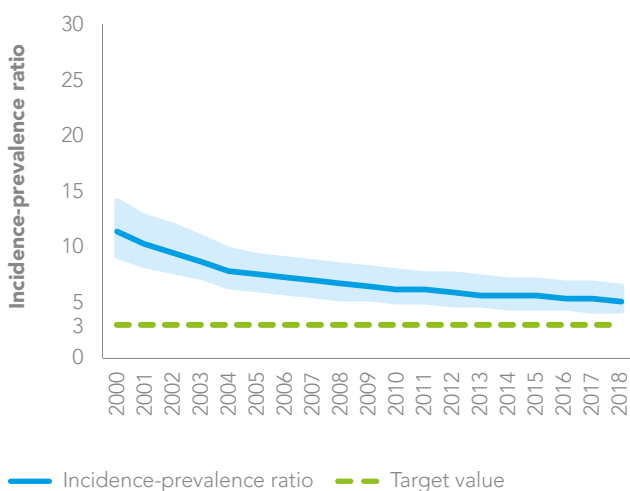
### Eastern and southern Africa



### Western and central Africa



### Latin America



Source: UNAIDS 2019 estimates.



**TABLE 2.1 Incidence-prevalence ratio, by country, 2018**

<b>0–2.99</b>	Botswana, Burkina Faso, Burundi, Cambodia, Denmark, El Salvador, Germany, Italy, Kenya, Mauritania, Nepal, Norway, Portugal, Rwanda, Singapore, Spain, Thailand, Viet Nam, Zimbabwe
<b>3.0–4.99</b>	Argentina, Australia, Bahamas, Cameroon, Cabo Verde, Central African Republic, Colombia, Côte d'Ivoire, Democratic Republic of the Congo, Dominican Republic, Eritrea, Estonia, Eswatini, Ethiopia, France, Gabon, Guatemala, Guyana, Haiti, Honduras, Israel, Japan, Lao People's Democratic Republic, Lesotho, Liberia, Libya, Luxembourg, Malawi, Mexico, Morocco, Myanmar, Namibia, New Zealand, Nicaragua, Niger, Panama, Papua New Guinea, Peru, Romania, Senegal, Somalia, South Africa, Sri Lanka, Suriname, Togo, Uganda, United Republic of Tanzania, Zambia
<b>5.0–9.99</b>	Algeria, Angola, Armenia, Barbados, Belarus, Belize, Benin, Bhutan, Bolivia (Plurinational State of), Bosnia and Herzegovina, Brazil, Chad, Chile, Congo, Costa Rica, Croatia, Cuba, Djibouti, Ecuador, Equatorial Guinea, Finland, Gambia, Georgia, Ghana, Guinea, Guinea-Bissau, Hungary, Iceland, Indonesia, Iran (Islamic Republic of), Ireland, Jamaica, Jordan, Kuwait, Kyrgyzstan, Latvia, Lebanon, Malaysia, Mali, Mauritius, Mongolia, Mozambique, Nigeria, Oman, Paraguay, Republic of Moldova, Serbia, Sierra Leone, South Sudan, Sudan, Syrian Arab Republic, Tajikistan, Tunisia, Ukraine, Uruguay, Yemen
<b>10 and above</b>	Afghanistan, Bangladesh, Egypt, Kazakhstan, Madagascar, Montenegro, North Macedonia, Pakistan, Philippines, Uzbekistan

Source: UNAIDS 2019 estimates.

Eighteen countries achieved the 3.0% benchmark (Table 2.1), suggesting that the HIV responses in these countries are on the path to ending the AIDS epidemic. The diversity of regions, income levels and epidemics within these countries should be cause for hope: hyper-epidemics, such as those in Botswana and Zimbabwe, are being brought under control, as are a range of more concentrated epidemics. Another 48 countries have incidence-prevalence ratios between 3.0% and 4.9%, suggesting considerable progress.

Less encouraging are the number of countries that remain at 5.0% or above: in total, there are 70 such countries, including 13 that have a ratio above 10.0%—a level that is associated with increasing HIV infections and large percentages of people living with HIV in these countries being denied antiretroviral therapy. ■



## REFERENCES

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caux

I DO IT EVERY DAY

Choosing daily PrEP keeps me HIV negative.  
How do you do it?

[TEST OFTEN] + [TREAT EARLY] + [STAY SAFE] = ENDING HIV 2020

ENDINGHIV.ORG.AU/YOUCHOOOSE

acon

A poster by the nongovernmental organization ACON promoting pre-exposure prophylaxis as part of a combination approach to HIV prevention in New South Wales, Australia.  
Credit: ACON

# A COMBINATION APPROACH TO HIV PREVENTION

## AT A GLANCE

A combination of behavioural, biomedical and structural approaches to HIV prevention, tailored to reach the populations in greatest need, can achieve steep reductions in HIV infections.

The latest country data reported to UNAIDS show widely varying coverage of combination HIV prevention services. Efforts to achieve global HIV prevention targets are off-track.

Increasingly sophisticated social media platforms offer new ways to communicate, generate demand and link people at high risk of HIV infection to services.

Countries are gradually adopting PrEP as an additional HIV prevention option. More than 300 000 people globally took PrEP at least once in 2018.

There has been progress towards the 2020 target for voluntary medical male circumcisions. About 11 million have been performed in 15 priority countries since the beginning of 2016.

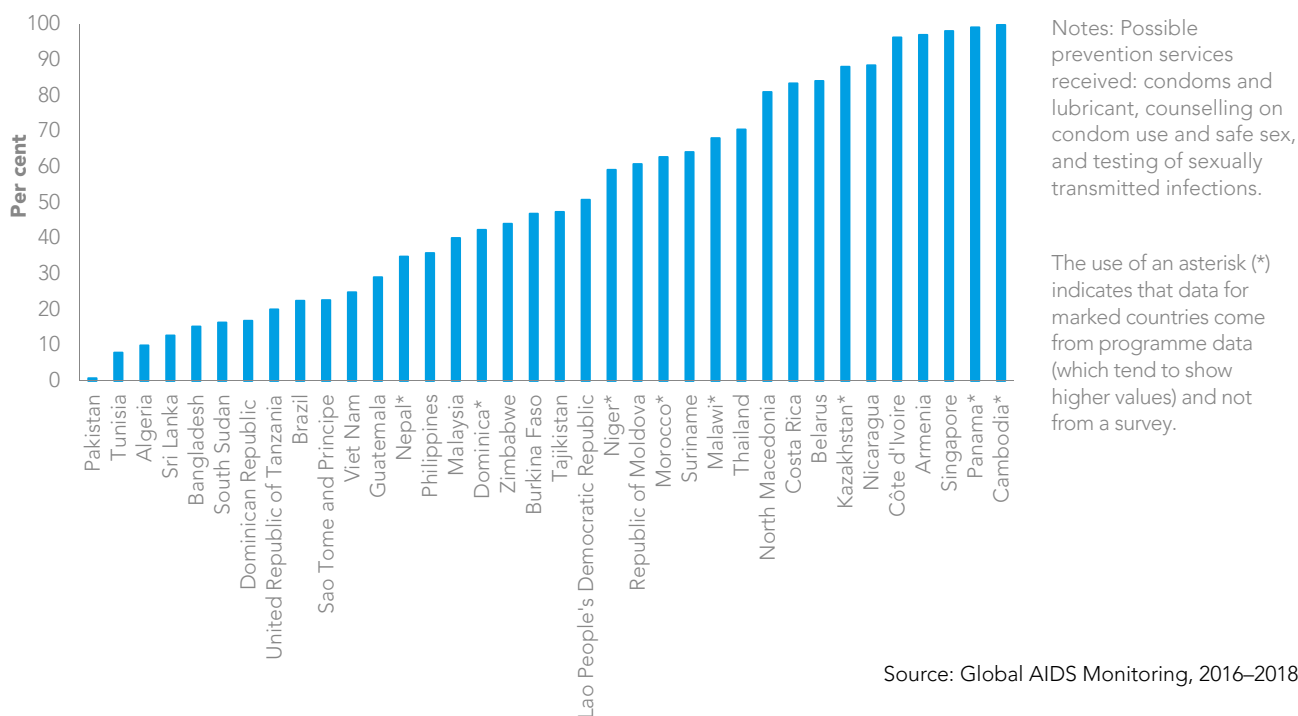
Despite the availability of a widening array of effective HIV prevention tools and methods—and a massive scale-up of antiretroviral therapy in recent years—there has been insufficient progress in reducing new HIV infections in young people and adults globally.

Among the 28 countries participating in the Global HIV Prevention Coalition, just three—Eswatini, Uganda and Zimbabwe—have achieved annual infection reductions of more than 40% since 2010. The majority of the coalition countries have made only limited progress (reductions of less than 25%), and a few have made no progress at all.

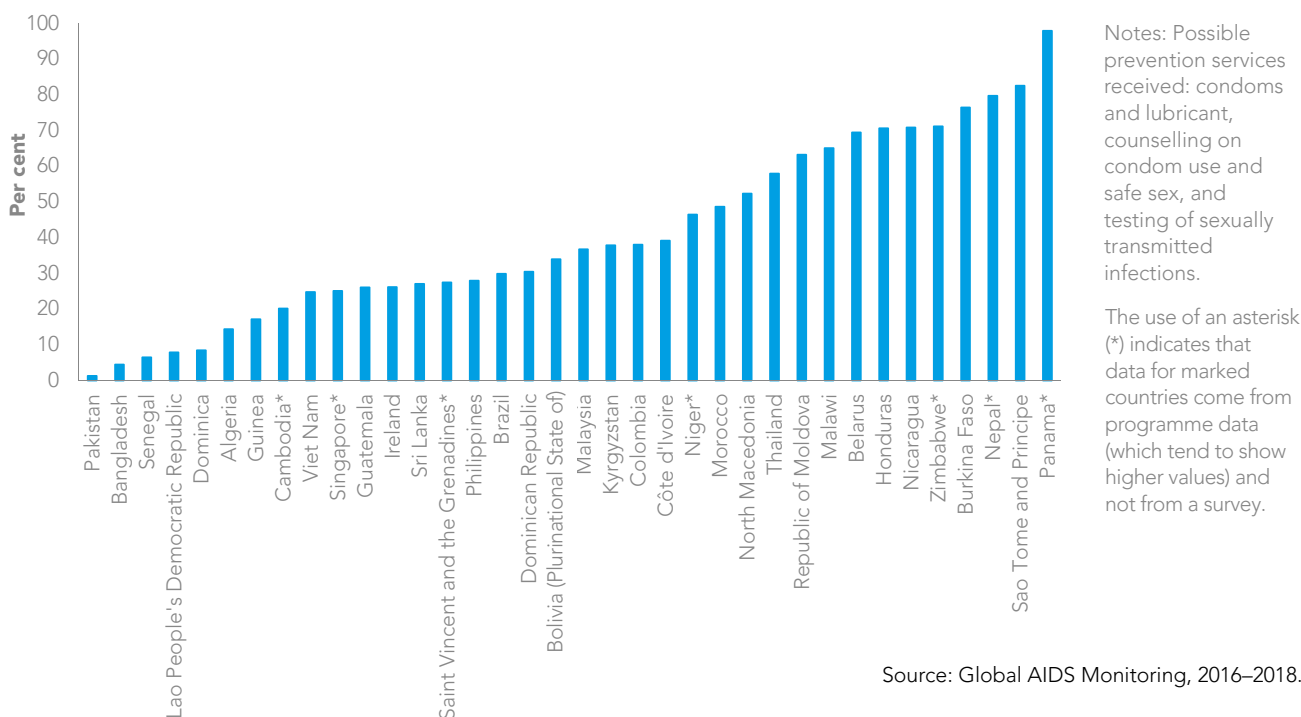
Since the launch of the Global HIV Prevention Coalition in late 2017, participating countries have reinvigorated their HIV prevention strategies and aligned their responses to global targets. Nevertheless, major gaps still exist in financing for HIV prevention, providing services at scale and addressing underlying policy and structural barriers affecting communities. In 2018, less than half of locations

with high HIV incidence had dedicated HIV prevention programmes for adolescent girls and young women, and less than 50% of key populations were reached with combination prevention services in more than half of the countries that reported data to UNAIDS.

At the same time, examples of successful combination prevention—including condom programming, pre-exposure prophylaxis (PrEP), voluntary medical male circumcision (VMMC), viral load suppression through antiretroviral therapy, and the prevention and treatment of sexually transmitted infections (STIs)—exist in many settings. Community-based organizations have played a central role in efforts to reach adolescent girls and young women in high-prevalence settings and key populations in all epidemic settings. Innovative web-based and mobile application platforms are generating additional awareness and demand for HIV services. Replicating these successes remains central to achieving the global target of fewer than 200 000 new infections and ending AIDS as a public health threat by 2030. ■

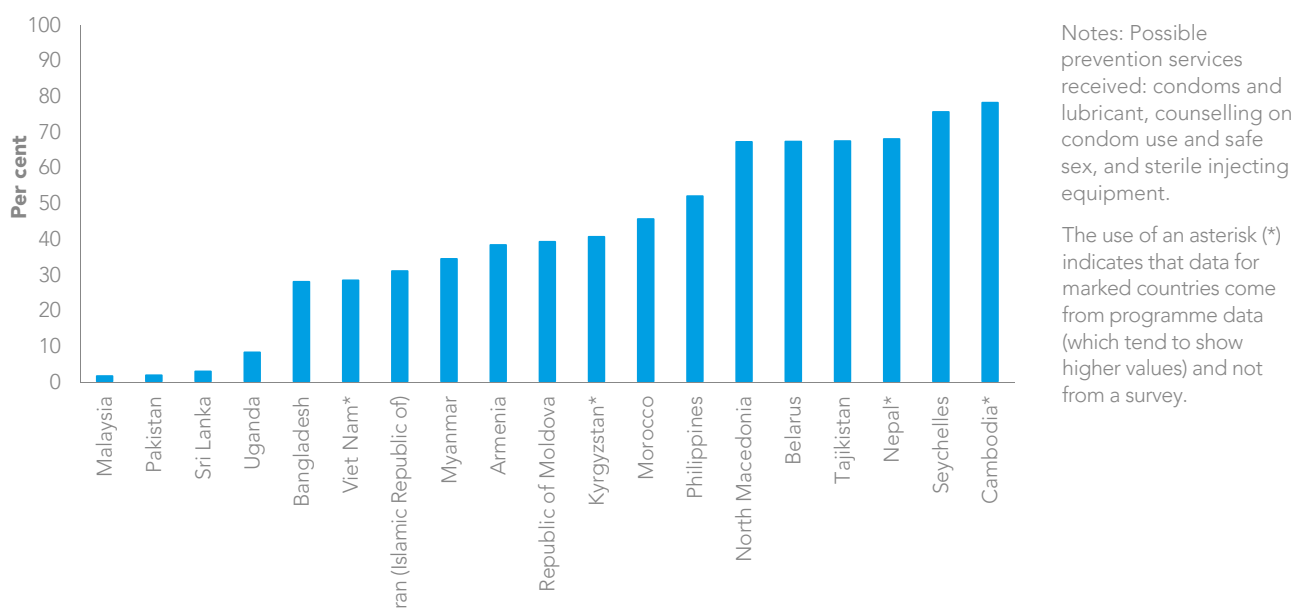
**FIGURE 3.1** Percentage of sex workers who reported receiving at least two prevention services in the past three months, selected countries, 2016–2018

Source: Global AIDS Monitoring, 2016–2018.

**FIGURE 3.2** Percentage of gay men and other men who have sex with men who reported receiving at least two prevention services in the past three months, selected countries, 2016–2018

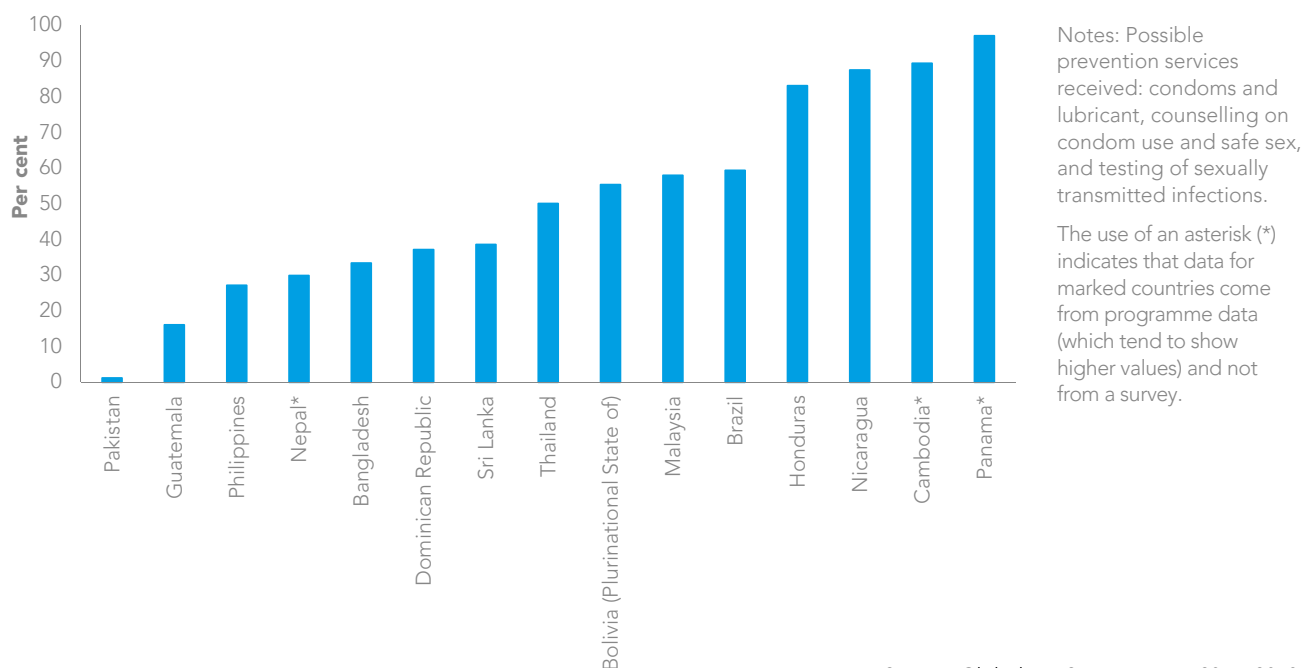
Source: Global AIDS Monitoring, 2016–2018.

**FIGURE 3.3** Percentage of people who inject drugs who reported receiving at least two prevention services in the past three months, selected countries, 2016–2018



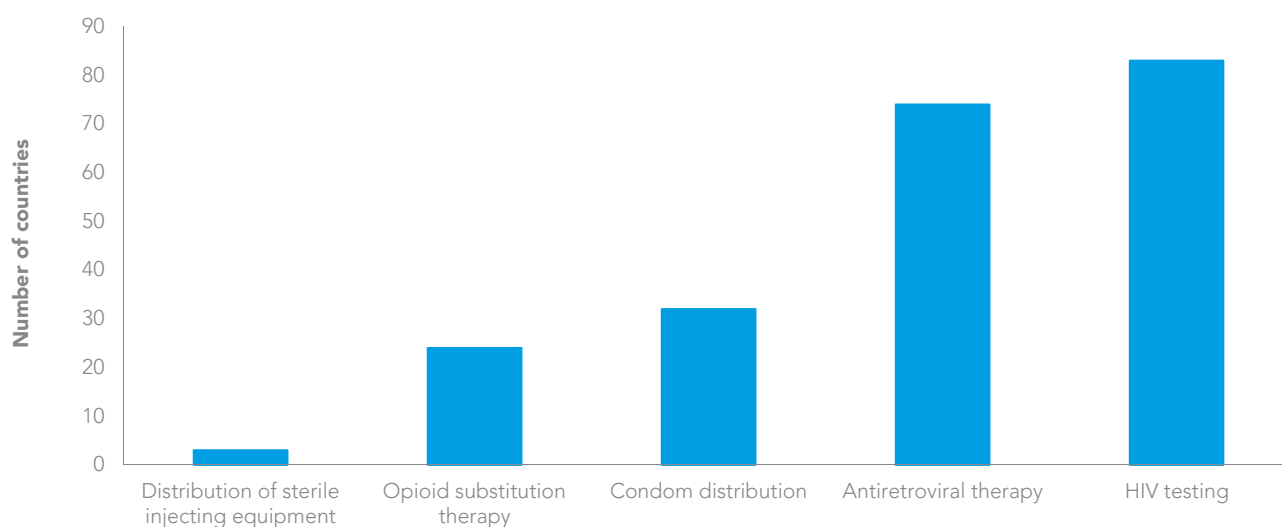
Source: Global AIDS Monitoring, 2016–2018.

**FIGURE 3.4** Percentage of transgender people who reported receiving at least two prevention services in the past three months, selected countries, 2016–2018



Source: Global AIDS Monitoring, 2016–2018.



**FIGURE 3.5** Countries with reported numbers on HIV prevention and treatment services in prisons, 2016–2018

Source: Global AIDS Monitoring, 2016–2018.

### Key populations left behind in many countries

The United Nations General Assembly's 2016 Political Declaration on Ending AIDS calls on countries to ensure that 90% of those at risk of HIV infection are reached by comprehensive prevention services by 2020. Across all continents are a common set of key populations at high risk of infection: sex workers, transgender people, prisoners, people who inject drugs, and gay men and other men who have sex with men.

Country data reported to UNAIDS within the last three years show widely varying coverage of combination HIV prevention services. Less than 10% of at least one key population were accessing multiple prevention services in Algeria, Bangladesh, Dominica, the Lao People's Democratic Republic, Malaysia, Pakistan, Senegal, Sri Lanka, Tunisia and Uganda (Figures 3.1–3.4). Conversely, countries in several regions reported reaching the 90% target for at least one key population, including Armenia, Côte d'Ivoire and Singapore.

Despite the relative ease of reaching individuals within a closed setting, HIV services are not provided in prisons in many countries. Across the last three years of country reports to UNAIDS, very few countries reported programme data on the provision of condoms (32 countries), opioid substitution therapy (24 countries) and sterile injecting equipment (three countries) in prisons (Figure 3.5). ■

### GUIDELINES ON SELF-CARE

**Self-care interventions are among the most promising and exciting new approaches to improve health and well-being, both from a health systems perspective and for people who use these interventions. In 2019, the World Health Organization (WHO) published its *Consolidated guideline on self-care interventions for health*, which has a particular focus on sexual and reproductive health and rights. HIV-related self-care within these guidelines includes male and female condoms and lubricant, self-testing for HIV, and interventions on self-efficacy and empowerment around sexual and reproductive health and rights for women living with HIV.**

## TAKING HIV PROGRAMMES INTO CYBERSPACE

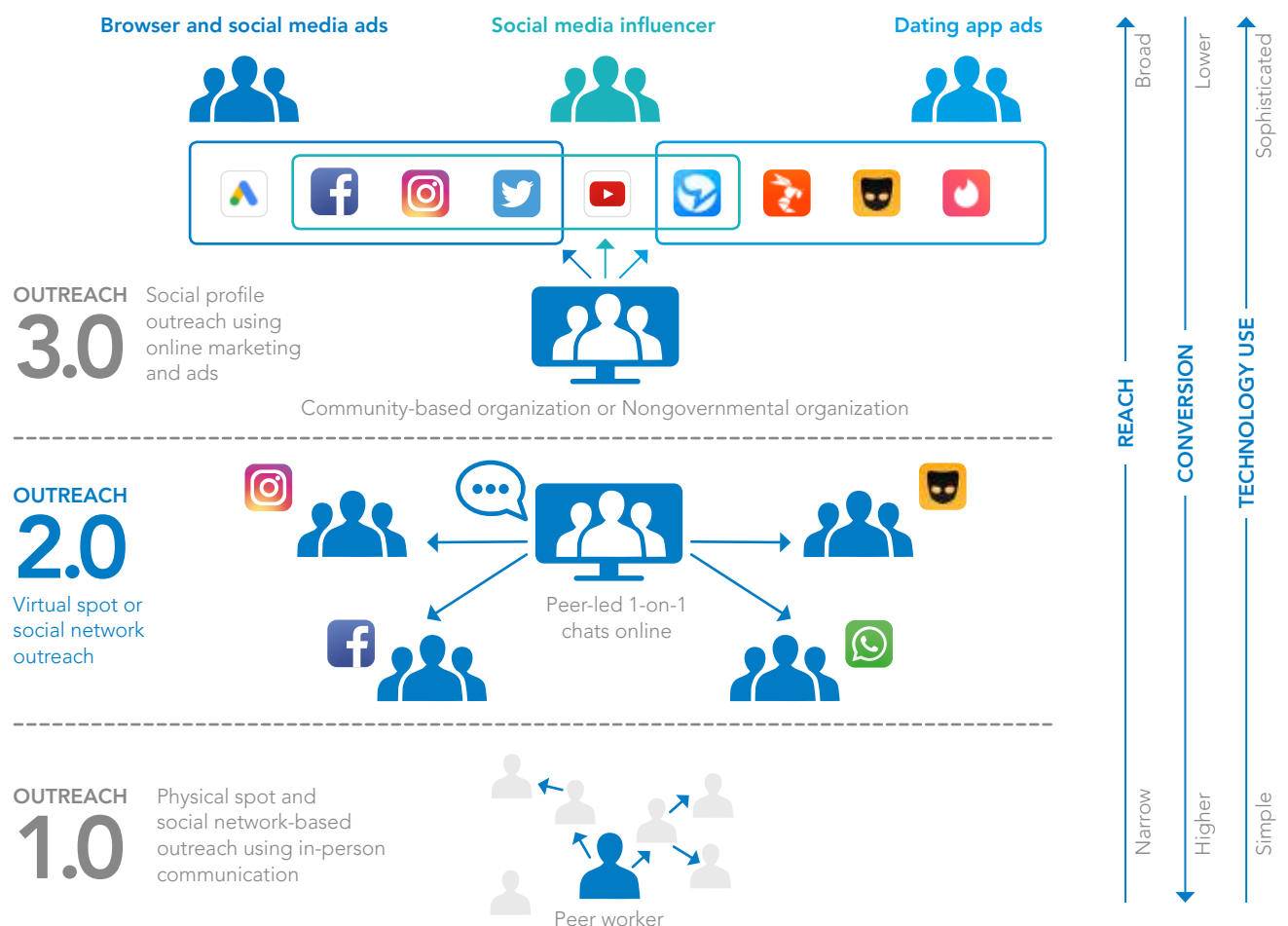
Ending the AIDS epidemic is unthinkable if people who are at high risk of HIV infection are not getting the information and services they need to stay healthy.

Those services typically involve face-to-face contact, even for acquiring basic information. But when such encounters carry a risk of ridicule, harassment or even arrest, people belonging to key populations tend to avoid them. Young people in many countries face age-of-consent restrictions on services for sexual and reproductive health and HIV prevention and testing. Outreach services can navigate these difficult environments, but they are rarely provided at the scale required to reach everyone in need.

Increasingly sophisticated social media platforms offer new opportunities to use cyberspace to sidestep some of those hindrances. Many hundreds of millions of people connect and congregate online each day—socializing, searching for information, sharing experiences and opinions, and meeting sexual partners.

In early 2019, about 57% of the global population was connected to the Internet, and there were approximately 3.5 billion social media users, almost all of whom accessed social media on their mobile phones (1–3). Some of the heaviest Internet users are in South-East Asia: people in Indonesia, the Philippines and Thailand spent an average of more than eight hours a day online in 2018 (2).

**FIGURE 3.6** Bringing together three generations of HIV outreach



Source: FHI 360, LINKAGES project. A vision for going online to accelerate the impact of HIV programs. Washington (DC): FHI 360; 2019.





HIV programmes are increasingly unlocking the potential of these virtual communities. An example is Going Online, a framework for using online and mobile phone platforms to make it as easy, attractive and discreet as possible for people who shun conventional service models to assess their HIV risk and then access the services they need (4). Developed and managed by the LINKAGES project, Going Online employs a range of safe online outreach and modern marketing approaches to reach and engage people in interactive HIV services.<sup>1</sup> These approaches include one-on-one online outreach, known as social network outreach, and broader marketing approaches, such as online-focused advertising and promotions on social media (Figure 3.6) (5).

In Jakarta, Indonesia, the Going Online framework is being used to reach men who are at high risk of HIV infection and who socialize online (6). A review of available online marketing data shows that there are tens of thousands of gay men and other men who have sex with men using social media and dating apps, but that they typically are not being reached with existing outreach services (7, 8).

LINKAGES started the process by gathering a community advisory team of in-the-know young men, some of whom are openly gay. The team, working with a local creative agency, developed an eye-catching and non-stigmatizing online brand called UpdateStatus.id, which launched in mid-2018. It is an easy-to-use

<sup>1</sup> The LINKAGES project is led by FHI 360 in partnership with IntraHealth International, Pact and the University of North Carolina at Chapel Hill. It is supported by the United States Agency for International Development (USAID) and the United States President's Emergency Plan for AIDS Relief (PEPFAR).

website that allows people to gather HIV information, assess their risk for HIV and book appointments for HIV services at 10 clinics in Jakarta.

LINKAGES supports UpdateStatus.id by developing online content and social media advertising campaigns, and by recruiting well-known social media influencers (usually young people) who have established credibility among their followers (5). The influencers promote knowledge about HIV risk among their online followers and steer them towards appropriate services, including booking clinic appointments on the UpdateStatus.id site.

One of the influencers working with the programme is Acep Gates, an openly gay young Indonesian YouTube star (see box). Another is Rory Asyari, a popular journalist for MetroTV, who has a stylish social media presence and who campaigns for equality, the environment and HIV awareness.

Also grabbing attention online is @Catwomanizer. Her risqué riffs about dating, sex and love are getting thousands of young women talking about various subjects—including HIV—that are typically taboo for public discussion in Indonesia.

"People need to know how to protect themselves and their loved ones," says @Catwomanizer. "People need to know there's hope, that being HIV-positive isn't a death sentence."

@Catwomanizer believes that the biggest challenge to the HIV response in her country is social stigma

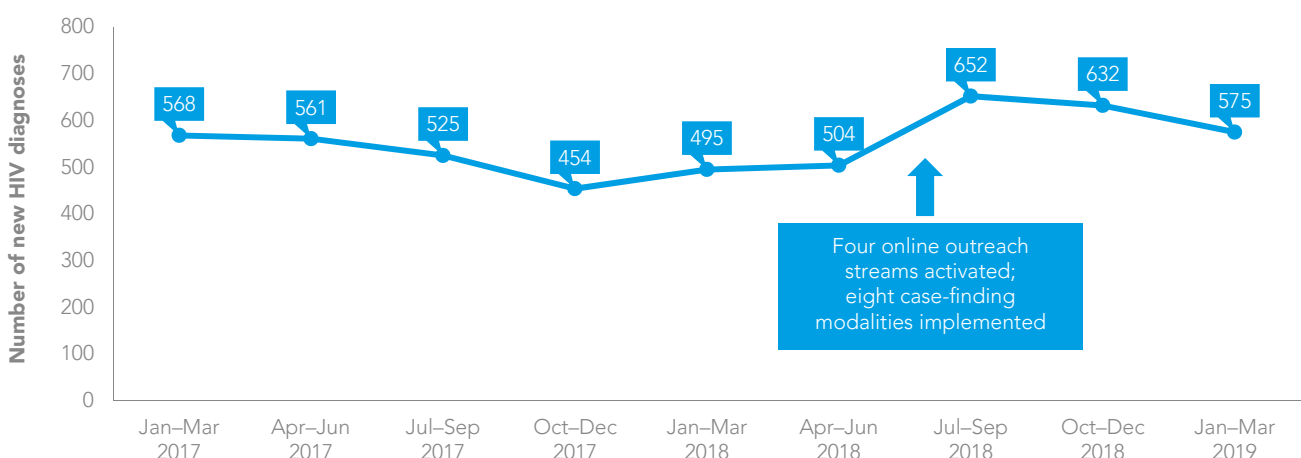
and the lack of information about HIV among young people. The most common questions she gets on social media are whether "touching/kissing/swimming/sucking someone's nipple/giving oral sex can make you HIV-positive." She engages with her Instagram followers by reposting their questions and comments, and then getting technical advisers from LINKAGES to provide answers and clarification.

An unusual question helped catapult @Catwomanizer to online fame in Jakarta. In mid-2018, a follower asked whether having a facial at a spa carried any risk of HIV infection. @Catwomanizer set the record straight with a series of posts that made newspaper headlines and went viral online, tripling her followers to more than 70 000 within weeks. By the end of May 2019, she had attracted 140 000 followers and had recruited nearly 7000 of them to assess their risk on UpdateStatus.id.

"I think my broader contribution has been reducing social stigma and opening a safe virtual space for discussing issues related to sex, sexual health and sexuality that are rarely discussed in Indonesia," says @Catwomanizer.

Within four months of being launched, UpdateStatus.id had more than 23 000 visits and almost 12 000 completed HIV risk assessments. When influencer promotions were intensified in September and October 2018, traffic on the site spiked, and there was a 58% increase in HIV case finding at clinics accepting appointments from UpdateStatus.id, which contributed to a 22% increase in HIV case-finding in Jakarta (Figure 3.7) (5).

**FIGURE 3.7** HIV diagnoses by quarter, Jakarta, Indonesia, January 2017–March 2019



Source: Data from USAID/LINKAGES and the Jakarta Provincial Health Office (provided by FHI360).



The community advisory team has stayed involved, reviewing and revising the interactive tools for online risk assessments and booking appointments, testing the appeal of specific influencers among target audiences, and advising the HIV clinics that receive online user referrals. This has helped create an attractive, flexible and responsive HIV service in a stigmatizing environment (8).

### The time is now

A project based in Curitiba, Brazil, is showing that it is feasible to provide a full range of online HIV testing and counselling services. Called A Hora E Agora (The Time is Now), the project involves a specially created web-based platform and mobile phone app and uses gay online sites and social media to offer HIV information, facilitate self-assessment of risk and deliver HIV self-testing packages to eligible individuals (by mail or collection at a pharmacy). These online services are linked to a health clinic that offers diagnosis and treatment for STIs, rapid HIV testing at user-friendly hours, and linkage to antiretroviral therapy, PrEP, post-exposure prophylaxis and emotional support.

Over 24 months, the project received more than 7300 requests for self-testing kits. Almost one third (31%) of the men reached had never taken an HIV test before. The project has been expanded to São Paulo, Brazil's largest city (9).

Research from Thailand suggests this kind of approach is not only acceptable but that it can be highly effective for diagnosing people who are living with HIV but who do not use standard testing services. A study done in Bangkok and Pattaya compared face-to-face HIV counselling and testing with online counselling and online, supervised self-testing among transgender women and gay men and other men who have sex with men. It found the online approach was highly acceptable, attracted a much higher proportion of first-time testers (47.3% versus 18.1%) and yielded a bigger proportion of HIV diagnoses (15.9% versus 3.4%) (10).

In Jamaica, the civil society organizations iFLEX and the TABS Project are collaborating with the National Family Planning Board to take their outreach work online with support from LINKAGES. In their work, the focus is on building a lifestyle-focused social media presence to connect with target audiences of transgender people and gay men and other men who have sex with men.

Alex Sterling of iFLEX became involved with the LINKAGES online outreach project after seeing close friends suffer mental breakdowns when they were diagnosed with HIV. "I felt it was necessary to support a project that tries to prevent other members of the community [from going] through a similar experience," he recalls.



It's a difficult task in a society where the lesbian, gay, bisexual, transgender and intersex (LGBTI) community is highly stigmatized and many gay men and other men who have sex with men are afraid to access HIV services.

The project posts professionally designed ads, memes and videos on social media platforms to promote HIV testing—a method known as “passive outreach.” That component is combined with active outreach that links people to an online outreach worker, such as Mr Sterling, so they can assess their HIV risk.

"Interacting with a real person while being able to remain anonymous encourages people to ask questions without fear of ridicule or judgment," he believes. "And people appreciate that we talk to them as if we're friends and just sharing some information, instead of [giving them] a lecture."

Online outreach workers can also arrange face-to-face meetings with a counsellor in a safe place, or they can arrange a referral to nearby HIV services. iFLEX and TABS facilitated more than 2500 online chats between clients and outreach staff from December 2017 to May

2019, and they supported almost 750 people to take an HIV test. Individuals who tested HIV-positive (3% of those who took an HIV test) were linked to treatment. Almost half (44%) of the new HIV cases that TABS assisted during 2018 were diagnosed through the new online outreach approach (6).

Valuable lessons are being learned. Provocative and relevant content attracts the most traffic—and the target audiences are best placed to advise on building that content. Novelty matters, and keeping the material fresh requires dedicated resources and effort. A specific challenge at the moment is to narrow the wide gap between the number of people who assess their risks online and those who go on to make appointments with service providers and take an HIV test (11).

"A lot of young men and older, inexperienced men are just starting to explore their sexuality due to easy access to the Internet and dating apps," says Mr Sterling. "I want to use this platform and my position of privilege to ensure that they are able to explore their sexuality freely but safely." ■

## ADDRESSING THE EVOLVING RISKS FACED BY KEY POPULATIONS

**As the dynamics of HIV risk faced by key populations evolve, two important pieces of operational guidance are expected to be finalized by the end of 2019. The UNODC-led *Implementation guide on HIV prevention, treatment, care and support for people who use stimulant drugs* will describe how to implement a package of HIV prevention, treatment, care and support interventions that have been shown to effectively meet the needs of people who use stimulant drugs. The guide stresses the importance of better integrating HIV, viral hepatitis and STI services for people who use stimulant drugs.**

**UNFPA and UNHCR are developing operational guidance titled *Responding to the health and protection needs of people selling or exchanging sex in humanitarian settings*. The guidance responds to a need for stronger assistance and protection of people engaged in selling or exchanging sex in humanitarian settings. This diverse group of people share an increased risk of stigma, violence and their health consequences, including HIV infection. The operational guidance aims to create awareness about their specific situations and needs, and it proposes a set of basic principles of action and a concrete approach for the provision of protection and assistance.**

## SHARING SEXUAL HEALTH ADVICE THROUGH YOUTUBE AND INSTAGRAM

### COMMUNITY VOICES



**ACEP SAEPUDIN, A YOUNG, OPENLY GAY AND HIV-POSITIVE INDONESIAN MAN, HAS BECOME A PROMINENT SOCIAL MEDIA INFLUENCER IN HIS COUNTRY. KNOWN ONLINE AS ACEP "GATES", HE HAS BEEN POSTING YOUTUBE VIDEOS DESCRIBING HIS EXPERIENCES WITH HIV SINCE BEING DIAGNOSED IN 2018.**

**Q: How did you get involved in helping your community?**

**A:** I am a YouTuber. I am living with HIV. And I am concerned about issues affecting LGBTI people. I was diagnosed [as] HIV-positive in September 2018, and I decided to record videos and upload them to YouTube to document my journey with HIV. In my first video, I explained some of my symptoms from my initial infection. I was so surprised that it was viewed about 2 million times! So I decided to upload more videos to help educate people and reduce stigma and discrimination against people living with HIV. People and organizations then reached out to me to collaborate on sexual health and HIV programmes in Jakarta, including nongovernmental organizations, TV radio stations and medical centres. Now I help educate young people about HIV and help facilitate their access to HIV services. Through Instagram (@Acep gates) and YouTube (Acep Gates), I link them to platforms such as UpdateStatus.id and Tanya Marlo (Ask Marlo), where they can book services at clinics.

**Q: What has your own experience been like?**

**A:** It was a huge challenge to come out as HIV-positive and gay, particularly because my family is religious and because we live in one of the most conservative cities in Indonesia. But what makes me so happy is that my family is also very wise and has come to accept me for who I am. Others have

reached out to support me in case of any incident or backlash. This support helps me to feel safe speaking out and educating others. People need to know about LGBTI people, their lives and the challenges they face, including HIV.

**Q: What are the biggest challenges for the community you serve?**

**A:** The lack of sexual education for youth. In Indonesia, sex is considered very taboo, and it's not brought up in schools and not usually discussed well within the family. This situation makes it difficult for young people to easily discuss and seek help for sexual health needs, especially about HIV.

**Q: What are the biggest challenges for the HIV response in your country?**

**A:** The biggest challenge is the social stigma surrounding people living with HIV. There are so many misconceptions about HIV, such as it being a punishment from God for having sex before marriage. For me, this stigma comes from some of the prominent national HIV campaigns that say HIV is the same as AIDS and make everyone think that HIV infection means sickness, death and easy transmission. This leads people to stigmatize, fear and avoid people living with HIV, instead of increasing understanding and bringing people together to end HIV. ■

## A CHATBOT ANSWERS YOUNG PEOPLE'S HIV QUESTIONS IN INDONESIA

Our behaviour online may at times be freewheeling, but it can still be difficult to discuss intimate issues with other people, even in cyberspace. Tanya Marlo (Ask Marlo) is a chatbot developed by UNAIDS to answer the HIV-related questions of young people.

About half of new HIV infections in Indonesia are among young people (aged 15–24 years), yet their knowledge of HIV is poor: only 14% of young men and 15% of young women have comprehensive knowledge on HIV (12).

Chatbots are virtual characters that can simulate conversations by using artificial intelligence technology. Well-designed chatbots are responsive, flexible and easy to use. Developed in partnership with two Indonesian firms, the Tanya Marlo chatbot was designed for young Jakarta residents who are dating or sexually active, but who are not being reached through traditional HIV outreach programmes.

Integrated into the popular chat app LINE, the chatbot can initiate conversations with users and push messages to spark their interest and

desire to learn more about HIV. Tanya Marlo uses slang and cultural references that are familiar to young people.

"I am so pleased that there is a chatbot like this on LINE," one user remarked. "People my age don't know much about HIV and are ashamed to ask. With Marlo, it is so easy to be informed about HIV."

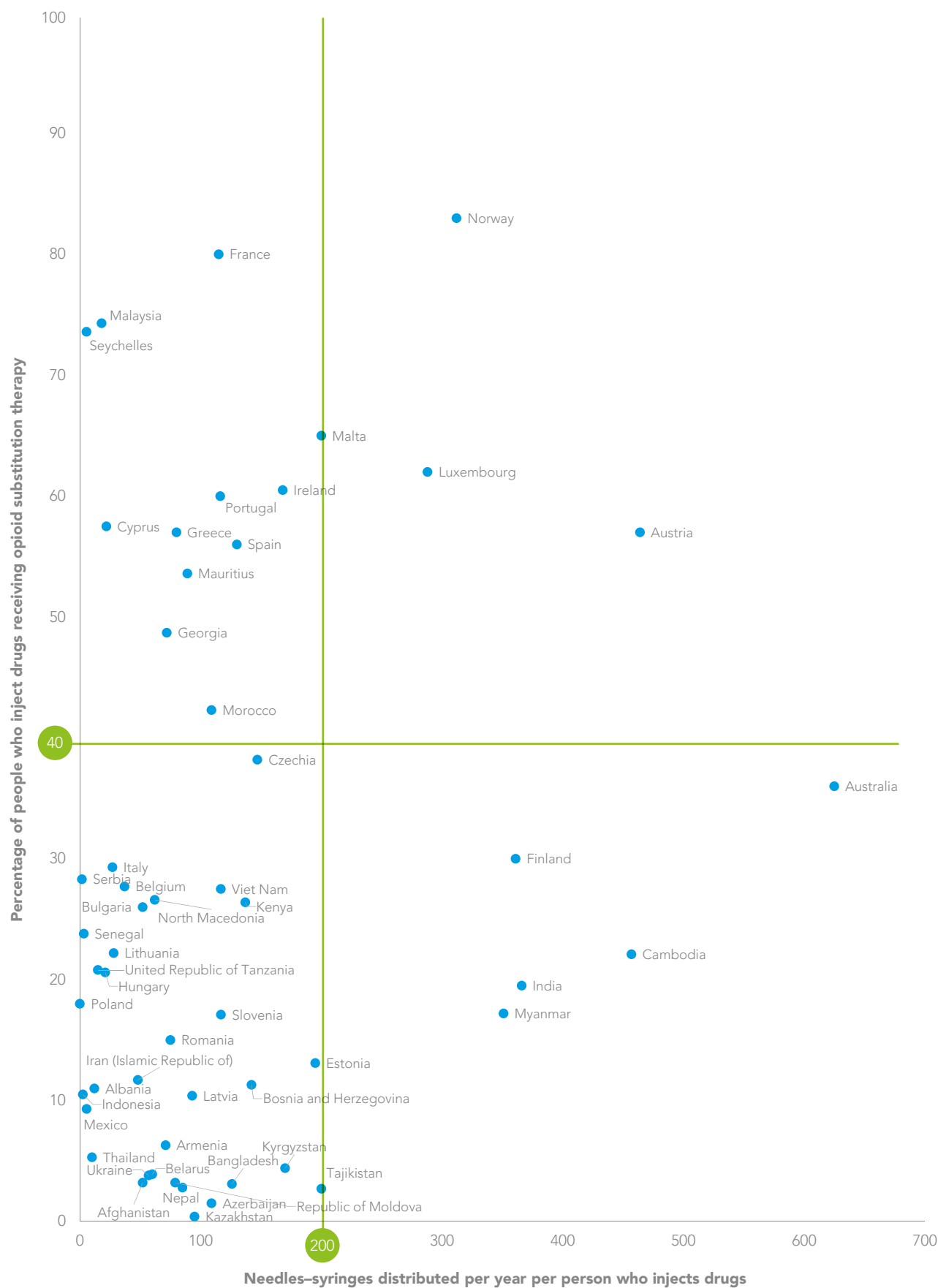
The chatbot has four main features: HIV Info, Quiz, Counselling and HIV Test. HIV Info is its most frequently accessed feature. It allows users to access snappy online content—such as short videos, infographics and factoids—that is grouped by themes such as "myths and facts about HIV." Its content is constantly being updated and combined with marketing campaigns.

Counselling is an important feature. It offers users the option to connect to an actual counsellor from Jaringan Indonesia Positif (the Indonesia Positive Network), who can offer the emotional support and detailed information people may need to take an HIV test or seek further assistance. ■



THE TANYA MARLO CHATBOT WAS DESIGNED FOR YOUNG JAKARTA RESIDENTS WHO ARE DATING OR SEXUALLY ACTIVE, BUT WHO ARE NOT BEING REACHED THROUGH TRADITIONAL OUTREACH PROGRAMMES.

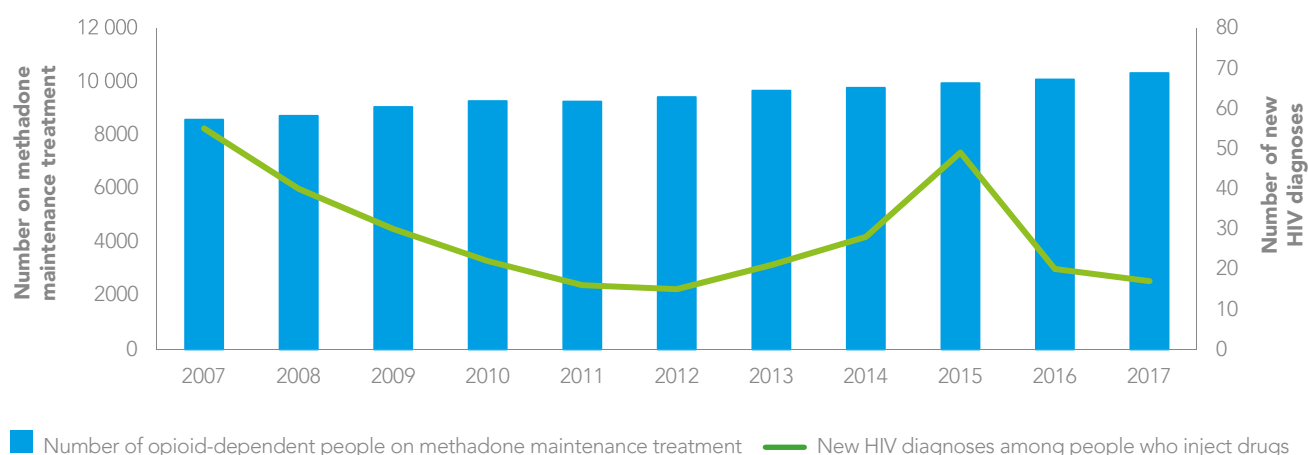
**FIGURE 3.8 Coverage of needle-syringe programmes and opioid substitution therapy, selected countries, 2014–2018**



Source: Global AIDS Monitoring, 2014–2018.



**FIGURE 3.9** Number of opioid-dependent people on methadone maintenance treatment and new HIV diagnoses among people who inject drugs, Ireland, 2007–2017



Note: There was an outbreak of HIV among homeless synthetic cathinone users in Dublin in 2015. This is reflected in the number of people newly diagnosed with HIV. Please see: Ireland: Country Drug Report. In: European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) [Internet]. Lisbon: EMCDDA; [date unknown] ([http://www.emcdda.europa.eu/countries/drug-reports/2019/ireland/drug-related-infectious-diseases\\_en](http://www.emcdda.europa.eu/countries/drug-reports/2019/ireland/drug-related-infectious-diseases_en), accessed 16 June 2019).

Source: Delargy I, Crowley D, Van Hout MC. Twenty years of the methadone treatment protocol in Ireland: reflections on the role of general practice. *Harm Reduct J*. 2019;16:5.

## Huge gaps in harm reduction for people who inject drugs

People who use drugs have been the biggest casualties of the global war on drugs. Vilified and criminalized for decades, they have been pushed to the margins of society, harassed, imprisoned, tortured, denied services, and in some countries, summarily executed.

Amid this widespread stigma and discrimination and violence, people who inject drugs are beset by persistently high rates of HIV. Viral hepatitis and tuberculosis rates among people who use drugs also are high in many parts of the world. These preventable and treatable diseases, combined with overdose deaths that are equally preventable, are claiming hundreds of thousands of lives each year.

This is a problem that has a clear solution: harm reduction. Study after study has demonstrated that comprehensive harm reduction services—including needle-syringe programmes, drug dependence treatment, overdose prevention with naloxone, condoms, and testing and treatment for HIV, tuberculosis, and hepatitis B and C—reduce the incidence of blood-borne infections, problem drug use, overdose deaths and other harms. Countries

that have successfully scaled up harm reduction have experienced steep declines in HIV infections among people who inject drugs. In Ireland, for example, new HIV diagnoses among people who inject drugs have decreased by 70% since methadone maintenance therapy was introduced (Figure 3.9).

However, change within many countries has been slow. Needle-syringe distribution and opioid substitution therapy coverage remain low in most of the 54 countries that have reported data for both indicators to UNAIDS in recent years. Just three high-income countries—Austria, Luxembourg and Norway—reported that they had achieved United Nations-recommended levels of coverage for these programmes (Figure 3.8). Those three countries are home to less than 1% of the global population of people who inject drugs.

A special UNAIDS report, *Health, rights and drugs: harm reduction, decriminalization and zero discrimination for people who inject drugs*, was published in March 2019, ahead of the Ministerial Segment of the 62nd Session of the Commission on Narcotic Drugs. The report reviews in detail the availability, gaps, enablers and barriers to comprehensive harm reduction services. ■

**FIGURE 3.10** Condom use among men (aged 15–49 years) at last high risk sex with a nonmarital, noncohabiting partner, national and subnational, countries with available data, 2012–2018

Source: Population-based surveys, 2012–2018.

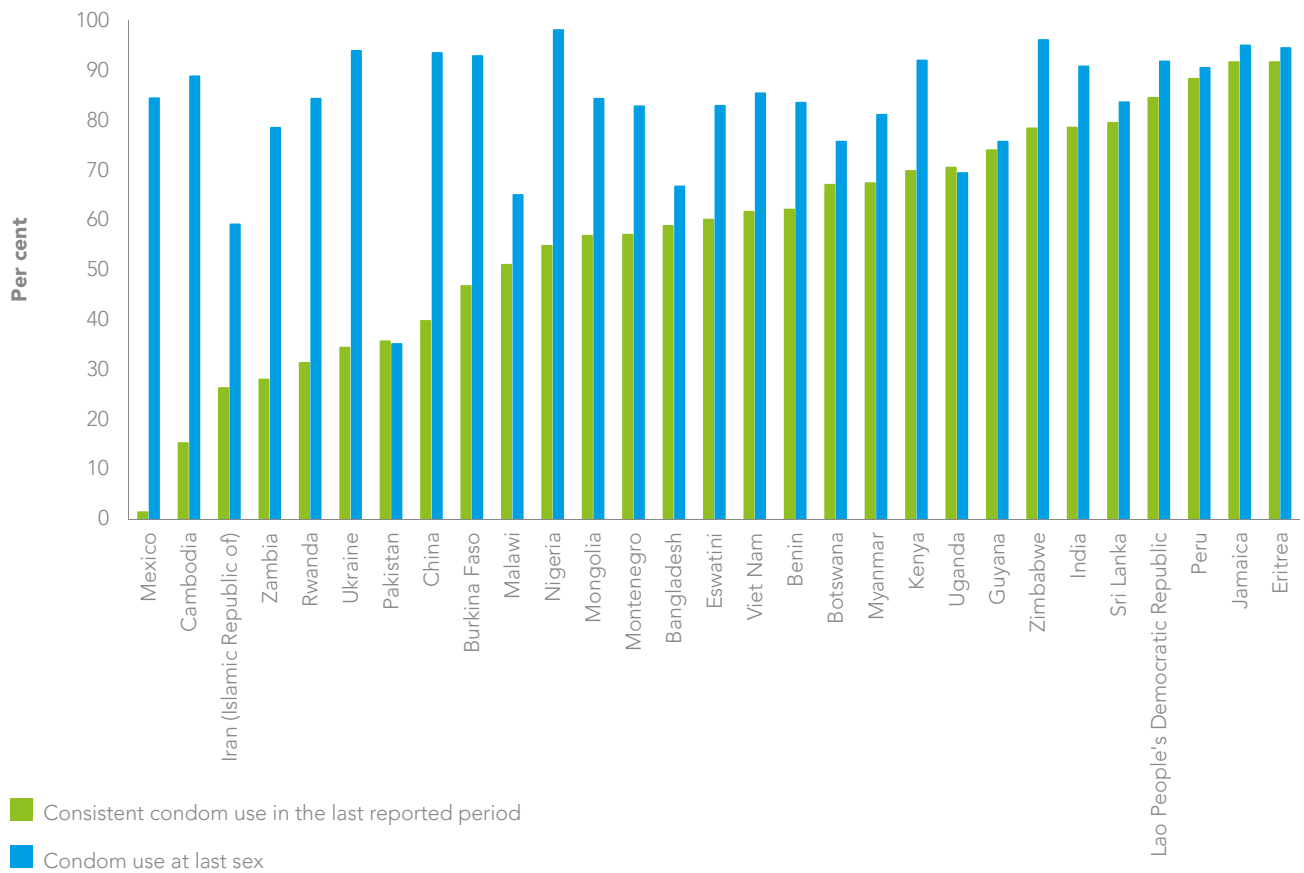
### Consistent condom use is achievable

Condoms are a cheap and highly effective means of preventing HIV, STIs and unwanted pregnancies. Condom use appears to have increased in most of sub-Saharan Africa over the last decade. Among the 17 countries in the region with at least two Demographic and Health Surveys conducted since 2008, 13 countries showed increases in reported condom use among young women (aged 15–24 years) at last higher risk sex with a nonmarital, noncohabiting partner, while there were decreases in Benin, Ethiopia, Ghana and Madagascar.

However, despite their many advantages, median condom use by men at last higher risk sex in 27 sub-Saharan African countries with recent data was only 58.6%, far from the global target of 90% by 2020. Specific districts or municipalities in 11 of these countries have achieved 80% condom use by men at last higher risk sex (Figure 3.10). In approximately half

of the 27 countries, condom use was highest in the capital city. Countries with already high condom use can optimize programmes by learning from their high-performing cities and other locations. Countries with medium condom use show considerable variation in use, suggesting high potential for internal and cross-country learning, while countries with low condom use could primarily learn from countries with high use.

Sex workers often report condom use with their last client. However, many struggle to negotiate condom use with all of their clients. In some countries, condoms are also still used by law enforcement officers as evidence of sex work, discouraging sex workers from keeping enough supplies with them. Data from 29 countries show that there is a large difference between reports of condom use at last sex among sex workers and consistent use of condoms. Twenty-one countries reported 80% or higher condom use at last sex, but just four reported consistent condom use of 80% or higher (Figure 3.11). ■

**FIGURE 3.11** Condom use among sex workers, selected countries, 2014–2018

Source: Literature review by UNAIDS and the Key Populations Program of the Center for Public Health and Human Rights, Johns Hopkins University. See references at the end of the chapter for details.



## COMMUNITY-BASED HIV PREVENTION FOR SEX WORKERS ON THREE CONTINENTS

A little respect and kindness go a long way for sex workers in Zimbabwe as they seek the services they need to stay healthy.

"We used to cry, you know, when you get to a queue and you are asked, 'How are you this morning?'" explained an older sex worker from Mutare, recalling one of her first visits to a clinic run by the Sisters with a Voice project (Sisters). "We didn't experience this when we were growing up, a person saying 'Good morning to you, girls,' [and] smiling. ... It has an impact" (13).

Preventing STIs, including HIV, among sex workers and their clients is a challenge in nearly all epidemic settings (14, 15). Standard public health services are seldom attractive options for sex workers, particularly in places where they are criminalized and socially ostracized.

Services that are nonjudgmental, easy to reach and customized to the needs and routines of sex workers are more effective, and reliable peer support is highly valued (16, 17). Often, however, such community-based and tailored approaches for sex workers exist only in small, scattered projects with limited scope and coverage (18).

Zimbabwe is a notable exception. Supported by a network of trained peer educators, the Sisters programme provides female sex workers with free preventive and clinical services, including condoms and lubricant, syndromic management of STIs, contraceptive advice and options, HIV testing, referral to antiretroviral therapy at public sector clinics for women diagnosed with HIV and, as of April 2019, PrEP.

Peer educators were hired and trained to build trust, strengthen community outreach and sensitize health workers. Workshops were held for sex workers to provide information and foster greater solidarity among them. Health-care workers were trained to provide "sex worker-friendly" services and were then assigned to "shadow" nurses at Sisters' clinics (13).

The context in Zimbabwe remains challenging. Sex work is illegal and highly stigmatized, and sex workers are at extremely high risk of HIV infection. HIV incidence as high as 10% per year has been estimated for this key population, and HIV prevalence is an estimated 58% (19). Many sex workers are reluctant to attend public

clinics due to the discriminatory and hostile attitudes they encounter there. The Sisters programme addresses these barriers through a strong focus on community empowerment and support.

The improvements at the Sisters clinics have gradually earned the trust of sex workers.

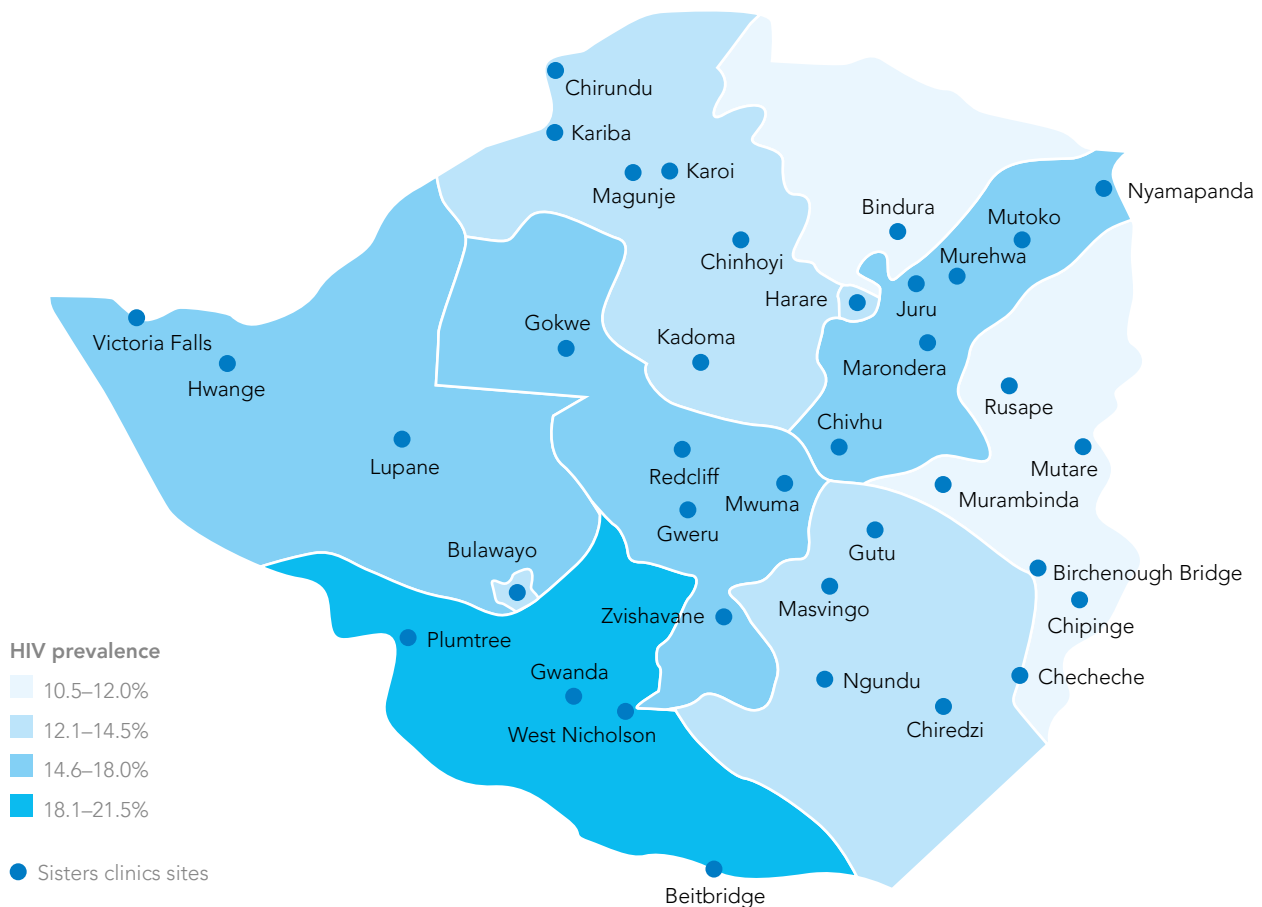
"When the clinic started, there were just a few people who would come because they were scared," recalled a woman from Hwange who began selling sex in her early 20s. "Now there are many, and they even come to ask when the [mobile] clinic will be coming because they want to go there, something which never used to happen back then, but now a lot of people come to the clinic" (13).

Community mobilization sessions also helped build trust between the sex workers, strengthening solidarity and mutual support. "What has changed is that sex workers are more united ... it's a bond," said a 34-year-old sex worker from Mutare (13).

The programme began at five sites about a decade ago, and it has steadily expanded to 36 clinics (see Figure 3.12). Most clinics are located in urban areas and on highway transportation routes. Over time, additional peer educators have been recruited, trained and supported, allowing for more intensive outreach and mobilization in cities and towns. In 2014, the Young Sisters programme was developed; it is now being delivered by teen peer educators to improve access to services for young sex workers.

In 2017, Sisters clinics served more than 24 000 women, and by September 2018, the clinics had achieved a cumulative total of 194 000 visits from more than 67 000 women since the programme was established a decade earlier (20). It is estimated that more than half of the female sex workers in the country have used Sisters services at least once. Condom use has increased over time: in 2017, 52% reported consistent condom use with all clients in the previous month, up from 24% in 2015 (20).

When the Sisters project began, the majority of female sex workers were unaware of their HIV status; about one third of them had never tested for HIV. Among those living with HIV, only about one third were receiving antiretroviral therapy. By 2017,

**FIGURE 3.12 Sites of Sisters clinics and adult HIV prevalence by province, Zimbabwe, 2017**

Source: Cowan FM, Chabata ST, Musemburi S, Fearon E, Davey C, Ndori-Mharadze T et al. Strengthening the scale up and uptake of effective interventions for sex workers for population impact in Zimbabwe. *J Int AIDS Soc.* [In press].

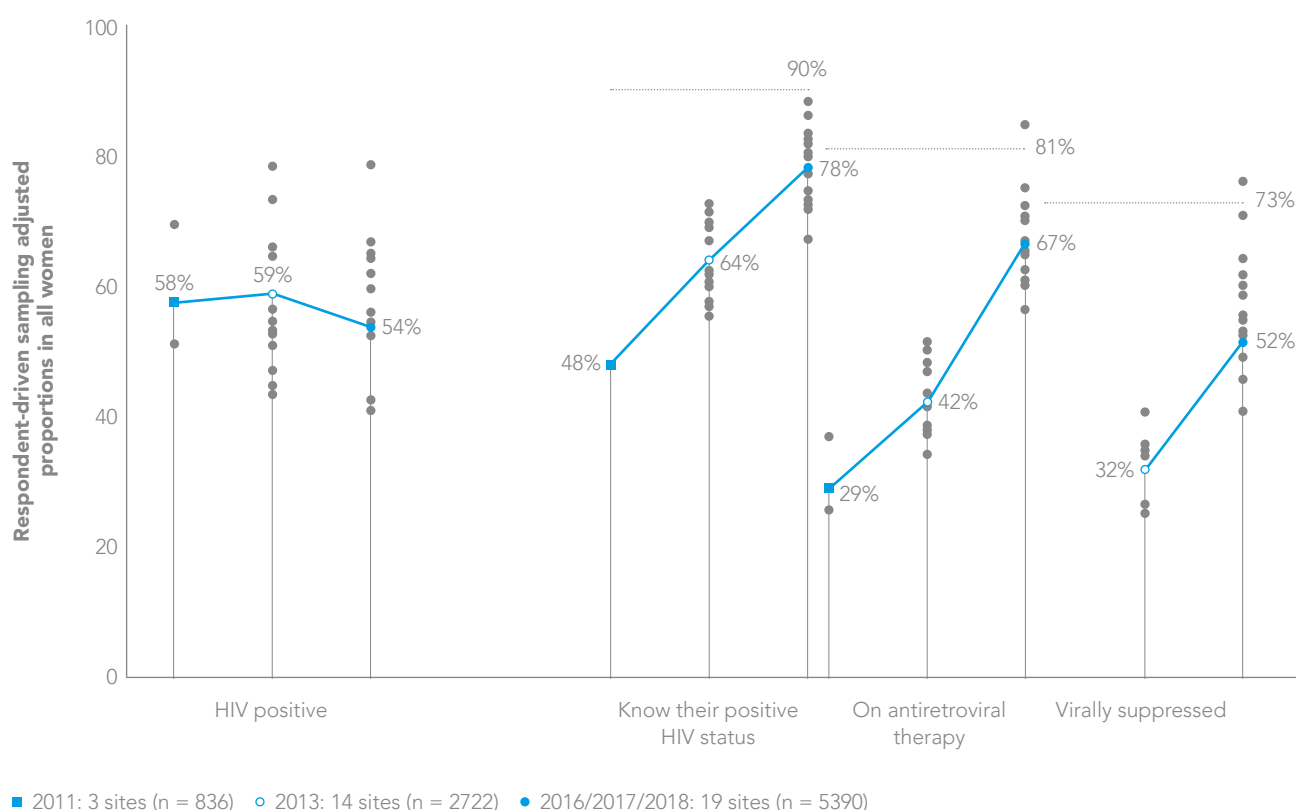
however, research conducted among representative samples of more than 9000 sex workers from across all Sisters sites showed that almost all of the women had previously tested for HIV, and an increasing proportion of those living with HIV were receiving antiretroviral therapy (20).

Among female sex workers living with HIV, knowledge of HIV-positive status increased from 48% to 78% between 2011 and 2016; among those who knew their status treatment access increased from 29% to 67%; more than half of those on treatment had suppressed viral loads; and among all female sex workers living with HIV, 66% were virally suppressed (Figure 3.13) (20). Significantly, these improvements have occurred in a changing context. A September 2015 court order signalled that Zimbabwean police were no longer allowed to arrest sex workers, a decision that appears to have deterred some police harassment: a review of survey data found that between December 2013 and March 2016, the percentage of female sex workers

who said they had been stopped by the police in the previous year decreased from 50% to 30% (21, 22). This suggests that even without full decriminalization, legal improvements can quickly have a positive impact (23).

A review of the Sisters programme noted that even better results could be achieved by further intensifying community engagement and empowerment, focusing and differentiating services more precisely, and setting up self-help groups to build trust, social cohesion and community ownership (20). Ideally, such self-help groups should evolve into sex worker-led, community-based organizations (24).

Recent modeling suggests that increasing the coverage and intensity of empowering female sex worker programmes such as Sisters—alongside a well-functioning national antiretroviral therapy programme—could virtually eliminate HIV transmission associated with sex work in Zimbabwe. This would have a substantial impact on the country's overall HIV epidemic (20).

**FIGURE 3.13** Engagement of female sex workers in the HIV care cascade in Zimbabwe, 2011, 2013, 2016/2017/2018

Source: Cowan FM, Chabata ST, Musemburi S, Fearon E, Davey C, Ndori-Mharadze T et al. Strengthening the scale up and uptake of effective interventions for sex workers for population impact in Zimbabwe. *J Int AIDS Soc.* [In press].

## Sharing lessons across continents

The Sisters programme built on evidence from India that shows how community-led services can increase condom use and reduce HIV and STI rates among female sex workers (25, 26). In some cases, sex worker organizations in India have taken the lead in designing and managing HIV projects for their communities. Two of these organizations have developed and managed PrEP studies: the Durbar Mahila Samanwaya Committee (Women Strong Together) in Kolkata, West Bengal, and Ashodaya Samithi (Dawn of Hope) in Mysore, Karnataka.

Durbar Mahila Samanwaya Committee is a pioneering project set up in 1995 that now has 65 000 members. It runs 49 health clinics with more than 500 staff (80% of them sex workers); it also operates the largest cooperative bank for sex workers in Asia, educational centres and other projects. Ashodaya Samithi is smaller, with about 8000 members of all genders. It also manages a health programme, a community bank and social security services (27).

In Ukraine, the nongovernmental organization Convictus is bringing round-the-clock services to the estimated 10 000 sex workers who are active in and around the country's capital, Kyiv (28). Convictus' long-standing work with sex workers of all genders has shown the need for HIV and health services that are convenient and diverse and that match people's lives. To reduce the high HIV prevalence among sex workers (which is 5.2% nationally and up to 36% among sex workers who inject drugs), it developed a model for providing health services out of a small facility in the centre of the city and through mobile units that visit sex workers at hotels, saunas, truck stops, brothels and apartments (29).

The consulting center is open from 10 am until 6 pm. Supplementing it is a mobile team that hits the streets at 7 pm, using Convictus contacts within the sex worker communities and monitoring social media to stay up to date on the sites where sex workers are congregating. The team usually stops work at 1 am, at which point a second mobile unit has already started doing its rounds of Kyiv and the surrounding areas where the



most vulnerable sex workers, many of whom lack documentation and shun state-run services, are found.

Convictus outreach staff include former sex workers, such as Iryna, who began selling sex in her late teens in a bid to finance her music studies.<sup>2</sup> The consulting centre became a refuge and source of support as she endured arrests, rapes and assaults. The centre hired her to help provide outreach services that now reach 4600 sex workers each year—about half of the city’s sex worker population. Those services are credited with achieving high levels of condom use (94%) during sex work, a remarkable achievement given that sex work remains criminalized and highly stigmatized (30). Data from special surveys show that HIV prevalence

among young sex workers (aged 25 years and young) in Ukraine declined from 3.0% in 2011 to 1.3% in 2017 (30, 31). Declining trends in HIV prevalence among young people suggests a decline in new HIV infections.

Each situation presents its own mix of challenges, but the evidence clearly shows that community-led HIV services for sex workers can have a potent impact. A 2015 systematic review of HIV programmes among female sex workers in low- and middle-income countries found that interventions with strong empowerment elements increased the odds of consistent condom use with clients by more than 300% and reduced the odds of HIV infection by 32% (32). ■



A Convictus outreach worker provides condoms to street-based sex workers in Kyiv, Ukraine.  
Credit: Convictus

2 Not her real name.



## SEX WORKERS SUPPORTING EACH OTHER TO KNOW AND CLAIM THEIR RIGHTS

### COMMUNITY VOICES

**NATALIA ISAIEVA IS AN ACTIVIST AND SEX WORKER FROM UKRAINE. SHE IS THE DIRECTOR OF THE NONGOVERNMENTAL ORGANIZATION LEGALIFE-UKRAINE.**

For many sex workers in Ukraine, facing the abuse of power is part of their daily life. But it doesn't have to be that way: they can defend themselves from such abuses, using the legal system to defend their rights—if only they know how. I know, because I have done that myself.

My decision to help the sex worker community is directly related to my sense of belonging. When I talk with sex workers about their legal rights, I draw not only on the law, but also on my own personal experience as a sex worker living with HIV.

Like all women, I have multiple roles and identities. Apart from being a sex worker, I'm also a mother of two beautiful children, a wife and an activist. I wasn't always an activist, but in 2005, a sex worker community organization helped me to get antiretroviral therapy. I then became a volunteer. I helped as best I could, and from that modest start, I have since followed a path from a peer-to-peer counsellor for people living with HIV, to an outreach worker for HIV prevention among sex workers, to an advocate for the rights of sex workers. Based on my personal experience, I began to counsel sex workers

on how to respond to illegal detention by the police. I successfully defended my own rights after unlawful detention and abuse of authority by the police in 2008.

Our nongovernmental organization, Legalife-Ukraine, was created in 2012 by former and active sex workers to help their peers. We also became part of a regional network of sex workers: the Sex Workers Advocacy Network (SWAN). My daily work is to lead Legalife-Ukraine and take responsibility for the implementation of projects, but I remain an individual who knows the value of this national, regional and global movement of sex workers, and I guide Ukrainian sex workers to play their part in it.

Now the goals we want to achieve are becoming clearer. We remain focused on our goal of the decriminalization of sex work. The authorities and population at large do not recognize that sex work is work, and they may continue to pursue control by force and by law. Under these circumstances, our work has a specific target audience, which is not society as a whole, but the parliament. Activists train sex workers at the city level, establish partnerships with various organizations and institutions, and plan joint activities. We build momentum and move forward to change policies and laws.

Decreasing donor funding makes it challenging to build capacity and mobilize our community. But our movement is nonetheless becoming stronger. The meaningful and full participation of sex workers in all processes is essential. Sex workers know that it will not be possible to address the HIV epidemic, no matter how many different HIV programmes and services are implemented, if the affected people themselves are forced to live in the shadows. ■

## PrEP roll-out: learning by doing

Countries are gradually adopting PrEP as an additional HIV prevention option for key populations and young people in high-prevalence settings who are at high risk of HIV infection (33). More than 25 low- and middle-income countries were operating PrEP projects in 2018 to gauge its cost and acceptability and to settle on appropriate service delivery methods. PrEP programmes were being implemented at the national level in fewer than 15 low- and middle-income countries, a number that is expected to rise (Figure 3.11).

More than 300 000 people globally took PrEP at least once in 2018 (Figure 3.10). This does not include the significant but unquantified number of people obtaining PrEP by private means, including online purchasing.

The United States of America remains the single largest provider of PrEP, with more than 130 000 current users in mid-2019. Kenya was one of the first sub-Saharan African countries to roll out PrEP as a national programme in the public sector. More than 30 000 people were accessing PrEP in Kenya in mid-2019, making it Africa's largest PrEP programme, ahead of South Africa, Uganda and Zimbabwe.

Retention and adherence are challenges for many PrEP efforts. Among gay men and other men who have sex with men participating in a trial in Abuja, Nigeria, interest was high, but only about half (49%) of the 614 participants initiated PrEP, and a little more than half (55%) of those men continued taking PrEP after three months. In Uganda, female sex workers were the most likely among key populations to agree to take PrEP, but retention rates at three and six months were low. One of the apparent hindrances to both uptake and retention was the small number of facilities that provided PrEP, which made it especially difficult for highly mobile women to keep taking PrEP (34). In some settings, scale-up of PrEP has coincided with a decrease in condom use, which can increase the risk of STI transmission and unplanned pregnancies (35, 36). These studies underscore the need to ensure that PrEP is offered as part of a comprehensive package of HIV prevention options.

Experience in other regions highlights the importance of close partnerships between health-care providers and community groups for stimulating demand, increasing knowledge and strengthening adherence to PrEP (37). Thailand's Princess PrEP programme uses a key population-led model for delivering PrEP. Working in partnership with formal health sector structures, community-based organizations train gay men and

A world map illustrating the global distribution of the four major world religions. The map uses a color-coded system: green for Christianity, orange for Islam, yellow for Hinduism, and red for Buddhism, Judaism, and Other. Christianity (green) is the most widespread, covering North America, South America, Europe, and Australia. Islam (orange) is concentrated in the Middle East, North Africa, and parts of Central and Southeast Asia. Hinduism (yellow) is primarily located in South and Central Asia. Buddhism, Judaism, and Other (red) are found in smaller, more localized regions across Asia and the Middle East.

Source: 2019 National Commitments and Policy Instrument; Hodges-Mameletzis I, Dalal S, Msimanga-Radebe B, Rodolph M, Baggaley R. Going global: the adoption of the World Health Organization's enabling recommendation on oral pre-exposure prophylaxis for HIV. *Sex Health*. 2018;15(6):489-500.

The VinaPrEP pilot project in Viet Nam has reported high retention: 84% after three months and 70% after nine months (39). Quality peer counselling and support, flexible clinic opening hours and responsiveness to community needs helped strengthen retention (39). Retention at three months was also strong in the national roll-out: 89% among gay men and other men who have sex with men and 85% among transgender women.

In countries with large proportions of Internet users, adapting existing offline health-care support for online platforms can potentially improve retention and adherence in PrEP programmes and link people to face-to-face services and support (38). Positioning PrEP programming as part of a positive life choice has proved highly effective in Australia and the United States (40). Potential breakthrough technologies of the future, such as vaginal rings and injectable antiretrovirals, may aid the scale-up of PrEP in challenging environments (41). ■

## JUST DO IT: MAKING AN IMPACT WITH PREP IN NEW SOUTH WALES

On the streets of cities in New South Wales, Australia, passersby encounter billboards and posters that ask “How do you do it?” and that announce “I do it every day,” “I do it on the go,” or even “I do it with my doctor.”

The ads are part of a bold campaign run by the nongovernmental organization ACON, the largest LGBTI

organization in New South Wales. ACON promotes PrEP alongside other HIV combination prevention options (like condoms and an undetectable viral load) to gay men and other men who have sex with men as a safe and effective way to avoid HIV infection. The ad campaign is part of an inspiring partnership between the state government and the gay community.



| Credit: ACON



Oral PrEP is highly effective for preventing HIV transmission, and it allows people who are HIV-negative to be in control of their HIV status (42–44). In several urban areas in North America, western Europe and Australia, a combination of PrEP use and high coverage of antiretroviral therapy for people living with HIV is having a population-level impact on the epidemic.

New South Wales introduced wide-scale PrEP use as part of its HIV strategy in 2016, using a major study, the Expanded PrEP Implementation in Communities—New South Wales (or EPIC-NSW), as a vehicle. The study, which was led by the Kirby Institute, aimed to assess the population-level effect of rapid, targeted and high-coverage PrEP for gay men and other men who have sex with men (45).<sup>3</sup>

Despite substantial increases in HIV testing and treatment since 2012, annual new HIV diagnoses had been stable in New South Wales for about a decade. PrEP quickly proved to be highly effective in reducing HIV transmission within the focus population. There was a significant decline in new HIV diagnoses in New South Wales, and among the 3700 men participating in the first year of the study, there were only two HIV seroconversions, both of which were linked to nonadherence (45). By April 2018, more than 9700 people were taking part in the study.

The latest data show that PrEP, combined with the immediate start of treatment for all people diagnosed with HIV, has reduced the number of new HIV diagnoses in New South Wales to the lowest level since 1985 (46). There have been no new HIV diagnoses among EPIC-NSW participants who continued to take PrEP as directed throughout the study.

“These technologies have been ground-breaking,” says Matthew Vaughan, a strategic planner with ACON, “especially for a community that has lived in the shadow of the AIDS epidemic and the spectre of HIV stigma.”

## How they did it

New South Wales is an example of what can be achieved when a full range of services are made available in an enabling environment for people who are at highest risk of HIV infection. Community organizations, such as ACON, have had a major hand in the success.

ACON has been working with the New South Wales Ministry of Health since being established more than 30 years ago. Backed by strong political commitment and sizeable state funding support, ACON became a key player in PrEP roll-out, working with clinicians, researchers, the ministry and other HIV nongovernmental organizations.

Political commitment came in the shape of a government strategy that specifically prioritized PrEP implementation and earmarked funding to support that choice (47). ACON's biggest source of funding is the New South Wales Ministry of Health (almost US\$ 7.6 million of a total income of US\$ 15.5 million in 2018). “We’re very lucky in New South Wales that we come from a state where there is a lot of political will to end HIV transmissions,” says ACON's Matthew Vaughan.

As the EPIC-NSW study grew, ACON cultivated interest and knowledge of PrEP among gay men and other men who have sex with men. ACON's *Is PrEP for You?* campaign helped popularize the PrEP conversation in the gay community. Also at hand was access to quarterly enhanced surveillance data, available within six weeks of the end of each quarter, which enabled informed decisions about where to target activities.

Next came the eye-catching *How Do You Do It?* prevention campaign.

“We wanted to promote all the strategies—condom use, PrEP and undetectable viral load—equally,” Vaughan recalls. “We also wanted to encourage people to make informed choices and to respect each other's decisions without judgment. These were complex but important messages, and it took us a while to get it right.”

The campaign uses multiple media, including print, public advertisements and social media. Videos with information about PrEP have had more than 200 000 views on social media channels. Advertisements are placed on other online platforms, including dating apps and Google Search, and at outdoor sites.

ACON's award-winning, interactive *Ending HIV* website has served as a platform for the campaign. Launched in 2012, it is well-resourced, culturally sensitive and very easy to use. An upgrade has made it mobile phone-friendly, enabling the website to log some 700 000 visits and almost 1 million page views in the 2017–2018 financial year.

<sup>3</sup> Led by the Kirby Institute, the University of New South Wales and the New South Wales Ministry of Health—and supported by community partners such as ACON—EPIC-NSW was the first large-scale trial of PrEP in Australia.



**"DIFFERENT MESSAGES WORK FOR DIFFERENT PEOPLE—THERE IS NO LONGER A 'ONE-SIZE-FITS-ALL' APPROACH."**

*Matthew Vaughan, ACON*

Credit: ACON

Alongside these virtual encounters, an intensive series of face-to-face outreach activities has been staged across the state. ACON has held more than 300 HIV prevention and awareness outreach sessions, as well as peer-run workshops on HIV, safe sex and risk reduction. Many thousands of safe-sex packs (containing condoms and lube) and pamphlets have been handed out at social venues and clinics.

ACON also has fine-tuned its services. It offers risk assessment to identify individuals at high risk of acquiring HIV, who it then links with PrEP service providers. Importantly, the campaigns place PrEP in a wider context of behaviour change, adherence support, training for service providers, STI screening and treatment, and HIV testing and treatment. The "Undetectable = Untransmissible" (or "U = U") message is an important aspect.

A major goal has been to encourage gay men and other men who have sex with men to test more frequently for HIV and other STIs. Pop-up HIV testing and STI screening events have been introduced to reach people living in suburban and rural areas

of New South Wales. Supplementing that work is constant monitoring of community attitudes about HIV programmes, particularly the shift towards early treatment and treatment as prevention.

The strategy has enjoyed several big advantages. HIV prevention in New South Wales is done within a formal partnership among the government, community organizations, researchers and clinicians, with strong central leadership and coordination from the state Ministry of Health. A bedrock of strong, affordable health service infrastructure already existed, including a state-wide network of free, publicly funded sexual health services, and a network of private medical practices predominantly serving the gay community. A well-functioning HIV surveillance system was also in place, and it was supplemented by a Kirby Institute-led project for the monitoring and evaluation of new prevention interventions. Added to this was the gay community's decades-long shared history of trying to control the HIV epidemic in its midst.

These resources have been used to powerful effect. The EPIC-NSW results have shown that a rapid,

targeted and high-coverage roll-out of PrEP can contribute to major reductions in HIV incidence at the population level. But, as ACON's Matthew Vaughan reminds, "this decline isn't only attributable to PrEP: other factors have played a role, including continuing high levels of condom use, earlier uptake of HIV treatment and the growing proportion of people living with HIV who have an undetectable viral load."

The result? The biggest reductions in HIV transmission rates in New South Wales in three decades.

In 2018, 17% fewer New South Wales residents were diagnosed with HIV than the average of the previous five years (48). Results for the first quarter of 2019 were even better: the number (17) of new HIV diagnoses among Australian-born gay men and other men who have sex with men was 48% lower than the first quarter average of the previous five years (Figure 3.15) (46).

In addition, the number of HIV diagnoses with evidence that infection occurred recently—that is, in the year prior to diagnosis—decreased by 25% in 2018 compared to the average of the previous five years (48). This shows that the PrEP roll-out is making a big difference.

People are feeling the impact in their daily lives. "There is less anxiety or fear around HIV," says Vaughan.

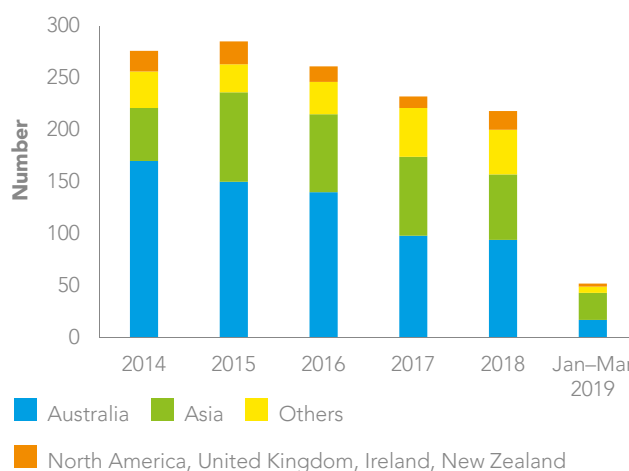
"This sense of liberation was something we were able to tap into," he explains. "Rather than merely showcase the effectiveness of PrEP, we incorporated messages like 'Take Control' and 'Be in the Moment.' We knew from our community experience that these were the real effects and emotional impacts that gay men were experiencing after starting PrEP."

The campaign has also showed that different messages work for different people. "To be effective," says Vaughan, "you need to look at these often very different cohorts of people and try to understand their different motivations, influences and incentives for using PrEP."

### Doing even better

There are still gaps, though. Reductions in recent HIV infections have not been as large among men under the age of 35, those born overseas (Figure XX) and those living outside Sydney's so-called gay suburbs. For example, the number of new HIV notifications in overseas-born gay men and other men who have sex with men in 2018 was only 3% less than the average of the previous five years. In response, ACON has

**FIGURE 3.15** Number of new HIV diagnoses among gay men and other men who have sex with men in New South Wales, Australia, by world area of birth, January 2014 to March 2019



Source: New South Wales HIV strategy 2016–2020 data report: Quarter 1, 2019. Sydney: New South Wales Ministry of Health; 2019.

launched targeted campaigns promoting PrEP among gay men and other men who have sex with men who were born in selected non-English-speaking countries.

This highlights the need to fine-tune HIV interventions such as PrEP to the different realities and needs of people. For example, in London, United Kingdom of Great Britain and Northern Ireland, study evidence suggests that racial stereotyping and related disparities may be affecting PrEP uptake among black gay men and other men who have sex with men, while there is increasing recognition in the United States of America of the need to tailor PrEP awareness campaigns and provision to the experiences of specific subpopulations of gay men and other men who have sex with men (49, 50).

As ACON and the New South Wales Ministry of Health build and hone the PrEP programme, steps have also been taken to make it sustainable. In April 2018, PrEP was included in Australia's Pharmaceutical Benefits Scheme, which subsidizes prescription drugs to residents. With the federal subsidy, people can now access the HIV prevention drug affordably, and all general practitioners can prescribe it—making this highly effective prevention method widely available.

"When we launched Ending HIV [the ACON website], we set the goal of virtual elimination of new HIV transmission in New South Wales by 2020," says Vaughan. "We have come a long way towards achieving that goal, but there is still a lot more to do." ■



## STAYING AHEAD OF THE CURVE

### COMMUNITY VOICES



ACON'S PREP CAMPAIGN IN NEW SOUTH WALES, AUSTRALIA, HAS BEEN WITTY, JAZZY AND RISQUÉ—AND THE EVIDENCE SHOWS IT IS WORKING. NEW HIV DIAGNOSES IN THE STATE ARE DECREASING, AND ANALYSIS CONFIRMS THAT GROWING UPTAKE OF PREP IS A DRIVING FORCE IN THAT TREND. MATTHEW VAUGHAN, THE PRINCIPAL PLANNER OF ACON'S STRATEGIES UNIT, SHARES HIS VIEWS ON WHAT IT TAKES TO BUILD AND MAINTAIN AN EFFECTIVE CAMPAIGN.

**Q: What is the most difficult aspect of your work?**

**A:** Getting people to change their behaviour has been a constant challenge. You can build an amazing programme or campaign and see very little immediate effect. It is often only many months—if not years—later that you see where you had the greatest impact.

"Message fatigue" is another challenging aspect. When it comes to HIV prevention, you don't want the community to have a sense that "we've seen this all before." So it's important to keep your message fresh, exciting and relevant to your audience.

We have had excellent PrEP uptake in New South Wales, but we still need to make sure that the people who aren't on PrEP—but who may benefit from it—know about it, understand its effectiveness and know how to access it.

**Q: Looking ahead, what are the biggest challenges for the community and for the HIV response?**

**A:** We have had a lot of progress towards our goal of the virtual elimination of HIV in New South Wales. But while we are seeing a reduction in HIV transmission rates among Australian-born gay men, we are not seeing this decline among people who were born overseas. We must continue to work with overseas-born gay men in HIV prevention and education programmes.

That means providing campaign messages and resources in languages other than English, including free and confidential testing services, peer education workshops, targeted events and tailored forums. We have already started working on this for simplified Chinese, which is exciting.

There are also still people who are being diagnosed with late or advanced stage HIV infection. So we must ensure gay men continue to test more and more frequently by providing a range of testing options. Together with the community, we will keep moving towards our collective goal of ending HIV. ■

## PREP FOR ADOLESCENT GIRLS AND YOUNG WOMEN AT HIGH RISK OF HIV INFECTION

Early efforts to provide PrEP to adolescent girls and young women have encountered multiple challenges. In recently reported results from a study from Kenya, only 5% of adolescent girls and young women (aged 16–20 years) who were offered PrEP were willing to use it. Acceptance was higher (15%) among young women who had tested positive for an STI. Most of the girls who declined said they preferred using condoms to prevent HIV prevention, perhaps because condoms also help prevent unwanted pregnancies (51).

Retention and adherence are particular concerns. Another Kenyan study, from Kisumu, found that women aged 25–34 years were markedly less likely to continue taking PrEP after three months, compared with those aged 35 years and older (52). Low perceptions of HIV risk, potential side-effects and the need to take pills daily were the most commonly cited reasons for discontinuing PrEP use. The ongoing Sustainable East Africa Research in Community Health (SEARCH) study has reported similar reasons for discontinuing PrEP use, along with transportation-related difficulties (34).

However, recent analysis of a larger data set, again from Kenya, describes a more positive situation. Uptake of PrEP was high: among the 4200 men and women who started PrEP between February 2017 and January 2019, those younger than 30 years were only slightly less likely to be using PrEP after three months than those 30 years and older (60% compared to 68%) (53).

The perceptions of HIV risk among women and girls appear to weigh on decisions to use oral PrEP, so accurate risk perception is important (54). Complicating matters is the reality that HIV risk can vary over time, such as if women exit a monogamous relationship, if their partners migrate for lengthy periods, or if an individual sells sex for only part of the year (55). In such cases, women may wish to

temporarily stop taking PrEP, preferably in consultation with their health-care provider.

In the HPTN 082 study in Cape Town, South Africa, the women most likely to have continued using PrEP were those who did not have symptoms of depression (half of the participants reported such symptoms) and those who attended adherence clubs (56). Gender power imbalances also need to be considered: a recent study from KwaZulu-Natal province in South Africa reported that although PrEP was acceptable to women, most of their male partners opposed its use (57).



Also important are age-related power dynamics, such as those between adolescent girls and their parents. If PrEP is to be a realistic prevention option for adolescents who are at high risk of HIV, laws that require parental consent will have to be reformed. The disapproving—even hostile—attitudes of many health-care providers about adolescent sexuality also have to change: training will be needed to overcome a reluctance among clinicians to prescribe PrEP to adolescents and young adults (58, 59). ■

## LIGHTING THE WAY TO PREP IN VIET NAM

Nguyen Manh Bang, a 24-year-old student and self-identifying gay man living in Hanoi, Viet Nam, has been using PrEP since September 2018.  
Credit: PATH/Nguyen Thai Ha



Lighthouses guide ships through dangerous waters. In Viet Nam, the Lighthouse is a social enterprise led by LGBTI community members that provides discreet, one-on-one counselling to gay men and other men who have sex with men on a variety of sexual health services, from HIV testing to PrEP.

HIV prevalence among gay men and other men who have sex with men has been increasing steadily in Viet Nam, from 5.1% in 2015 to 12.2% in 2017, according to sentinel surveillance data (39). Same-sex sexual relationships remain widely stigmatized.

Nguyen Manh Bang, a 24-year-old student and self-identifying gay man living in Hanoi, has been using PrEP since September 2018, shortly after hearing about it from a Lighthouse member who gave a talk at his university. Bang is one of almost 2900 people who, as of April 2019, had received PrEP at sites supported by Healthy Markets, a PATH project funded by the United States Agency for International Development (USAID).

"I believe my future is bright and open," he says, sitting in Lighthouse's rainbow-themed office in Hanoi, Viet Nam's capital. "PrEP makes sure of that by keeping me protected."

Bang believes that community-led organizations such as Lighthouse are vital for reaching people like him with PrEP services. As a gay man, he says, his biggest concern is discrimination: "That's why organizations like Lighthouse are so important. I know when I come here to discuss anything to do with my sexual health, it's nonjudgmental and confidential."

The Internet is another important source of information on sexual health and HIV. It is estimated that virtually all of Hanoi's gay men and other men who have sex with men have at least one social media account, and about two thirds of them use the Internet to seek out HIV and related information (60). Popular among Bang and his friends, for example, is Love Boy Ha Noi, a Facebook page that provides gay men and other men who have sex with men with tips on life, sexuality and staying healthy.

Programmes are increasingly utilizing such online platforms to popularize and supplement conventional HIV services. Healthy Markets has trained advisers from the LGBTI community to use popular Facebook pages to answer questions, provide virtual counselling and refer people to in-person services. These online consultations have become so popular that PATH recently launched a chatbot to speed up the response rate to frequently asked questions and to refer people with more complex questions or needs to trained advisers. Since late 2018, the chatbot has answered almost 4000 queries.

Working with popular dating apps such as Grindr has also been effective; during a joint Healthy Markets and Grindr campaign in 2018, the number gay men and other men who have sex with men starting PrEP more than doubled.

### Getting PrEP to everyone in need

Viet Nam is the second country in Asia to move beyond the pilot phase and provide oral PrEP as part of a national HIV programme.<sup>4</sup> Since March 2017, a series of pilot projects in Hanoi, Ho Chi Minh City and Quang Ninh have provided PrEP to people at risk of HIV, including gay men and other men who have sex with men, transgender women, people who inject drugs and the partners of people living with HIV. PrEP was included in the national antiretroviral therapy guidelines in December 2017, and a year later, the government announced a step-wise national roll-out of PrEP to people who are at substantial risk of acquiring HIV.

An evaluation of another PrEP pilot, VinaPrEP, has recommended maintaining partnerships with civil society organizations to provide user-friendly counselling and adherence support as services are expanded nationally (39).

PrEP services are now available in seven of Viet Nam's 63 provinces, and the national roll-out is scheduled to cover at least 11 provinces by 2020. Even though PrEP can only be prescribed by physicians affiliated with public and private health clinics, the Viet Nam PrEP service delivery model is based on strong partnerships with key population-led organizations that offer HIV testing, risk screening, PrEP enrolment referrals and adherence support.

**"THE STAFF AT LIGHTHOUSE ARE VERY SUPPORTIVE AND SIMILAR IN AGE TO ME," SAYS BANG, "SO IT TRULY CREATES A FRIENDLY ATMOSPHERE WHERE I AM TREATED WITH RESPECT AND CONFIDENTIALITY."**

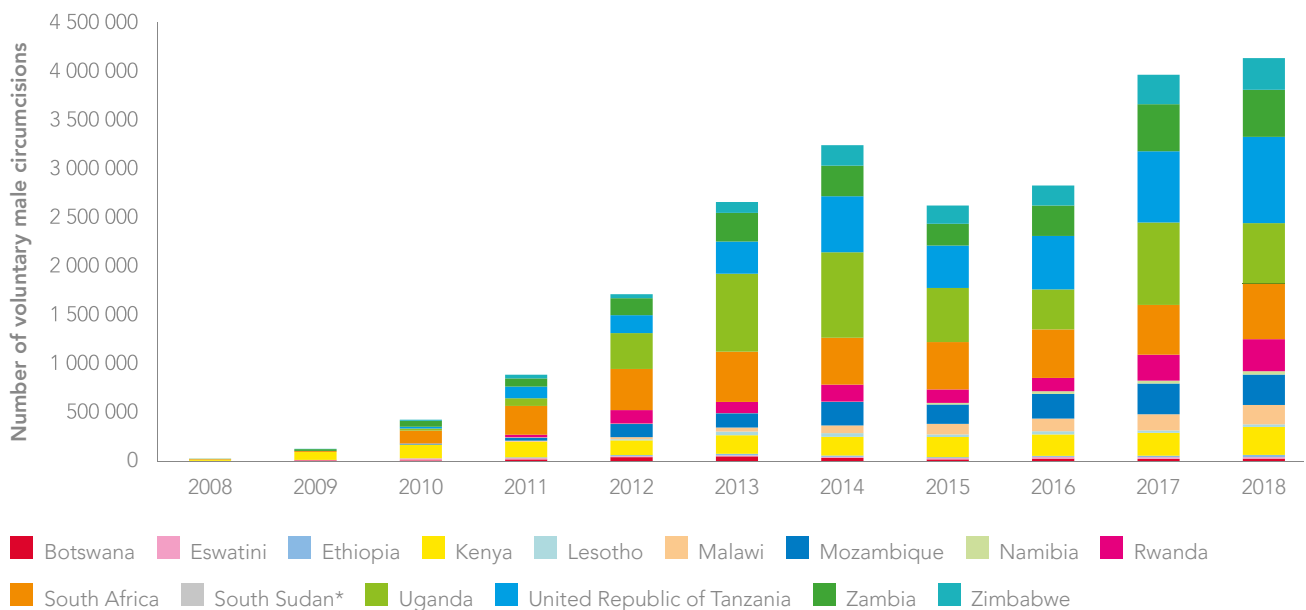
Viet Nam's PrEP programme is not yet publicly financed, and PrEP is currently not entirely free to users. Subsidized PrEP is available through clinics with support from the government, the United States President's Emergency Plan for AIDS Relief (PEPFAR), the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and United Nations organizations. Those clinics include key population-owned and population-run private facilities, such as the Galant and Thanh Danh clinics, which were set up with support from Healthy Markets.

PEPFAR-supported private clinics charge a flat fee of about US\$ 15 per month for PrEP. Efforts are underway to advocate for public financing of PrEP through social health insurance and other sources of domestic funding to ensure that everyone who needs PrEP can afford it. ■



<sup>4</sup> The Thai government included PrEP in its national HIV treatment and prevention guidelines and began a national programme in 2017.



**FIGURE 3.16** Annual number of voluntary medical male circumcisions, 15 priority countries, 2008–2018

\*South Sudan has only recently initiated a pilot voluntary medical male circumcision programme, and data were reported for the first time in 2018. This is the reason for low numbers.

Source: 2019 Global AIDS Monitoring.

### Momentum continues on voluntary medical male circumcision

HIV remains a top cause of years of life lost among adolescent boys and men of reproductive age in eastern and southern Africa. Adolescent boys and men also face a range of other serious health risks, including interpersonal violence, self-harm, and harmful alcohol and drug use. Many of these risks are shaped by harmful gender norms and notions of masculinity that encourage behaviours that compromise the health of men and boys, and of women and girls. However, few policies and programmes in the region focus on improving men's and boys' health-seeking behaviour.

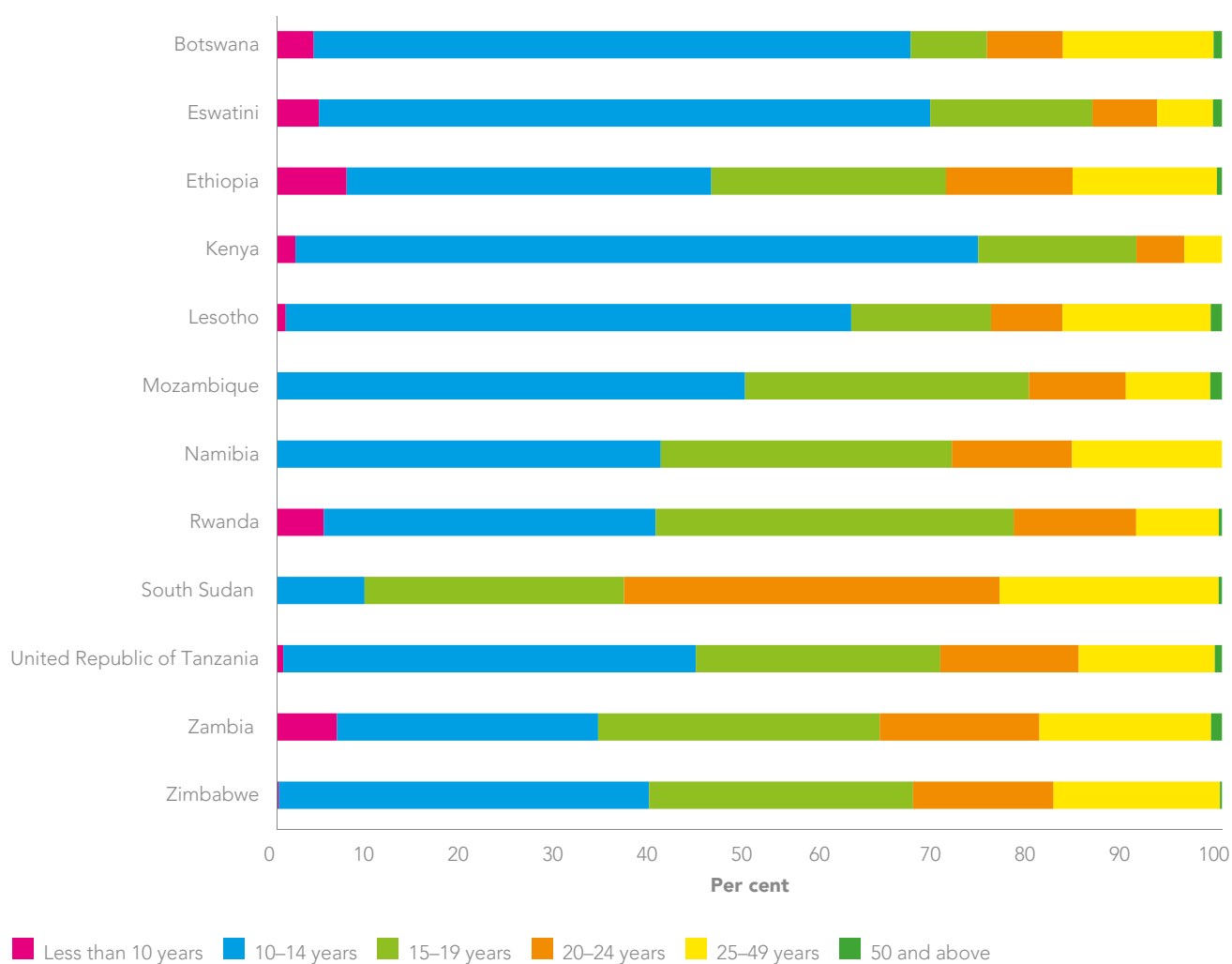
Voluntary medical male circumcision (VMMC) is an entry point for providing men and boys with broader, more appropriate health packages to improve their health outcomes, and also to indirectly benefit women and girls.

VMMC can have a major impact on the HIV epidemics in high-prevalence settings. VMMC services incorporate a package of prevention interventions, including safer sex education, condom education and provision, HIV testing and STI management. They are also being used as an entry point to other health services for men and adolescent boys, such as hypertension screening.

There has been progress towards the 2020 target of 25 million additional circumcisions for HIV prevention. About 11 million have been performed in 15 priority countries in eastern and southern Africa since the beginning of 2016. In 2018 alone, about 4.1 million voluntary circumcisions were performed among males of all ages, a slight increase from the 4 million conducted in 2017 (Figure 3.16). The rate of scale-up differs by country.

In areas with low population coverage of VMMC, the focus should be on older adolescents and sexually active men to make an immediate impact on HIV incidence. In areas where the prevalence of circumcision among sexually active men is already high, a focus on services for adolescent boys is needed to maintain high coverage levels and reap other health benefits.

Improvements have been made in the reporting of age-disaggregated programme data. In 12 priority countries where data were available in 2018, 84% of VMMCs were among adolescent boys and young men (aged 10–24 years), a priority age group for this intervention (Figure 3.17). Almost half (43%) were among adolescent boys aged 10–14 years. This proportion varies by country. ■

**FIGURE 3.17** Proportion of voluntary medical male circumcisions, by age group, 12 priority countries, 2018

Source: 2019 Global AIDS Monitoring.



Bophelo Pele Male Circumcision  
Centre, Orange Farm, South Africa.  
Credit: UNAIDS/Melanie Hamman



## ACHIEVING IMPACT WITH COMMUNITY MOBILIZERS FOR VOLUNTARY MEDICAL MALE CIRCUMCISION

VMMC is an important component of combination prevention in places that have a high prevalence of HIV infection in the general population. When combined with other HIV prevention interventions and high coverage of antiretroviral therapy, VMMC can lead to steep reductions in the number of new HIV infections.

Committed and effective community mobilizers are the linchpin of successful VMMC programmes. They inform potential clients about the procedure and its benefits, answer personal questions, and provide assurance and support to the boys and men who opt for medical circumcision. Trust often plays a major role in those decisions.

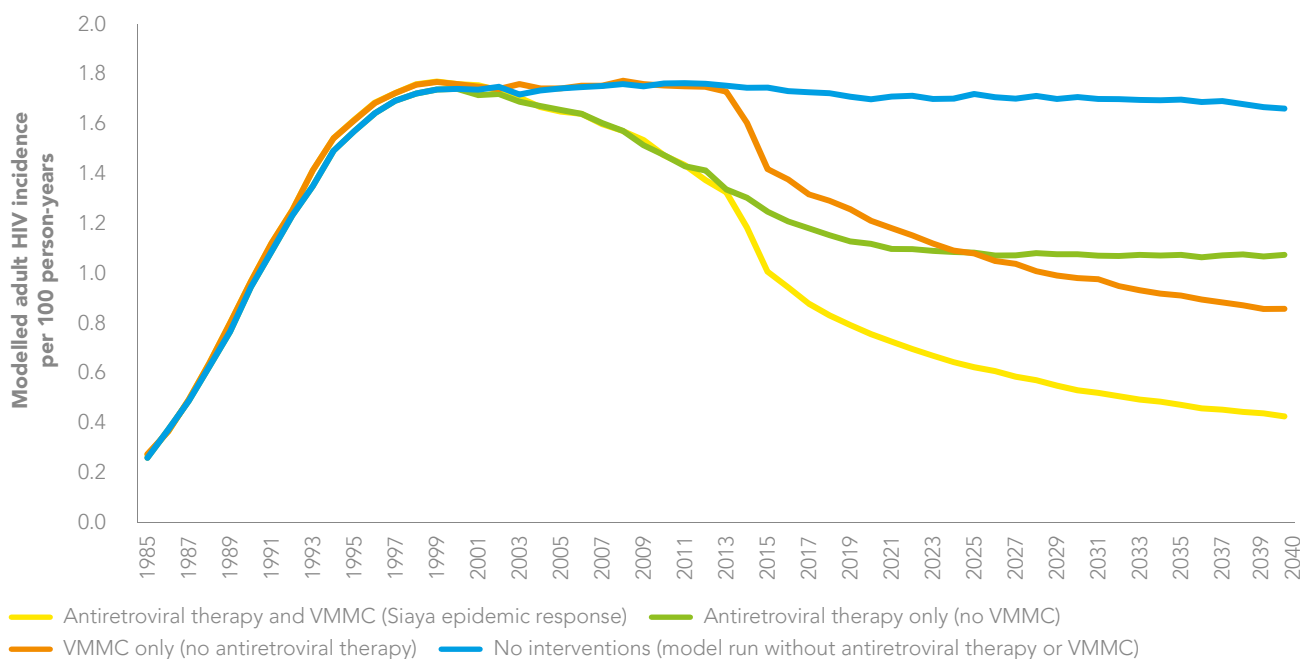
“When I first heard of VMMC during a community meeting, I was so scared to go for it,” recalled Thoko

Blandy, a 20-year-old who lives in Chikwawa district in southern Malawi. “I still believed in the rumours that many of my peers said—that it was a very painful process. I told myself that circumcision was not for me” (61).

That apprehension diminished, however, when a community mobilizer carefully explained the benefits of VMMC and answered Mr Blandy’s questions. “I became less worried about the pain and decided to go to the clinic for the service,” he said.

Mr Blandy’s experience was so positive that he decided to become a community mobilizer himself. He joined an AIDSFree programme to provide VMMC services to tens of thousands of men not only in Chikwawa, but also in Thyolo and Zomba, two other southern districts in Malawi.<sup>5</sup>

**FIGURE 3.18** Modelled declines in HIV incidence with/without antiretroviral therapy and voluntary medical male circumcision (VMMC) in Siaya County, western Kenya, 1985–2040



Source: Bershteyn A, Akullian AN, Klein DJ, Jewell BL, Mutai KK, Mwalili SM. Scale-up of ART and VMMC explains a two-fold decline in HIV incidence in western Kenya. Conference on Retrovirology and Opportunistic Infections (CROI), Seattle, 4–7 February 2019. Abstract 1087.

<sup>5</sup> The AIDSFree Project is funded by PEPFAR through USAID.

VMMC is a cost-effective, one-time intervention that provides lifelong partial protection against female-to-male HIV transmission (62, 63). The risk of women and girls acquiring HIV is reduced when fewer men and boys are living with HIV, and over time, the intervention can have a powerful impact on the incidence of HIV among both men and women (64).

The impact of VMMC is particularly strong when combined with high coverage of antiretroviral therapy. In Siaya and Homa Bay counties, as many as one in four adults (aged 15–49 years) were estimated to be living with HIV in 2016. Longitudinal surveillance of a community in Siaya, however, showed optimistic trends, even in this very hard-hit region: HIV incidence fell by 49% among people aged 15–64 years between 2012 and 2016, during which time antiretroviral therapy and VMMC coverage increased considerably (65).

Recent mathematical modelling concluded that this decline—and similar observed declines in HIV incidence elsewhere in Siaya and Homa Bay—could be attributed to the scale-up of antiretroviral therapy and VMMC, without which incidence would have remained stable at high levels (1.7 new infections per 100 person-years among adults aged 15–49 years). Treatment was the predominant cause of incidence declines, especially within the first few years, with the role of VMMC increasing over time and becoming the dominant driver of incidence declines by 2025 (Figure 3.18). Similar trends were found in other high-prevalence counties in western Kenya (66).

### Providing tools and support to community mobilizers

The importance of community mobilizers with solid technical knowledge of VMMC and strong interpersonal skills is clear. In southern Malawi, nine out of 10 VMMC clients reported hearing about VMMC from a community mobilizer, according to an assessment of VMMC activities in three districts (67). Uptake among younger age groups stayed low, however: in 2017, only about one third of the almost 25 000 men who sought VMMC services in the three districts were aged 15–29 years. Modeling data have shown that reaching those aged 10–29 years with VMMC services would facilitate quicker epidemic control.

**TABLE 3.1 Voluntary medical male circumcisions performed, total and by age, AIDSFree Mozambique Project, Manica and Tete provinces, Mozambique, 2015–2017 fiscal years**

	2015 (fiscal year)	2016 (fiscal year)	2017 (fiscal year)
Target	65 054	62 166	95 296
Circumcisions performed	21 824	35 389	100 636
Percentage of target achieved	34%	57%	105%
Percentage of total circumcisions on young men aged 15–29 years	48%	50%	58%
Percentage of total circumcisions on men aged 15 years and older	48%	54%	60%

Source: USAID, PEPFAR. Systematically coordinating VMMC supply and demand: a success story. Washington (DC): USAID; October 2018.

The Malawi assessment revealed some basic shortcomings. Community mobilizers like Mr Blandy often lacked the basic means to do their job well, such as transport to cover the long distances between villages, badges and caps to lend credibility to their work, and pamphlets and other explanatory materials. Procedures for following up with men who had expressed interest in the services also were found to be confusing (61). The Malawi project began introducing a series of improvements in early 2018.

Informing the changes was a similar earlier experience in the Mozambican provinces of Manica and Tete. More careful selection and deployment of community mobilizers, more attention to interpersonal skills, more frequent engagements with local community leaders, improved team-based incentives and strengthened coordination were among the changes that had increased the number of adolescents and men using VMMC services almost fivefold (21 824 to 100 636) from 2015 to 2017 in those two provinces (Table 3.1) (68).

## EQUIPPING COMMUNITY MOBILIZERS IN MALAWI

**Much of the success seen in Malawi's Chikwawa, Thyolo and Zomba districts stemmed from programme changes that enabled community mobilizers to use their skills and experiences to the full and become effective champions of VMMC services. The improvements included:**

- **Selecting and assigning mobilizers so they match the profiles of prospective VMMC clients.**
- **Strengthening the interpersonal and communication skills of mobilizers and equipping them with the resources they need to earn credibility and do their jobs well.**
- **Using satisfied VMMC clients as mobilizers to inspire trust and allay misconceptions.**
- **Introducing two-pronged remuneration—a fixed monthly salary and performance-based pay for teams of community mobilizers—to boost incentives and retention, and to reduce the need for monitoring by supervisors.**
- **Improving coordination between service delivery and demand creation staff.**
- **Collecting and analysing data to see which sites are underperforming to identify implementation issues and adjust the deployment of mobilizer teams and other resources accordingly.**
- **Involving mobilizer teams in planning their activities to make the best use of people's time and resources.**

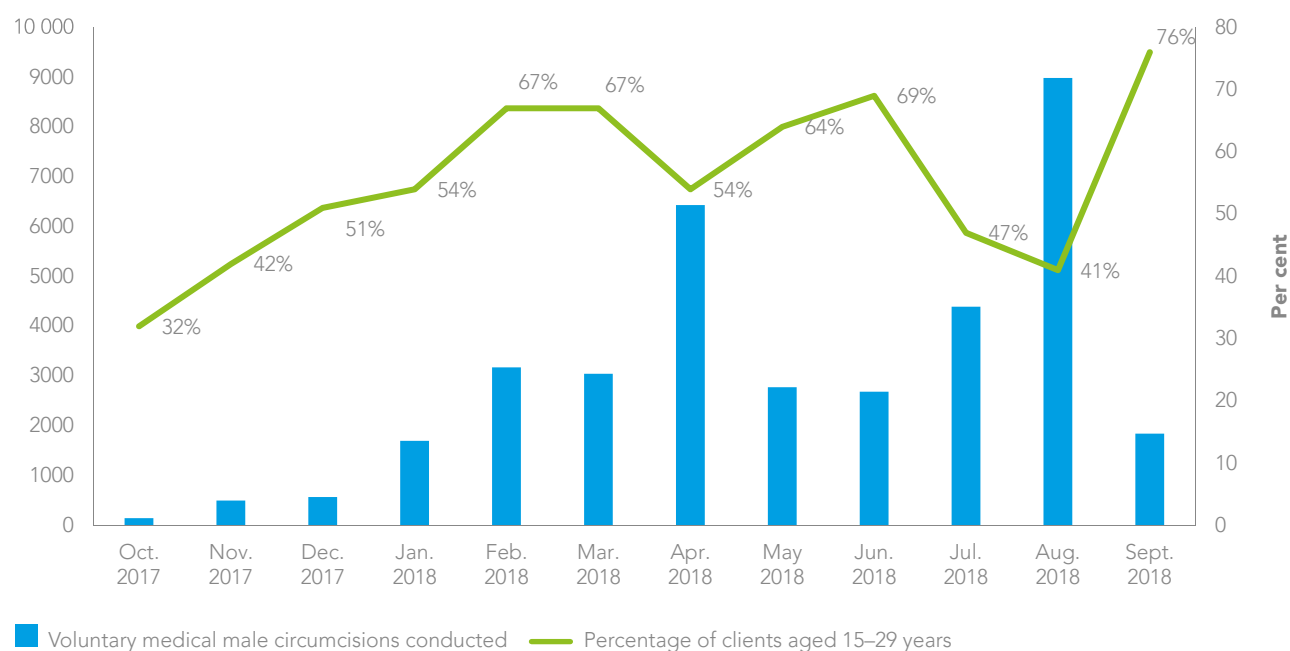
To foster greater trust, the Malawi programme decided that at least 30% of community mobilizers had to be satisfied clients themselves. Training was enhanced, with a greater focus on communication skills. Mobilizers also received bicycles, cell phone airtime, ID badges and branded attire.

It was also clear that older men were reluctant to discuss VMMC services and related matters with younger men, so more effort went into matching mobilizers and prospective clients by age. The project also added a team-wide performance-based bonus to the monthly stipends received by mobilizers. Supportive supervision by community mobilization assistants was stepped up, and coordination was strengthened between the teams who drum up demand and those who provide the VMMC services.

The changes quickly achieved substantial improvements in the three districts. The project met its annual performance targets for the first time in 2018, and it was exceeding its quarterly coverage targets by the end of the year. Age-targeting also improved. Prior to the AIDSFree intervention, only 34% of men undergoing VMMC in the three targeted districts were in the priority age group of 15–29 years; this rose to 54% in 2018 (Figure 3.19) (61). All of this was achieved without compromising the quality of services.

Unlocking the potential of community mobilizers to achieve and sustain high levels of VMMC uptake is crucial for reducing HIV incidence in the high-burden countries of eastern and southern Africa. Malawi, for example, saw a 20% increase in the number of VMMC procedures carried out in 2018 compared with 2017 (when more than 165 000 circumcisions were performed). When combined with high levels of treatment coverage and viral suppression, the impact of VMMC can be enormous, as seen in western Kenya. ■

**FIGURE 3.19** Total number of voluntary medical male circumcisions and percentage of clients aged 15–29 years, Chikwawa, Thyolo and Zomba districts, Malawi, 2017–2018



Source: Musiige A, Kawale J, Twahirwa W, Chilemba A, Sakanda S, Mwandi Z et al. Increasing uptake of VMMC: lessons from AIDSFree Malawi. Arlington (VA): Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree) Project; 2019.





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Médecins Sans Frontières nurse Gloria Galela attends to a woman working on a farm near Eshowe, South Africa.

Credit: Gred Lomas/Médecins Sans Frontières



# THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

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## AT A GLANCE

Almost two thirds of all people living with HIV in 2018 were receiving life-saving antiretroviral therapy, and more than half had suppressed viral loads.

Fifteen countries have reached the threshold of at least 73% of people living with HIV virally suppressed, including six countries that report achieving all three of the 90–90–90 targets.

Testing and treatment programmes in several regions are substantially off-track. Access to testing and treatment is particularly low in eastern Europe and central Asia, the Middle East and North Africa, and western and central Africa.

Gaps in the HIV testing and treatment cascade tend to be larger among men, young people and children. The global target of providing antiretroviral therapy to 1.6 million children by 2018 has been missed.

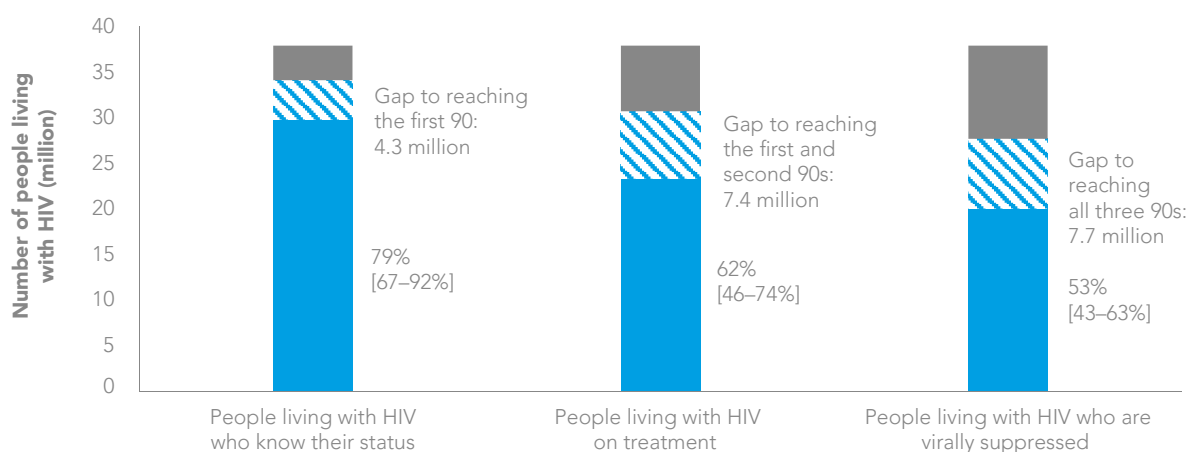
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More people living with HIV than ever before are aware of their HIV status, are receiving antiretroviral therapy and have suppressed their viral load to undetectable levels. Strong gains in HIV testing and treatment access over the last 15 years have transformed the way that HIV is perceived across the world: what was once a death sentence is now, for most people, a chronic—but still dangerous—health condition that requires careful management. The fact that people who are virally suppressed cannot transmit HIV sexually has also changed the way that countries approach HIV prevention (1, 2).

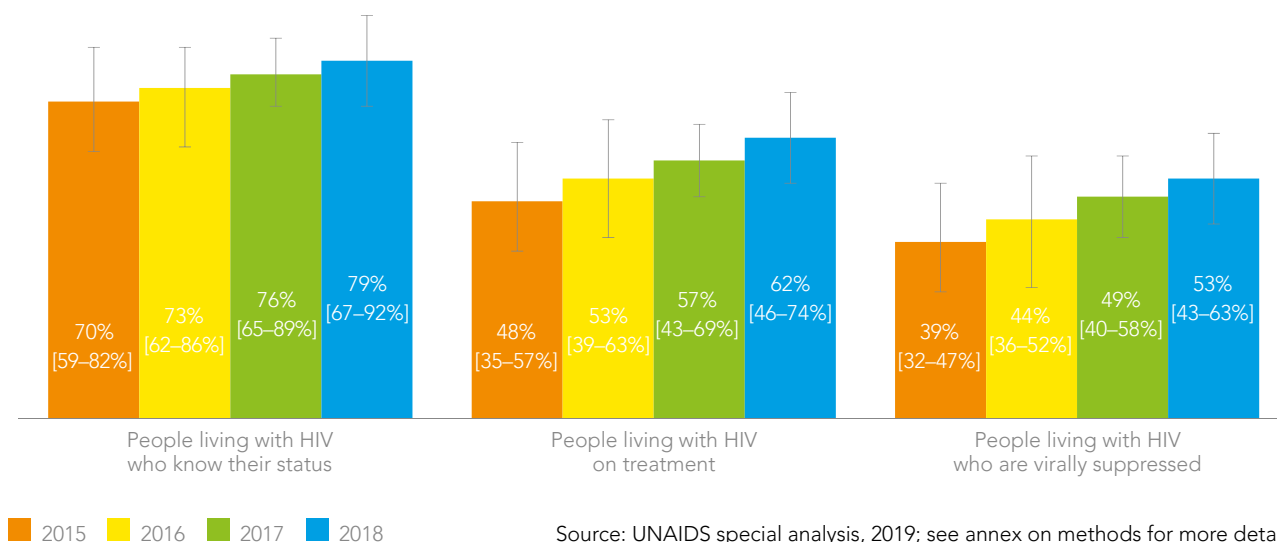
There remains considerable room for improvement. More than 20% of people living with HIV are not aware of their HIV status, and nearly half of all people living with HIV have unsuppressed viral loads. In some settings, the number of people living with HIV who

were initially on treatment but have subsequently been lost to follow-up is larger than new treatment enrolment. The gaps along the HIV testing and treatment cascade are particularly large for men, young people and children. The global target of providing antiretroviral therapy to 1.6 million children by 2018 has been missed.

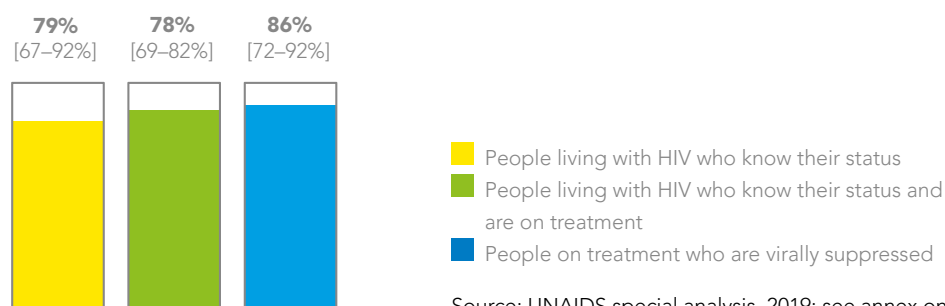
Countries need to optimize their mix of HIV testing services to reach the populations and locations that currently are left behind. Urgent investment in comprehensive services is needed to support linkage and retention in care and sustained viral load suppression, including treatment literacy, food and nutrition support, community dispensing of antiretroviral medicines, adherence clubs, viral load testing, and switching to second- and third-line regimens after confirmed treatment failure. ■

**FIGURE 4.1** HIV testing and treatment cascade, global, 2018

Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**FIGURE 4.2** HIV testing and treatment cascade, global, 2015–2018

Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**FIGURE 4.3** Progress towards 90–90–90 targets, global, 2018

Source: UNAIDS special analysis, 2019; see annex on methods for more details.

### Steady gains across the HIV testing and treatment cascade

Nearly four in five people living with HIV globally knew their serostatus in 2018. It is estimated that 62% [46–74%] were receiving antiretroviral therapy, and that 53% [43–63%] were virally suppressed (Figure 4.1).

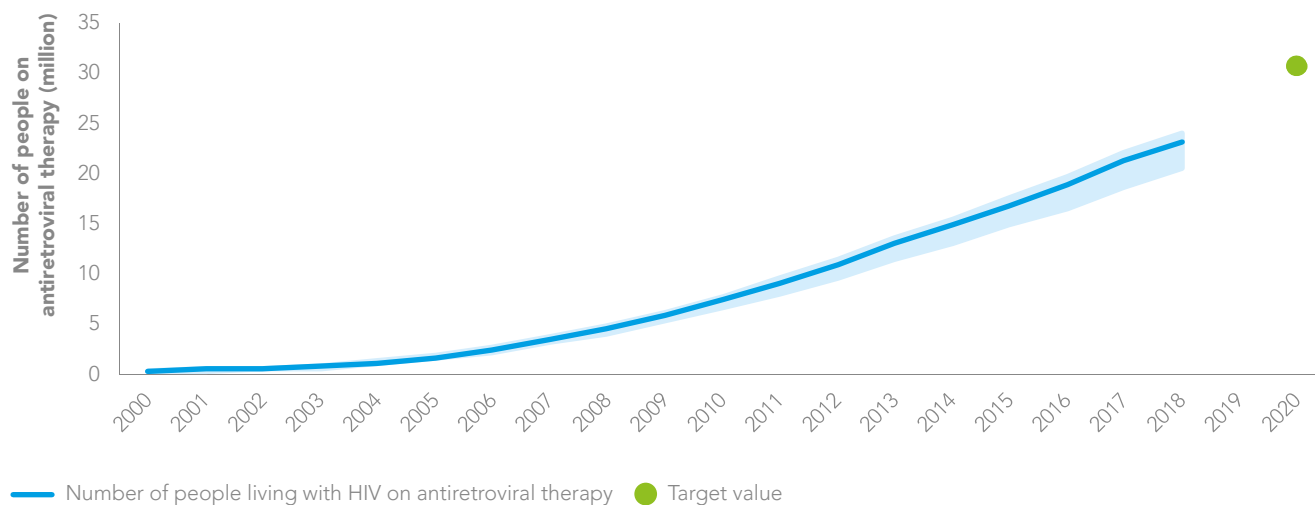
There have been steady gains in recent years across the HIV testing and treatment cascade (Figure 4.2). This reflects the growing number of people who, once diagnosed with HIV infection, are successfully linked to and retained in HIV care, as well as improvements in the effectiveness of HIV treatment.

A large proportion (86%) of those on HIV treatment in 2018 were virally suppressed, bringing the world closer to reaching the 90–90–90 targets by 2020: 90% of people living with HIV know their HIV status, 90% of people who know their HIV-positive status are accessing antiretroviral treatment and 90% of people on treatment have suppressed viral loads (Figure 4.3). However, a worryingly large proportion of people diagnosed with HIV—more than 20%—had not yet initiated treatment in 2018, and the world was still 7.7 million people short of reaching 73% of all people living with HIV having suppressed viral loads, which equates to achievement of all 90–90–90 targets. ■



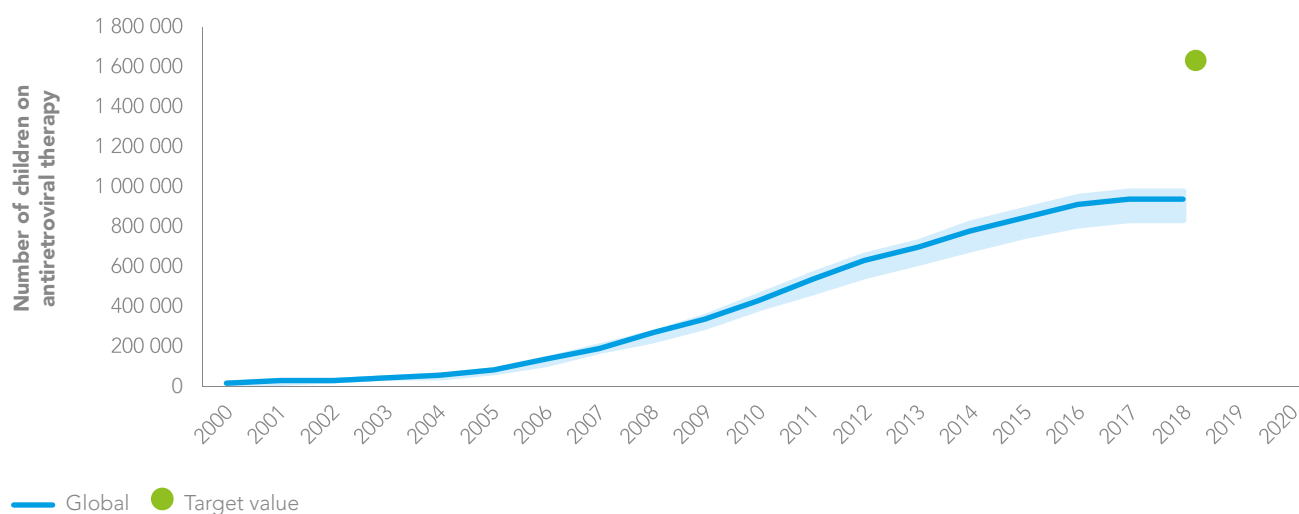
A sex worker learns her HIV status in Kyiv, Ukraine.  
Credit: Convictus

**FIGURE 4.4** Number of people living with HIV accessing antiretroviral therapy, global, 2000–2018 and 2020 target



Source: UNAIDS 2019 estimates; 2018 Global AIDS Monitoring.

**FIGURE 4.5** Number of children living with HIV (aged 0–14 years) accessing antiretroviral therapy, global, 2000–2018 and 2018 target



Source: UNAIDS 2019 estimates; 2018 Global AIDS Monitoring.



### Big gains in treatment access, but paediatric target missed

An estimated 23.3 million [20.5 million–24.3 million] of the 37.9 million [32.7 million–44.0 million] people living with HIV globally were accessing antiretroviral therapy in 2018, more than three times as many as in 2010. Despite the admirable gains of recent years, the number of people accessing treatment is not rising quickly enough to reach the 2020 global target of 30 million people (Figure 4.4). Hitting that target will require an additional 3.3 million people annually receiving HIV treatment in 2019 and 2020—considerably more than the average annual gains of 2 million additional people since 2013.

The rate of paediatric treatment scale-up is particularly concerning. The estimated 940 000 [820 000–970 000] children (aged 0–14 years) living with HIV globally who

are on antiretroviral therapy in 2018 was almost double the number on treatment in 2010, but far short of the 2018 target of 1.6 million (Figure 4.5). Overall, 54% [43–63%] of the estimated 1.7 million [1.3 million–2.2 million] children living with HIV in 2018 were receiving life-saving antiretroviral therapy.

Diagnosing and treating children who have acquired HIV during pregnancy, childbirth or breastfeeding continues to be challenging. Diagnostic processes tend to be more complicated and cumbersome for children than for adults, and a continued lack of palatable, age-appropriate antiretroviral formulations for children hampers effective treatment. Several initiatives are underway to improve both the diagnosis and treatment of paediatric HIV, including the Global Accelerator for Paediatric Formulations (launched mid-2018) and actions stemming from the 2017 Rome Action Plan (3, 4). ■

**NEARLY ONE MILLION CHILDREN LIVING WITH HIV WERE ON TREATMENT IN 2018, NEARLY DOUBLE THE AMOUNT IN 2010. HOWEVER, THIS GAIN WAS FAR SHORT OF THE 2018 TARGET.**



## Progress varies across regions

HIV testing and treatment programmes in eastern and southern Africa continued to excel in 2018. Even though this region has the highest burden of HIV infection in the world, the average performance of countries in the region was higher than all other regions, except for western and central Europe and North America, which is comprised of predominantly high-income countries (Figure 4.6). About 58% [50–66%] of people living with HIV in eastern and southern Africa were virally suppressed in 2018, compared with 64% [54–74%] in western and central Europe and North America and 55% [42–69%] in Latin America.

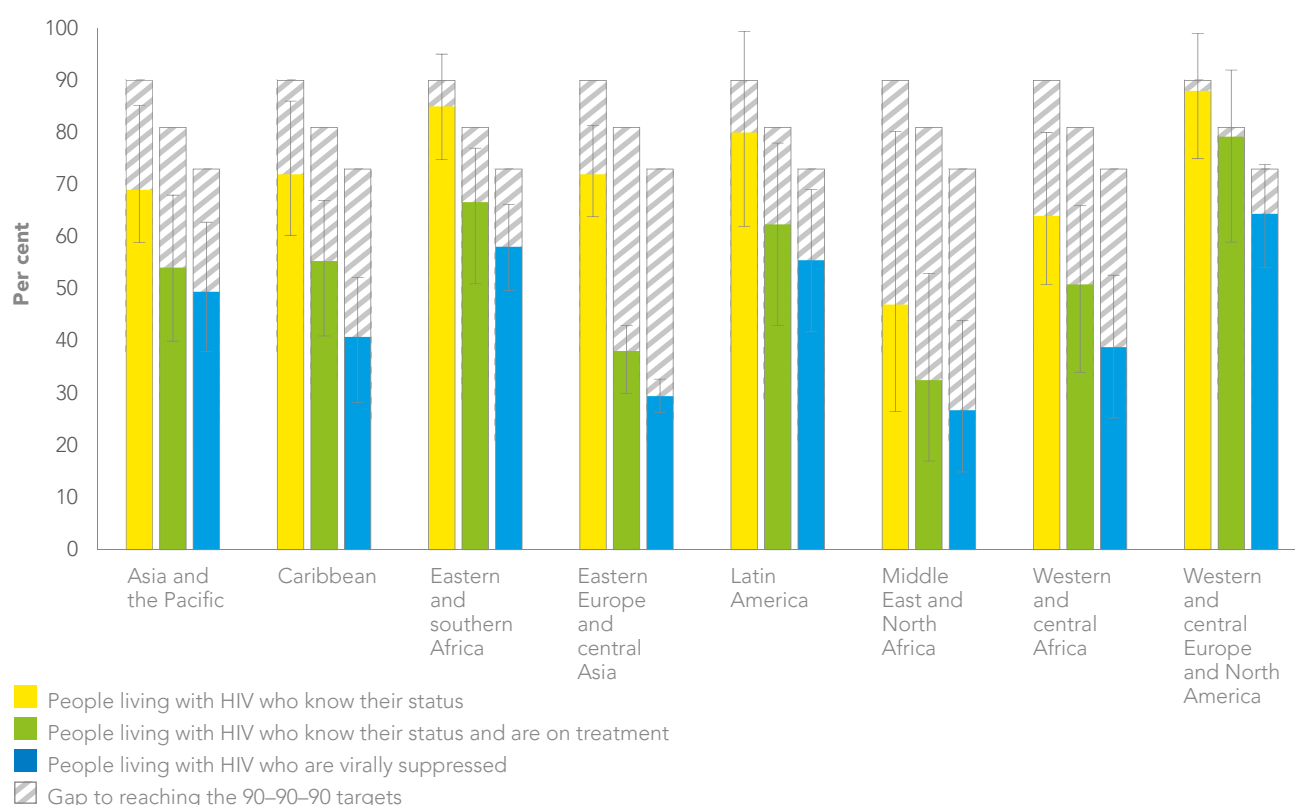
The success of eastern and southern Africa is a testament to the shared political and financial commitments of the region's countries and the international community, as well as a concerted effort to use a mix of HIV testing approaches, adopt differentiated service delivery models and promote

collaboration among health professionals, community health workers and peer support networks.

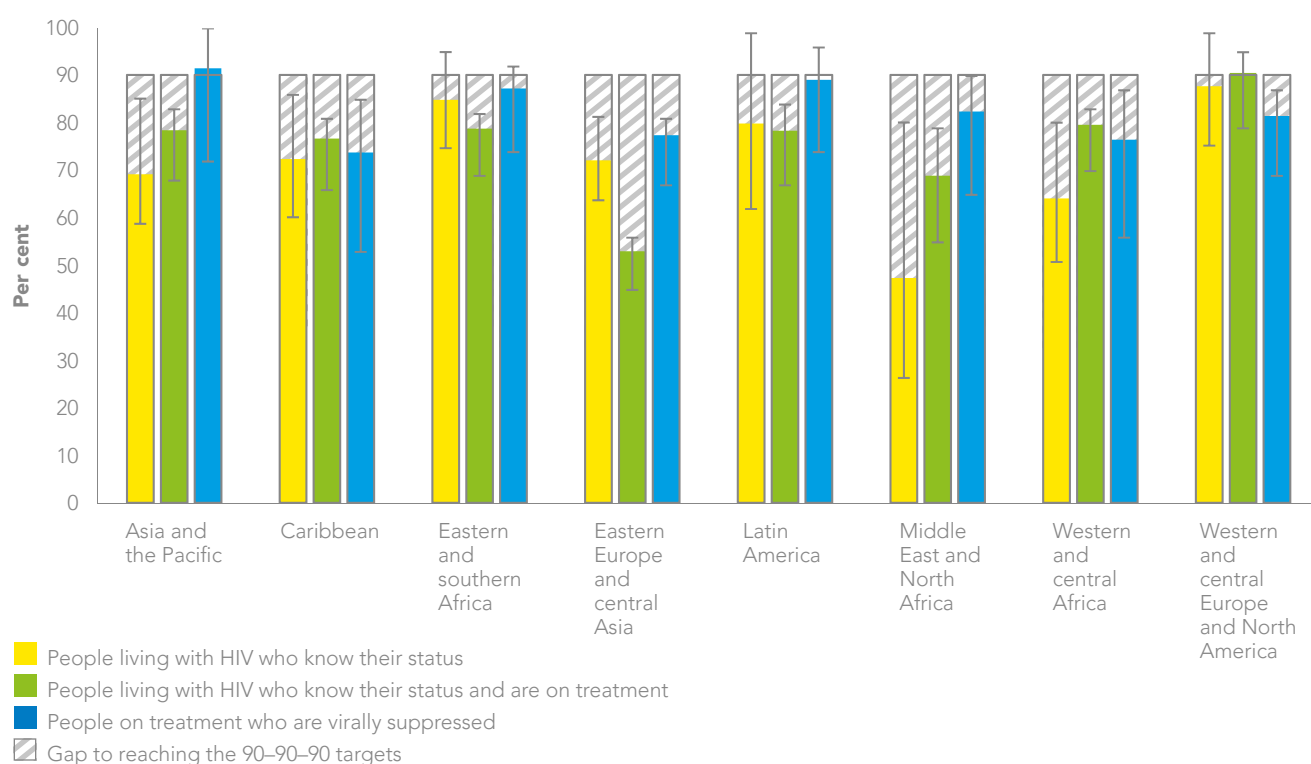
Despite this success, several other regions remain substantially off-track—a reminder of the unevenness of the global HIV response. Almost three quarters of people living with HIV in the Middle East and North Africa and eastern Europe and central Asia were not virally suppressed in 2018. Similarly, approximately 60% of people living with HIV in the Caribbean and in western and central Africa in 2018—and about 50% of those in Asia and the Pacific—were not virally suppressed.

Analysis of regional data against the 90–90–90 targets shows that different regions face different challenges (Figure 4.7). Knowledge of HIV status is particularly low in the Middle East and North Africa, while the biggest gap in eastern Europe and central Asia is in treatment enrolment after an HIV-positive diagnosis. Relatively larger gaps in viral suppression among people on treatment in the Caribbean, eastern Europe and central Asia, and western and central Africa need to be closed. ■



**FIGURE 4.6 HIV testing and treatment cascade, by region, 2018**

Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**FIGURE 4.7 Progress towards 90-90-90 targets, by region, 2018**

Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**TABLE 4.1 Progress towards 90–90–90, by country, 2018**

Countries that have achieved the 90–90–90 targets or are near to achieving them, most recent country data <sup>a, b, c</sup>

	First 90	Second 90	Third 90	Achieved all three 90s		Viral load suppression among all people living with HIV
Achieved (90% or greater)	Botswana	Algeria	Australia	Botswana	Achieved (73% or greater)	Australia
	Cabo Verde	Austria	Botswana	Denmark		Botswana
	Denmark	Botswana	Brazil	Eswatini		Cambodia
	Eswatini	Brunei Darussalam	Bulgaria	Namibia		Denmark
	Finland	Cabo Verde	Cambodia	Netherlands		Eswatini
	Guyana	Cambodia	China	United Kingdom		France
	Hungary	Comoros	Croatia			Germany
	Ireland	Czechia	Denmark			Iceland
	Italy	Democratic Republic of the Congo	Estonia			Ireland
	Lebanon	Denmark	Eswatini			Namibia
	Malawi	Eswatini	France			Netherlands
	Namibia	France	Germany			Rwanda
	Netherlands	Germany	Iceland			Spain
	Norway	Iceland	Ireland			Thailand
	Rwanda	Kiribati	Kuwait			United Kingdom
	South Africa	Kuwait	Lebanon			
	Thailand	Mali	Lesotho			
	United Kingdom	Mauritius	Monaco			
	Zimbabwe	Mexico	Montenegro			
		Monaco	Morocco			
		Namibia	Myanmar			
		Netherlands	Namibia			
		North Macedonia	Netherlands			
		Portugal	Saudi Arabia			
		Qatar	Seychelles			
		Rwanda	Spain			
		Samoa	Sweden			
		Saudi Arabia	Switzerland			
		Senegal	Thailand			
		Solomon Islands	Ukraine			
		Spain	United Kingdom			
		Sweden				
		Switzerland				
		United Kingdom				
		United Republic of Tanzania				
		Zimbabwe				

	First 90	Second 90	Third 90	Achieved all three 90s		Viral load suppression among all people living with HIV
Nearly achieved (85–89%)	Algeria	Burkina Faso	Austria		Nearly achieved (65–72%)	Comoros
	Brazil	Congo	Barbados			Croatia
	Comoros	Côte d'Ivoire	Comoros			Finland
	France	Cuba	Ecuador			Italy
	Germany	Haiti	El Salvador			Luxembourg
	Israel	Honduras	Finland			Malawi
	Kazakhstan	Ireland	Georgia			Myanmar
	Kenya	Italy	Italy			
	Lao People's Democratic Republic	Luxembourg	Lao People's Democratic Republic			
	Lesotho	Malawi	Luxembourg			
	Luxembourg	Mauritania	Malawi			
	Malaysia	Mongolia	Malta			
	Papua New Guinea	Morocco	Mexico			
	Portugal	Suriname	North Macedonia			
	Romania	Uganda	Oman			
	Serbia	Zambia	Rwanda			
	Spain		Slovakia			
	Zambia		South Africa			
			Suriname			
			Uganda			
			United Republic of Tanzania			
			Uruguay			

Notes:

<sup>a</sup> Selected data for western and central Europe provided by the European Centres for Disease Control and Prevention Dublin Declaration reporting. All estimates are for 2018 except as follows: for 2016: Austria, Denmark, France, Italy and Spain; for 2017: Germany, Israel, Luxembourg, Malta, Netherlands, Portugal, Sweden and the United Kingdom.

<sup>b</sup> Estimates are for citizens only for Kuwait and Oman.

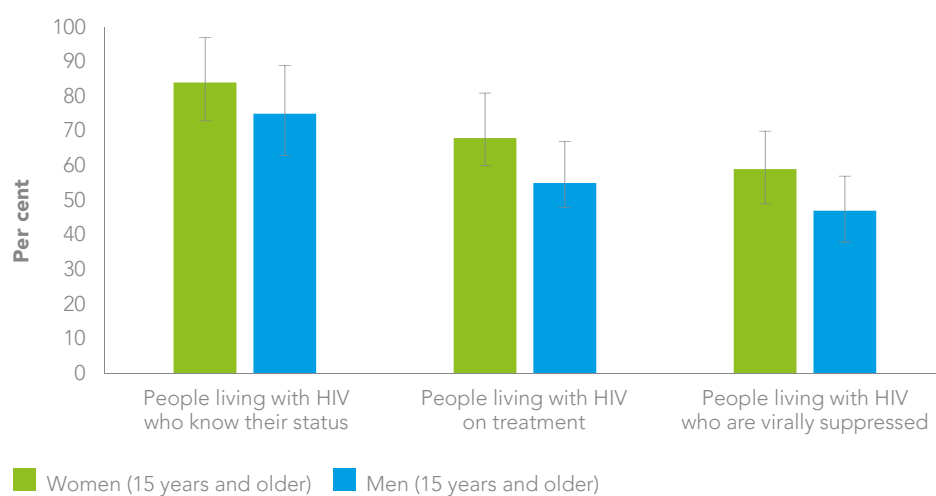
<sup>c</sup> Published estimates of 90–90–90 and viral load suppression among people living with HIV are available at [AIDSinfo.org](http://AIDSinfo.org) for years prior to 2018 for Bosnia and Herzegovina, Canada, India, Japan, Singapore, and the United States of America. Estimates of people living with HIV or 90–90–90 and viral load suppression coverage were not available at the time of publication for Andorra, Argentina, Bahamas, Bahrain, Belgium, Burundi, Chad, Colombia, Costa Rica, Cyprus, Democratic People's Republic of Korea, Djibouti, Egypt, Fiji, Gabon, Greece, Guinea, Guinea-Bissau, Iraq, Jordan, Latvia, Libya, Liechtenstein, Lithuania, Maldives, the Marshall Islands, Micronesia (Federated States of), Nauru, New Zealand, Niue, Palau, Peru, Poland, the Republic of Korea, the Russian Federation, San Marino, Slovenia, Somalia, the Syrian Arab Republic, Timor-Leste, Tonga, Trinidad and Tobago, Turkey, Turkmenistan, Tuvalu, the United Arab Emirates, Uzbekistan, Vanuatu, Venezuela (Bolivarian Republic of), Viet Nam and Yemen.

Source: UNAIDS 2019 estimates; 2018 Global AIDS Monitoring.

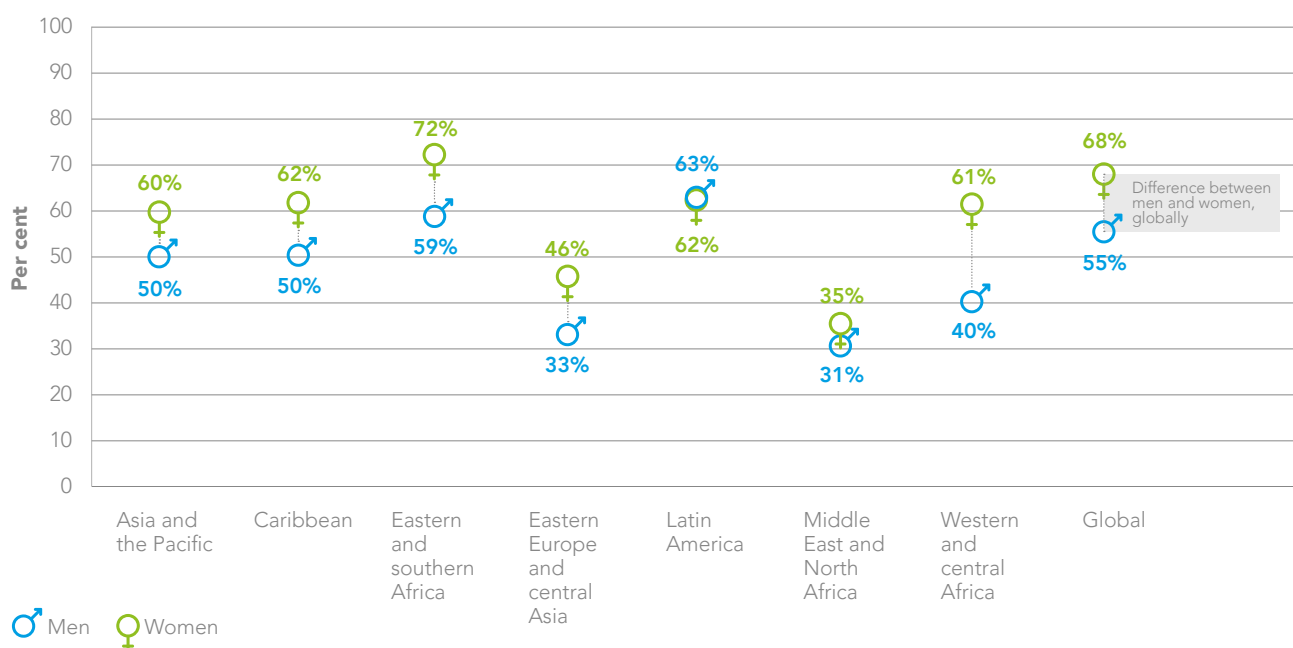
## More countries have achieved the 90–90–90 targets

Fifteen countries have reached the threshold of having at least 73% of people living with HIV virally suppressed, including six countries that reported achieving all three of the 90s and another (Table 4.1).

Among them are three countries with high HIV burdens: Botswana, Eswatini and Namibia. Eleven eastern and southern African countries have achieved at least one of the three 90s, a feat matched by only four countries in western and central Africa and five in Asia and the Pacific, where adult HIV prevalence is comparatively lower. ■

**FIGURE 4.8** HIV testing and treatment cascade among adults aged 15 years and older, by sex, global, 2018

Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**FIGURE 4.9** Coverage of antiretroviral therapy by sex (men and women aged 15 years and older), global and regional, 2018

Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.



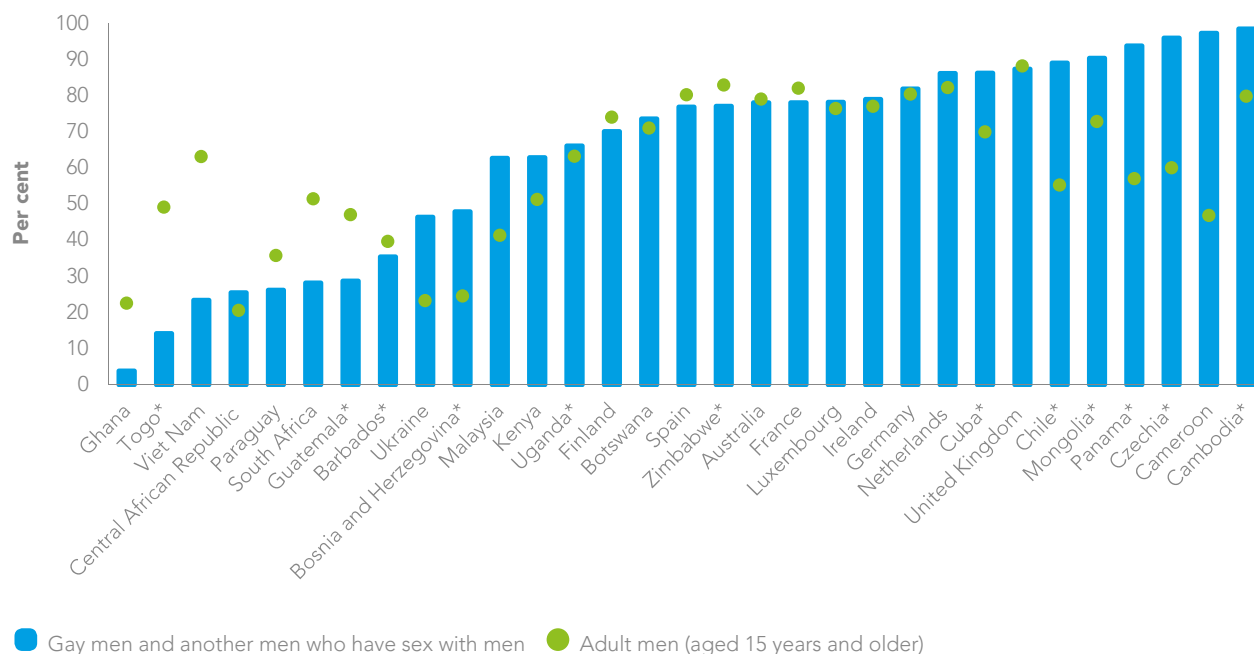
## Testing and treatment gaps often bigger for men

Each year, more countries report sex-disaggregated data to UNAIDS. These data have reinforced previous analyses of a discrepancy between men and women in coverage across the continuum of HIV testing and treatment services. Globally, among people living with HIV aged 15 years and older, coverage for each of the three 90s was considerably higher for women than for men (Figure 4.8). This is in line with numerous studies showing that men are less likely than women to take an HIV test and to initiate and adhere to HIV treatment, which results in poorer clinical outcomes and a greater likelihood that they will die of AIDS-related causes (5–11). The low utilization of HIV services among men reflects general patterns of male health-seeking behaviour, which have been attributed to prevailing norms of masculinity,

stigma, opportunity and other costs of attending health facilities, and inconveniently designed services (among other factors) (12–15).

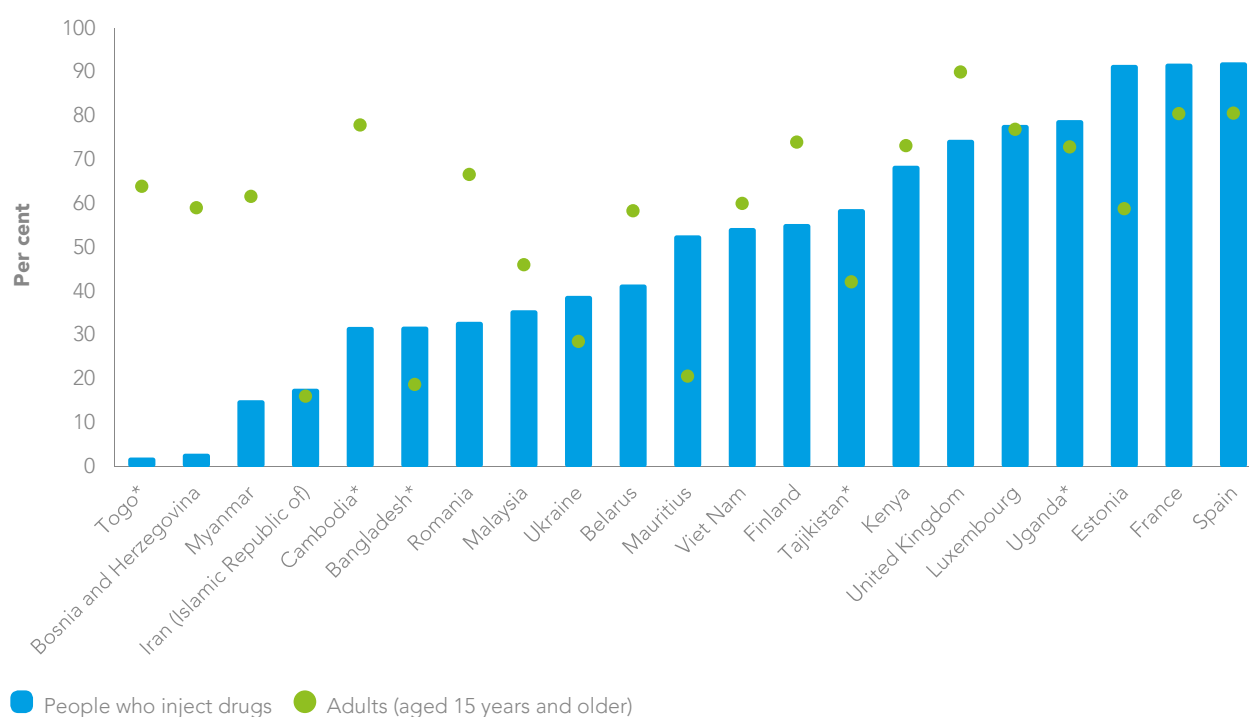
The disparity is evident across a range of geographic and epidemic settings. Regional estimates indicate that coverage of antiretroviral therapy was higher among women than men in all but one region with sex-disaggregated data (Figure 4.9). The disparity was most pronounced in western and central Africa, where an estimated 61% [32–67%] of women living with HIV were receiving HIV treatment in 2018, compared with 40% [18–41%] of their male peers. Treatment coverage for men and women differed by at least 10% in Asia and the Pacific, the Caribbean, eastern and central Africa, and eastern Europe and central Asia—trends that may reflect the fact that antenatal services have been a key entry point for HIV testing and treatment services in many regions. ■



**FIGURE 4.10** Antiretroviral therapy coverage among gay men and other men who have sex with men versus the adult male population, selected countries, 2016–2018

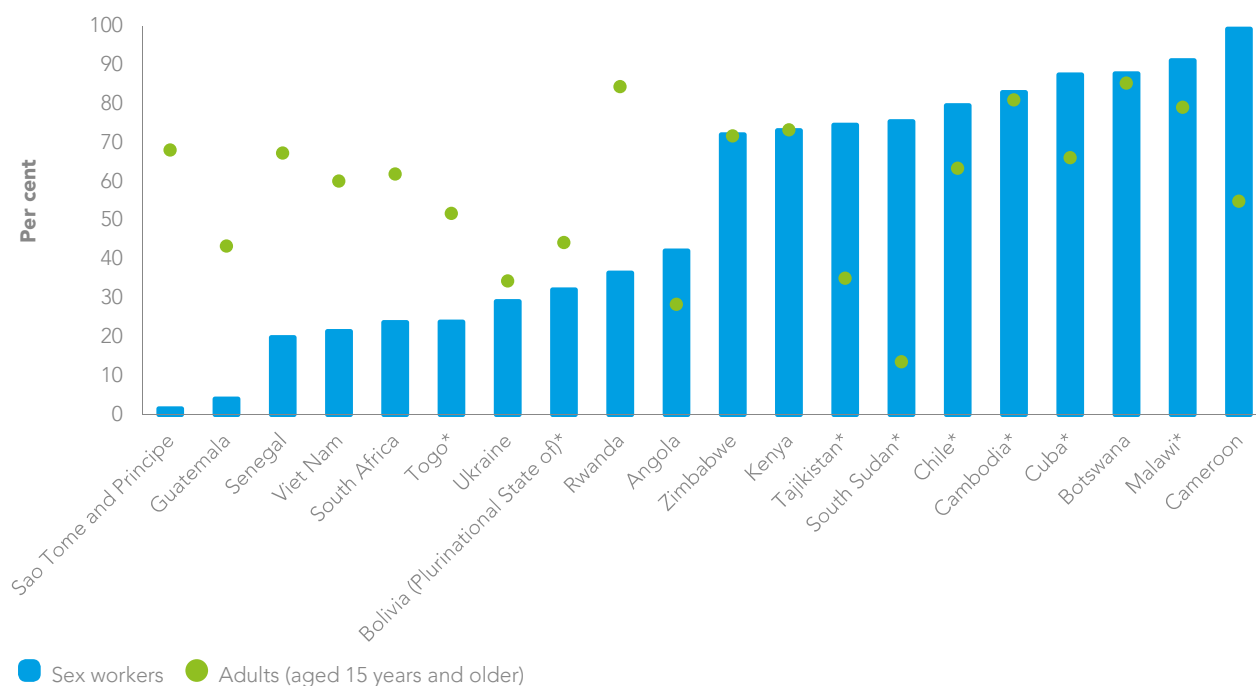
Note: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values) and not from a survey.

Source: 2016–2018 Global AIDS Monitoring; UNAIDS 2019 estimates.

**FIGURE 4.11** Antiretroviral therapy coverage among people who inject drugs versus the adult population, selected countries, 2016–2018

Note: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values) and not from a survey.

Source: 2016–2018 UNAIDS Global AIDS Monitoring; UNAIDS 2019 estimates.

**FIGURE 4.12** Antiretroviral therapy coverage among sex workers versus the adult population, selected countries, 2016–2018

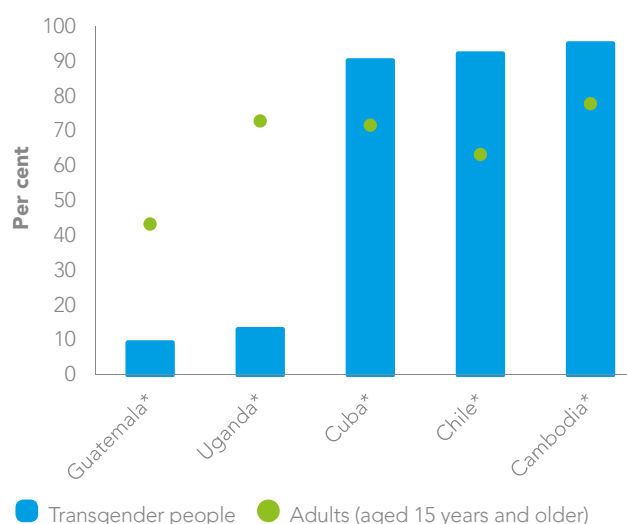
Note: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values) and not from a survey.

Source: 2016–2018 Global AIDS Monitoring; UNAIDS 2019 estimates.

### Key populations often have varied levels of treatment access

Punitive laws, social stigma and structural discrimination often block key populations from accessing the HIV testing and treatment services they need. For example, in about half of countries with available data, sex workers and people who inject drugs have lower treatment coverage than the country's entire adult population of people living with HIV (Figures 4.11 and 4.12).

Variations in coverage offer a glimpse of the important work of community-based groups and other civil society organizations in mitigating those difficulties. It is notable, for example, that in many of the countries with available data, treatment coverage among gay men and other men who have sex with men is roughly similar to (or even higher than) the rate among adult men (Figure 4.10). In the few countries with treatment data for transgender people, coverage estimates vary widely (Figure 4.13). These comparisons contain a mixture of survey data and programme data. Surveys are often conducted in well-served areas of the country and may not be nationally representative; in addition, programme data, which by definition come from areas served by programmes, tend to show higher values of coverage. Varying quality of population size estimates for key

**FIGURE 4.13** Antiretroviral therapy coverage among transgender people versus the adult population, selected countries, 2016–2018

Source: 2016–2018 Global AIDS Monitoring; UNAIDS 2019 estimates.

The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values) and not from a survey.

populations from country to country adds additional uncertainty to comparisons of treatment coverage among these populations and the general population.

## MAKING AN IMPACT WITH COMMUNITY-BASED SERVICES IN SOUTHERN AFRICA

An intensive door-to-door effort by community health workers to promote and provide HIV and health services can achieve the 90–90–90 testing and treatment targets and dramatically reduce new HIV infections, the HPTN 071 (PopART) study in South Africa and Zambia has shown.

The largest study of its kind, the PopART trial took place between late 2013 and early 2018 and included 21 urban communities with a total population of 1 million people. The aim was to cover the entire population so that each community resident was visited and offered services at least once a year over roughly three years.

The household visits and services were the task of hundreds of Community HIV Care Providers, or “CHiPs” as they became known. They visited homes, providing information about HIV and offering HIV testing and linkage to immediate HIV care at nearby government facilities. They also provided support for treatment adherence, distributed condoms, screened residents for sexually transmitted infections and tuberculosis, and promoted voluntary medical male circumcision and services to prevent mother-to-child transmission (Figure 4.14) (16, 17).

As a result of the CHiP intervention, the proportion of people living with HIV in the intervention communities who knew their HIV status and took antiretroviral therapy such that the virus was undetectable in their blood increased from around 54% to more than 70%. The incidence of HIV infections was 20% lower and viral suppression levels were 12% higher in the CHiPs intervention communities than the standard-of-care control communities (Table 4.2).

### How the CHiPs went about their work

About two thirds of the community health workers lived in the communities they served, and a significant proportion of them were living with HIV themselves.

“When you live in one area, you are like family,” explains Irene Ng’andu, a young mother living with HIV who had been volunteering at her local clinic when she was encouraged to apply to become a CHiP.

**TABLE 4.2 Comparison of HIV incidence and viral suppression between the intervention communities (arms A and B combined) and control communities (arm C) in HPTN 071 (PopART) trial, 21 urban communities of South Africa and Zambia, 2013–2018**

	Intervention	Control	Relative risk (95% CI)	P-value
HIV incidence	1.24	1.55	0.81 (0.66–0.99)	0.04
Viral suppression				
Baseline	56%	54%		
24 months	70%	60%	1.12 (0.97–1.29)	0.1

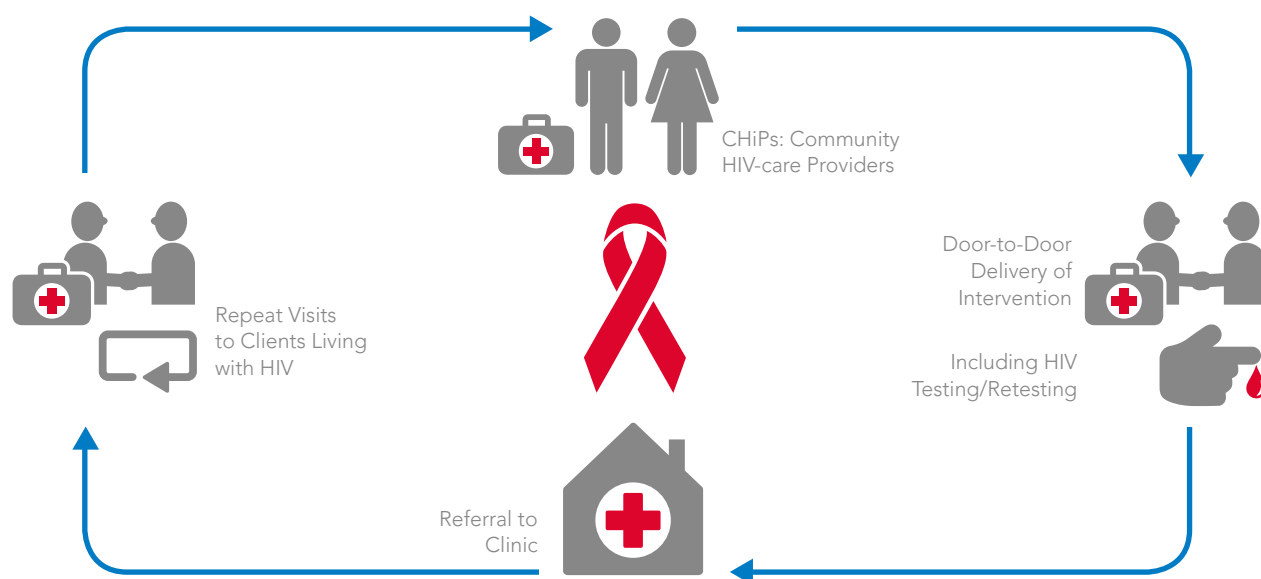
Note: The relative risks for HIV incidence and viral suppression were estimated using methods for community randomized trials. The relative risk for HIV incidence was adjusted for age, sex and baseline HIV prevalence, while the relative risk for viral suppression was adjusted for age and sex.

Source: Special analysis of HPTN 071 (PopART) final results provided to UNAIDS by Sian Floyd, London School of Hygiene and Tropical Medicine.

“I was HIV-positive and I saw the benefit I gained, the information and the courage to focus my life. So when I thought of myself, how I was able to survive, I said ‘No, let me help my community.’”

Most of the community health workers were aged 25–35 years and they worked in pairs, with each pair assigned to a geographical area containing 350–450 households. In Zambia, for example, 412 CHiPs covered eight communities. The pairs were created based on availability, gender balance (although about two thirds of CHiPs were women), proximity to the work area and personal characteristics. Interestingly, whether or not the two-person CHiPs teams included a man did not seem to affect the uptake of the intervention or HIV testing among male participants (18).

Supervisors monitored the work and liaised with health-care providers. Quality assurance measures, including visits by a trained nurse, were applied to ensure that HIV testing and counselling was of high quality. In addition, each CHiP underwent an annual blinded panel testing assessment; those who did not pass were retrained.

**FIGURE 4.14** The community HIV care providers (CHiPs) door-to-door intervention in the PopART study

Source: Hayes RJ, Donnell DJ, Floyd S, Mandla N, Bwalya, J, Shanaube K et al. Impact of universal testing and treatment in Zambia and South Africa: HPTN071(PopART). Conference on Retroviruses and Opportunistic Infections (CROI), Seattle, 4–7 March 2019. Abstract 92.

## HOW THE POPART STUDY WORKED

The PopART study randomly allocated the 21 survey communities into one of three approaches: CHiPs were recruited to work in both Arms A and B, the intervention arms, while the control group, Arm C, continued to receive the local standard of care. In all three arms of the study, the routine HIV services at government health facilities were supported.

When the trial began, the thresholds for initiating antiretroviral therapy in the two intervention arms were different. In Arm A, people found to be living with HIV were offered antiretroviral therapy immediately, while their counterparts in Arm B were offered treatment in accordance with the prevailing treatment guidelines in each country. During the course of the trial, however, the national guidelines changed, and people found to be living with HIV in all three arms were eventually offered antiretroviral therapy, regardless of CD4 cell count. This meant that for most of the trial period during which HIV incidence was compared, the PopART intervention in Arms A and B was effectively identical.

Amid the generally promising findings were some puzzling results. For example, the estimated reduction in HIV incidence was 7% in one intervention arm (Arm A) but 30% in the other intervention arm (Arm B). It is possible that these different effects were due to chance—despite the massive sample size of the study, the estimates are still subject to a great deal of random variation due to variability between communities. The PopART researchers are analysing the rich data from the study to seek explanations for these findings.



At first, the work was not easy: stigma and suspicion in the communities made it difficult for the CHiPs.

“It was hard for people to open the doors to us,” recalls Ms Ng’andu. “Even people who were already on antiretroviral therapy were shy to give us the information. Some were even lying to us about their names and backgrounds.”

“Sometimes people called us names. There was one man who said we were from Satan! He said, ‘What do you do with this blood, these kits? Do you go show them to everyone now?’”

Gradually, though, the CHiPs overcame the apprehension. “We reached a point where people understood what was happening and they opened up,” Ms Ng’andu says. “I think one big impact was that our work has helped to stop stigma in the community.”

As the early results came in, PopART researchers identified challenges that required special attention. One early hitch was a delay in linking the people who tested HIV-positive to treatment services. Rapid linkage to care—even within the same day—is feasible when the HIV test is conducted in or near a health facility that provides antiretroviral therapy. Community-based HIV testing, on the other hand, often occurs far from a treatment provider.

During the first annual round of the study in Zambia, for example, only about 40% of people diagnosed with HIV initiated antiretroviral therapy within six months of referral, with the median time being

11 months. The study tackled this by paying greater attention to linkage to care: CHiPs verified that people who had tested HIV-positive had started treatment by conducting return visits and through improved coordination with nearby health facilities that were offering treatment (19). The median time for linkage to treatment was soon reduced to four months (20).

### Making an impact

The communities receiving the door-to-door service package reached service coverage and outcomes in line with the 90–90–90 targets (21).

“In my community, 90% of the people were able to take an HIV test. And 90% of those people who tested positive, we linked them to the clinic to start medication. And 90% of them, their viral load went down—it has not gone up. Their lives have changed,” says Ms Ng’andu.

Taken together, the results on HIV incidence and the data on viral suppression show that the CHiP intervention can be implemented on a large scale, and that it can substantially reduce HIV transmission at the community level. With around 20% fewer new infections each year in communities with CHiPs compared to those without, the number of averted infections would continue to increase over time. The PopART researchers believe that such a reduction would make a strong contribution to bringing HIV under control and to working towards ending AIDS as a public health threat by 2030 (17).



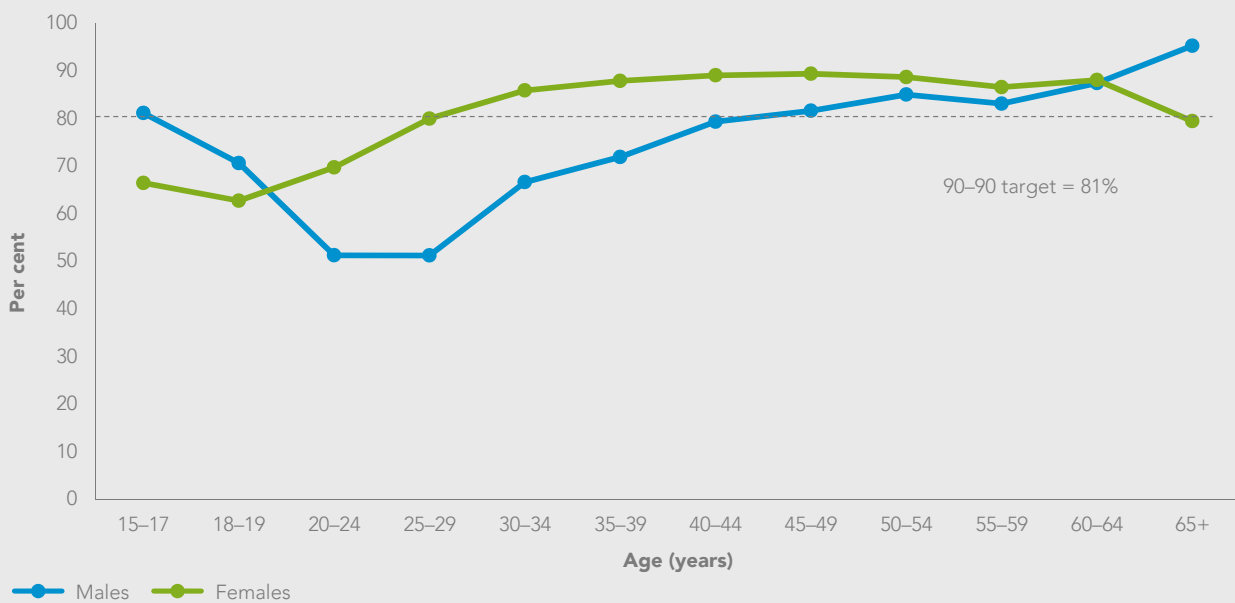
Two Community HIV Care Providers from the HPTN 071 (PopART) trial speak to children in a Zambian village.

Credit: Zambart

## MEN AND YOUNG PEOPLE REMAIN DIFFICULT TO REACH WITH HIV TESTING SERVICES

The CHiP intervention brought clear improvements: testing uptake was increased, linkage to antiretroviral therapy was faster and retention on treatment was strengthened. For example, after the second annual round of the CHiP intervention in Zambia, about 86% of HIV-positive adults knew their status, much higher than the 50–55% prior to the intervention (17).

**FIGURE 4.15** Antiretroviral therapy coverage in HPTN 071 (PopART) trial, intervention communities (Arms A and B combined), by age and sex, South Africa and Zambia, 2017



Source: Special analysis of HPTN 071 (PopART) final results provided to UNAIDS by Sian Floyd, London School of Hygiene and Tropical Medicine.

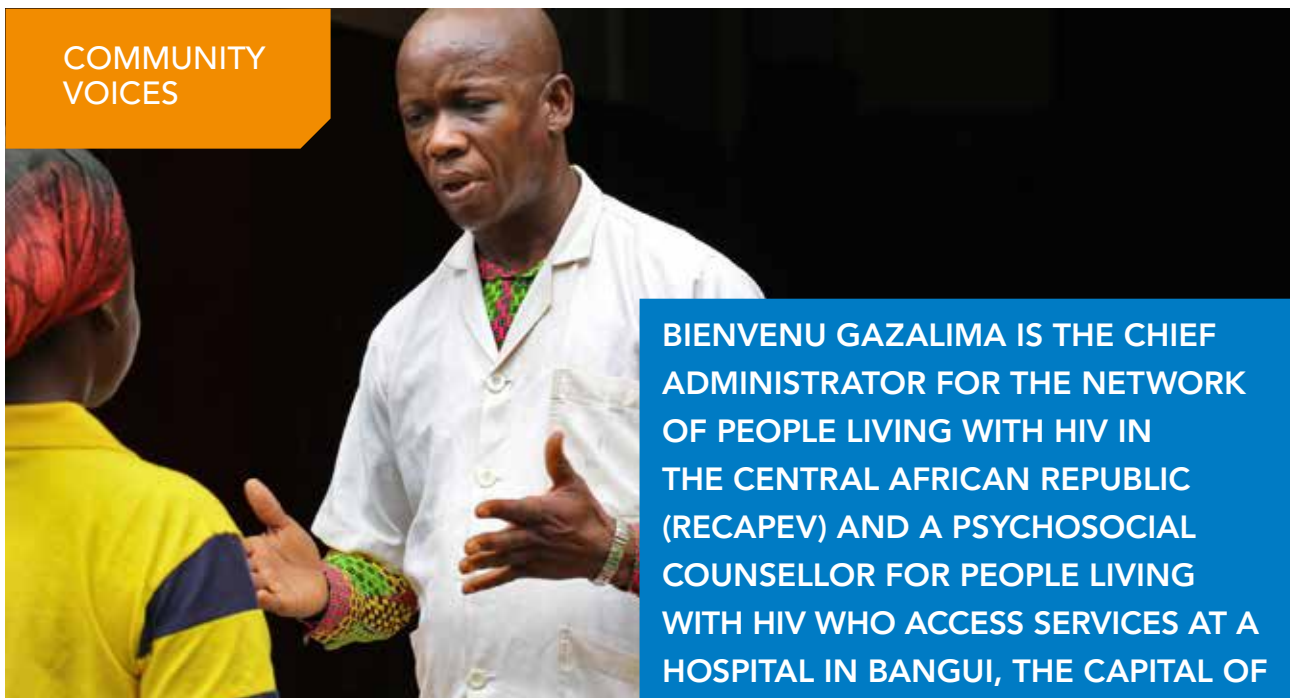
However, coverage of the CHiP intervention was lower among men and young people under 25 years of age (Figure 4.15). Knowledge of HIV-positive status was lower in men than women (78% versus 90%), and among young adults compared with older adults (16). That may have been because adolescent boys and men were much less likely to be home during the CHiP visits (22).

Tellingly, linkage to care was not slower for adolescents than for adults, and once people were attending clinics, the uptake of antiretroviral therapy was very high for both men and women. In Zambia, for example, treatment coverage among HIV-positive men and women who knew their HIV status on treatment was similar: about 80%. Similarly, retention on treatment was similar for men and women in both the South African and Zambian arms of the study (in the 91–94% range). The big discrepancies in uptake and outcomes were around HIV testing.

Analysis of the study data provided additional insights. It was more challenging to reach adolescents aged 10–17 years with testing services than those aged 18–24 years, and it was especially difficult to reach the younger males. While school-based interventions did reach substantial numbers of in-school adolescents, the yield of HIV diagnoses was very low. ■

## HIV SHOULD NOT SENTENCE PEOPLE TO A LIFE OF STIGMA AND DISCRIMINATION

### COMMUNITY VOICES



**BIENVENU GAZALIMA IS THE CHIEF ADMINISTRATOR FOR THE NETWORK OF PEOPLE LIVING WITH HIV IN THE CENTRAL AFRICAN REPUBLIC (RECAPEV) AND A PSYCHOSOCIAL COUNSELLOR FOR PEOPLE LIVING WITH HIV WHO ACCESS SERVICES AT A HOSPITAL IN BANGUI, THE CAPITAL OF THE CENTRAL AFRICAN REPUBLIC.**

I have been living with HIV for 26 years now, and I am the father of five children, all HIV-negative. As such, I know all too well not only the stigma and discrimination that comes with a positive HIV diagnosis, but also how vitally important it is that these and other barriers to HIV services are removed.

After discovering my HIV status, I joined RECAPEV to combat the loneliness I felt, and to exchange information with my peers on the effects of HIV. Over the years, I have increasingly dedicated my life to addressing the stigma and discrimination experienced by people living with HIV, especially in health-care settings.

Stigmatizing attitudes and discriminatory behaviour—including from health-care workers—and the political and humanitarian crisis in my country explain the low coverage of antiretroviral therapy, with less than 40% of people living with HIV on treatment. In order to address stigma in health-care facilities, members of RECAPEV formed a psychosocial support group to guide people living with HIV.

In 2015, we decided to show the government and society in general the extent of this problem. RECAPEV conducted a Stigma Index survey with the support of the National AIDS Control Committee,

UNAIDS and other partners. The results of this survey revealed that more than 85% of people living with HIV have been denied health services because of their HIV status, and that nearly one in five people living with HIV had to change residence because of gossip related to their HIV status.

The results of the Stigma Index survey led to the establishment of a national partnership against discrimination, launched on 1 March 2019. This partnership includes civil society, government, religious and community leaders, and development partners, who together take targeted actions against stigma and discrimination. As part of this partnership, RECAPEV is conducting a national awareness campaign, training activities for health-care workers and the development of a charter for patients living with HIV.

These activities are helping put the HIV response in the Central African Republic on the right track. But they are not enough: more support is needed to expand our community leadership actions against stigma and discrimination, and to ensure that everyone living with HIV gets the treatment, care and respect they deserve. ■

## WHEN THE PRICE IS NOT RIGHT: REMOVING BARRIERS TO AFFORDABLE TREATMENT

Equitable access to affordable medicines remains a major concern in middle-income countries, which are home to more than half of the world's people living with HIV.

Due to the income classification of these countries, they often do not benefit from voluntary licensing agreements and drug access programmes from pharmaceutical companies that would greatly reduce the prices they pay for antiretroviral medicines. Many middle-income and high-income countries also face demands to introduce even stricter intellectual property rules that would further hinder access to more affordable, generic antiretrovirals and other medicines. As a result, the prices of antiretrovirals in many middle-income countries are considerably higher than in low-income countries (23, 24).

Argentina, a high-income country undergoing an economic crisis, has found itself in such a predicament. In response, communities of people living with HIV have been monitoring patent applications and, with the support of legal experts, challenging patents that may block access to treatment. Success can reduce the overall costs of medicines through increased competition and the import of more affordable generic versions of drugs.

Leading such efforts in Argentina is the Fundación Grupo Efecto Positivo (FGEP), a non-profit organization working to improve the quality of life of people living with HIV. "We started fighting in order to save our lives," says Lorena Di Giano, a human rights lawyer and treatment activist who founded the organization. She also coordinates a regional programme for improving access to antiretroviral medicines in Latin American countries by addressing factors that affect access to them, such as intellectual property rights.

In 2015, the price of a first-line antiretroviral regimen in Argentina was US\$ 2642 per person per year, 26 times higher than the lowest-priced generic version of this regimen (US\$ 100) (25).<sup>1</sup> That price discrepancy was due mainly to a patent application that had been filed on this fixed-dose combination.

FGEP analysed the application and filed two patent oppositions, arguing that the drug was not patentable because its combination of three existing antiretrovirals

did not amount to "invention" or "novelty," which are basic requirements for patenting a pharmaceutical drug in Argentina.

With support from the International Treatment Preparedness Coalition, FGEP monitored the patent application process and purchase price of the drug. Joined by a range of allies, it lobbied decision-makers, engaged in policy dialogues and kept the story in the media. It also supported the government's efforts to pursue generic purchasing and encouraged generic drug suppliers to enter the Argentine market.

Ms Di Giano says FGEP's work encouraged the Ministry of Health to consider sourcing generic antiretrovirals. "This was technically possible because the patent application was pending and had not been granted yet; buying generics would not have constituted an infringement," she explains. "Our work aims also to raise awareness [among] decision-makers, and we engage in dialogue with them before taking any action."

As a result of this legal, technical and advocacy campaign, both patent applications were withdrawn by the pharmaceutical companies that had filed them. This opened the way for generic competition, which led the price of the first-line regimen to fall to US\$ 152 per person per year—a 94% price reduction. This amounted to a savings of US\$ 37 million for the country's national AIDS programme (25).

The breakthrough in Argentina was one of several victories achieved as part of a four-country Make Medicines Affordable campaign led by the International Treatment Preparedness Coalition with support from Unitaid.<sup>2</sup> At the end of 2017, the coalition reported price reductions of 50% or more on at least two key antiretroviral medicines and approximately US\$ 472 million in annualized cost savings across focus countries (26).

The campaign has been extended to cover 19 middle-income countries in Asia and the Pacific, eastern Europe and central Asia, and the Middle East and North Africa (27). It is also widening its focus beyond antiretrovirals to hepatitis C and tuberculosis medicines. ■

1 The combination was efavirenz/emtricitabine/tenofovir (or TDF/FTC/EFV).

2 Argentina, Brazil, Thailand and Ukraine.



## ENSURING WOMEN LIVING WITH HIV ARE INVOLVED IN DECISIONS ABOUT THEIR ANTIRETROVIRAL THERAPY

From the early days of ACT UP! in North America and Europe and the Treatment Action Campaign in South Africa, community activism and mobilization have been decisive in raising HIV to the top of the global agenda and bringing life-saving treatment to millions of people.

Networks of people living with HIV may not make international headlines as often as before, but they are crucial to maintaining momentum towards the global target of 30 million people accessing antiretroviral therapy by 2020.

Supported by entities such as the International Treatment Preparedness Coalition, national networks continue their advocacy for treatment access, implement and monitor treatment programmes, support people to access and stay on treatment, and perform an important monitoring role. The aim is for all people living with HIV to have access to health services, receive the best possible health care and reduce their viral load to undetectable levels (26).

But decisions about antiretroviral regimens often have been considered the preserve of medical experts and government officials, with affected communities left unaware of the options available to them. As a result, people living with HIV sometimes remain on older, less optimal medicines long after improved treatment becomes available elsewhere. That is now changing.

Across sub-Saharan Africa, community advisory structures have been established to ensure that people living with HIV have a say in the treatment policy decisions that affect their lives. An important player in this initiative is the African Community Advisory Board (AfroCAB), an Africa-wide organization that works with local networks of people living with HIV, treatment activists and advocates. Funded by Unitaaid and supported by the Clinton Health Access Initiative (CHAI) and HIV i-Base, AfroCAB identifies community members to join national treatment optimization community advisory boards that consult with national community networks to share knowledge and raise issues of concern. These community advisory boards and other community groups involve people living with HIV in the decisions that affect their health and lives.

In mid-2018, they played an important role in the roll-out of new antiretrovirals, including dolutegravir.<sup>3</sup>

Dolutegravir is part of a new fixed-dose combination of tenofovir, lamivudine and dolutegravir (often abbreviated as TLD) that has been shown to be better tolerated, less likely to lead to treatment disruption and more associated with rapid viral suppression than other first-line antiretroviral regimens currently in use. In May 2018, however, interim results from the Tsepamo study in Botswana indicated a potential link between neural tube defects in infants and dolutegravir use by their mothers at the time of conception (28).

The policy responses were mixed. Some countries went ahead with introducing the new regimen for all first-line antiretroviral therapy patients (with notes of concern for women of childbearing potential). A few countries refrained from introducing the regimen and others vacillated. The community advisory boards played a vital role at this important juncture, bringing forward community voices that have informed and shaped the international response.

In July 2018, AfroCAB convened a meeting in Kigali, Rwanda, of women living with HIV from 18 countries to discuss the safety concerns and develop a joint position statement. After considering the latest available evidence, including personal accounts from women who had been taking dolutegravir, the women took a unanimous decision against the blanket exclusion of dolutegravir. They argued that the benefits of dolutegravir use outweighed its potential risks, and they demanded that women should be given an informed choice. Referring to published studies, they pointed out that all antiretroviral medicines have associated side effects, including possible adverse birth outcomes (29, 30).

The Kigali participants also broadened the discussion. They declared that, with the correct information and contraceptive access, women can make their own informed choices, both about using dolutegravir and about their reproductive health more broadly. They stressed that not all women seek to have children, and that the potential safety risks were limited to dolutegravir use during conception. The women also

<sup>3</sup> Research is underway to determine the nature and extent of any risk associated with dolutegravir. In the meantime, the World Health Organization has advised health-care providers to inform women about the benefits and possible risks of dolutegravir and to offer other treatment regimens to women planning to become pregnant. New guidelines are expected in 2019.



used the dolutegravir discussion as an opportunity to highlight the need to integrate access to contraceptives into HIV treatment services in order to achieve universal access to reproductive health care, based on women's choices (31, 32).

The resulting joint position statement from the Kigali meeting was widely distributed, including at the International AIDS Society (IAS) 2018 Conference. It has since influenced discussions and decisions about the use of dolutegravir at the global and country levels.

"Access to dolutegravir for women living with HIV in Africa was uncertain, but the Kigali women's meeting and subsequent global, regional and national advocacy efforts changed the conversation," says Kenly Sikwese, Executive Director of AfroCAB and outspoken person living with HIV.

Similar community initiatives were conducted at the national level. In Kenya, community members held consultative meetings to discuss the roll-out of dolutegravir. They set up a WhatsApp group to workshop inputs for discussions with top Ministry

of Health officials and then wrote a petition, which was also posted on social media, to disseminate the recommendations of community members who attended the consultations. "Engagement with the communities ... is important, because we are the final product users," says Jacque Wambui, a community advisory board representative from Kenya who cofacilitated the Kigali consultation (34).

Fourteen community dialogues were also held across Zimbabwe in 2018 to consult with and update women living with HIV on the use of dolutegravir and access to sexual and reproductive health services. Their views were compiled into a report to the Zimbabwe Ministry of Health and Child Care and helped inform Zimbabwe's new guidelines, which include dolutegravir as the preferred first-line regimen (34). The Ministry also requested the community's continued involvement in the roll-out and implementation of the guidelines.

For women living with HIV, this was a big change, as they now felt that policy-makers were consulting them regarding their health and well-being. "Previously, we were just switched suddenly [to new treatment regimens]," said a woman who attended one of the consultations. "This time the [Ministry] has engaged us" (34).

Community advisors are developing user-friendly information and treatment literacy materials to improve patients understanding of new treatment options and to advocate for new, improved antiretrovirals. The community advisory board also supported meetings across Malawi to familiarize people living with HIV with the materials (34).

Community members in Benin and Togo produced radio programmes to inform listeners about the availability and benefits of new antiretrovirals, while their counterparts in Nigeria produced pamphlets and videos on treatment adherence, antiretroviral side-effects and issues related to changing drug regimens.

Other organizations, such as the Salamander Trust, have also been supporting civil society's advocacy and consultations on dolutegravir with women living with HIV. The Trust has produced podcasts, publications and advocacy briefs to bolster women's rights to make their own decisions about HIV treatment, pregnancy and contraceptive use (35).

These efforts are showing that the greater involvement of affected communities in health service delivery can help ensure those services meet their needs and improve progress towards the shared goals of universal and high-quality HIV treatment coverage. ■

#### CORE RECOMMENDATIONS FROM WOMEN LIVING WITH HIV ON THE USE OF DOLUTEGRAVIR, ISSUED AFTER THE 2019 KIGALI MEETING

- Do not deny us, women living with HIV, access to dolutegravir regardless of our childbearing potential.
- Strengthen HIV and sexual and reproductive health services to ensure access to dolutegravir together with acceptable, available, affordable and accessible contraception.
- Do not force women living with HIV to take a particular medication.
- Involve us, the women living with HIV, in local, national, and global discussions and decisions regarding HIV treatment options.
- Include us in research studies and clinical trials.
- Better integrate HIV, sexual and reproductive health, and other treatment support services.
- Clearly communicate the short- and long-term side effects of antiretrovirals to enable us to make informed decisions.
- Strengthen surveillance systems in order to detect any and all potential risk and harm due to use of antiretrovirals (33).

## LEARNING FROM THE KENYAN AND AMERICAN COMMUNITIES OF GAY MEN LIVING WITH HIV

### COMMUNITY VOICES



**ANTHONY ADERO OLWENY IS A KENYAN GAY MAN LIVING WITH HIV. HE IS LIVING AND WORKING IN WASHINGTON, DC, AS A PEER NAVIGATOR FOR HIV SERVICES.**

As a gay man living with HIV in Kenya, I faced many challenges. I started to engage in community advocacy around HIV and lesbian, gay, bisexual, transgender and intersex (LGBTI) issues. It was important for me to let other people know about my experiences and bring about change at both the community and larger societal level.

I started to experience harassment, marginalization and discrimination based on my sexual orientation and HIV status. I received death threats, and during this time, I also lost one of my closest friends. It became so unbearable that I eventually had to leave my country for my own health and safety.

I ended up moving to the United States of America where I had to start my life from scratch. It was not easy, particularly adapting to a totally different cultural environment. I sought help from both the LGBTI community and the community of people living with HIV.

Despite the relatively high calibre of medical care in the United States, stigma and discrimination against

the LGBTI community and people living with HIV still create many issues, but community advocates have helped me become resilient and to be who I am. They also reminded me of how important it is to maintain my ties with the community, since this is the first place I can reach to for help.

I want to contribute to the community. I have found hope and support by acting as a peer and client navigator within the health-care system in the United States. I also advocate for better health-care and an end to HIV-related criminalization. I am currently studying to become a professional social worker.

In the Kenyan health-care system, I saw persistent negative stereotypes and biases, including the incorrect beliefs that all LGBTI people are sex workers, and that all gay men and other men who have sex with men have HIV. I want to help those in the LGBTI community living with HIV, not only in the United States, but also in my own country. My hope is that in the future, other Kenyan gay men will not follow in my footsteps, forced to leave their country because of their sexual orientation or HIV status. ■

## NOW MORE THAN EVER: DELIVERING HIV SERVICES IN TIMES OF HUMANITARIAN CRISIS

The HIV response faces difficult challenges under ordinary circumstances. Humanitarian crises, however, can push HIV prevention, testing, treatment and care services to the brink of failure.

In March 2019, Intense Tropical Cyclone Idai, one of the southern hemisphere's worst tropical storms on record, caused catastrophic damage in Malawi, Mozambique and Zimbabwe (36). A month later, Intense Tropical Cyclone Kenneth made landfall in Mozambique as the strongest tropical cyclone the country had experienced since record-keeping began (37). The second storm exacerbated an already serious humanitarian crisis: more than 1.5 million people were affected, with more than 1600 injured and 600 dead.

The twin disasters left many rural and urban dwellers with the barest minimum of health care. The cyclones reduced access to HIV services and added to HIV risks: with the breakdown of social order and accepted codes of behaviour—and in the absence of community protection mechanisms—many women and girls were exposed to sexual and gender-based violence.

Mozambique's Ministry of Health, public health workers, community health workers, community activists and development partners worked tirelessly to re-establish life-saving HIV services, and to trace and link people living with HIV to health services and psychosocial support.

Their efforts highlight the importance of a people-centred approach. The situation encouraged mainstreaming HIV and tuberculosis services into the ongoing response to the acute threat of cholera, malaria and food insecurity. In addition to addressing the crisis, longer-term social-structural issues that increase vulnerability to HIV and threaten people living with HIV will require greater attention. This includes tackling broader gender inequalities, stigma and discrimination, and lack of confidentiality in health-care facilities and other settings.

At the same time as Mozambique is experiencing natural disasters and their aftermath, Venezuela's economic and political crisis has led to the displacement of millions of people. As of June 2019, there were 4 million Venezuelan refugees and migrants in countries across Latin America and the Caribbean, one of the largest displacements of people in the history of the region (38).

Some countries maintained open borders for Venezuelans and provided shelter and support for migrants and refugees, but the demand was often beyond what they could manage. The International Organization for Migration (IOM) and the United Nations High Commissioner for Refugees (UNHCR) created the Regional Inter-Agency Coordination Platform, which developed the Regional Refugee and Migrant Response Plan to support the efforts of national authorities in 16 host countries (39, 40).

Physical, cultural and social limitations can prevent migrant people living with HIV from accessing health services. Sexual orientation may create additional risks in countries where same-sex sexual relationships are highly stigmatized or criminalized (41). UNAIDS developed two sets of recommendations for governments, civil society



The injured feet of a Venezuelan man who walked hundreds of kilometers from Venezuela to Tumbes, at the border between Ecuador and Peru, to escape the crisis in his country.

Credit: Santiago Escobar





Damage from cyclones that hit Mozambique in early 2019.

Credit: Shutterstock

organizations, international organizations, migrants, refugees, and host communities that are specific to the care of migrants and displaced people living with HIV:

- An Initial Minimum Response: what is required to cope with emergencies that prompt a mass exodus of people, such as that from Venezuela.
- An Expanded Response: a process to integrate migrants and refugees into national response planning.

In 2018, UNAIDS and the Pan American Health Organization (PAHO) developed a three-year Master Plan for Strengthening the Response to HIV, Tuberculosis and Malaria in Venezuela. A scale-up strategy was implemented by United Nations agencies and, at the end of 2018, funding was made available to support the distribution of 60 000 rapid HIV tests and 100 000 syphilis tests in eight hospitals in Caracas and two major states, as well as training for health workers. By May 2019, all

Ministry of Health pharmacies had received 300 000 bottles of combination antiretroviral medicines, with a further 300 000 due in the following months.

Civil society in Venezuela is monitoring delivery of donated antiretroviral medicines and helping people living with HIV navigate the health system to guarantee timely access to services and antiretroviral treatment. UNAIDS is also supporting survivors of rape by training 90 health workers in four border areas to provide comprehensive services to survivors of sexual violence. UNHCR is supporting a national protection network providing assistance and counselling to persons in transit and safe spaces for survivors of sexual and gender-based violence and children at risk. The safe spaces provide confidential case management, counselling, psychosocial support, medical assistance and legal services. ■

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# ELIMINATING MOTHER-TO-CHILD TRANSMISSION OF HIV

## AT A GLANCE

Progress towards the elimination of mother-to-child transmission has been primarily achieved by dramatically increasing the global proportion of pregnant women living with HIV who are accessing antiretroviral therapy.

Impressive gains in eastern and southern Africa have driven progress towards elimination. However, the world is not on track to reach the 2020 target of a 95% reduction in new HIV infections among children.

The vast majority of new child HIV infections in western and central Africa are due to the low coverage of antiretroviral therapy among pregnant women living with HIV.

Community engagement is critical to ensuring that elimination goals are achieved in a manner that protects and respects the human rights of women, particularly women living with HIV and/or syphilis.

Fewer children newly infected with HIV and better health for mothers living with HIV are among the standout achievements of the global AIDS response in recent years, driven by a global movement to eliminate the mother-to-child transmission of HIV.

The Start Free Stay Free AIDS Free initiative is promoting a range of policy and programmatic interventions aimed at reaching the elimination target, as well as other targets set by the United Nations General Assembly for women, young people and children. The initiative is focused on 23 countries that are home to the vast majority of women, young people and children living with HIV.<sup>1</sup>

Progress towards the elimination of mother-to-child transmission has been primarily achieved by dramatically increasing the proportion of pregnant women living with HIV who receive antiretroviral medicines to prevent vertical transmission: from

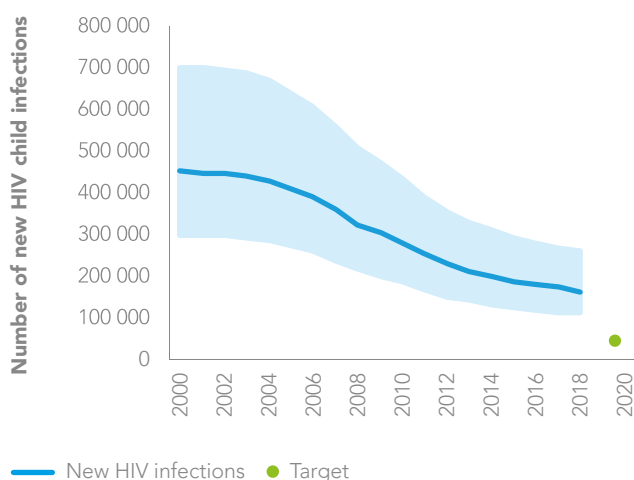
44% [33–54%] globally in 2010 to 80% [62–>95%] in 2018. Leading the charge are high-performing programmes in much of eastern and southern Africa, where 92% [69–>95%] of all pregnant women living with HIV received antiretroviral therapy in 2018, up from 49% [37–59%] in 2010.

However, alongside such impressive gains are some concerning details. In the 23 focus countries, the number of women receiving antiretroviral medicines for preventing mother-to-child transmission of HIV has changed little since 2015, even though women are receiving more effective regimens than before. In western and central Africa, antiretroviral coverage among pregnant women living with HIV declined from 61% [43–80%] in 2014 to 59% [42–78%] in 2018. Weak health systems are holding back progress, as are competing national priorities and shifts in donor funding. The 2020 target of a 95% reduction in new HIV infections among children is in danger of being missed. ■

<sup>1</sup> Angola, Botswana, Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Eswatini, Ethiopia, Ghana, India, Indonesia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Nigeria, South Africa, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.



**FIGURE 5.1** Number of new HIV infections among children (aged 0–14 years), global, 2000–2018 and 2020 target



Source: UNAIDS 2019 estimates.

### Progress in reducing new HIV infections in children

Scale-up of antiretroviral therapy for pregnant women living with HIV has driven progress towards the elimination of mother-to-child transmission. About 160 000 [110 000–250 000] children (0–14 years) globally acquired HIV in 2018, compared to 280 000 [190 000–430 000] in 2010, a 41% reduction (Figure 5.1).<sup>2</sup>

Some countries have achieved remarkable reductions over that period, including Botswana (85%), Rwanda (83%), Malawi (76%), Namibia (71%), Zimbabwe (69%) and Uganda (65%). Several countries and territories with low disease burden have been certified by the World Health Organization (WHO) as having eliminated mother-to-child transmission of HIV and/or syphilis (1). All regions have established validation systems for dual elimination. Worryingly, however, the number of children acquiring HIV has increased in Angola, Equatorial Guinea, the Gambia, Indonesia, Madagascar, Mali and Niger.

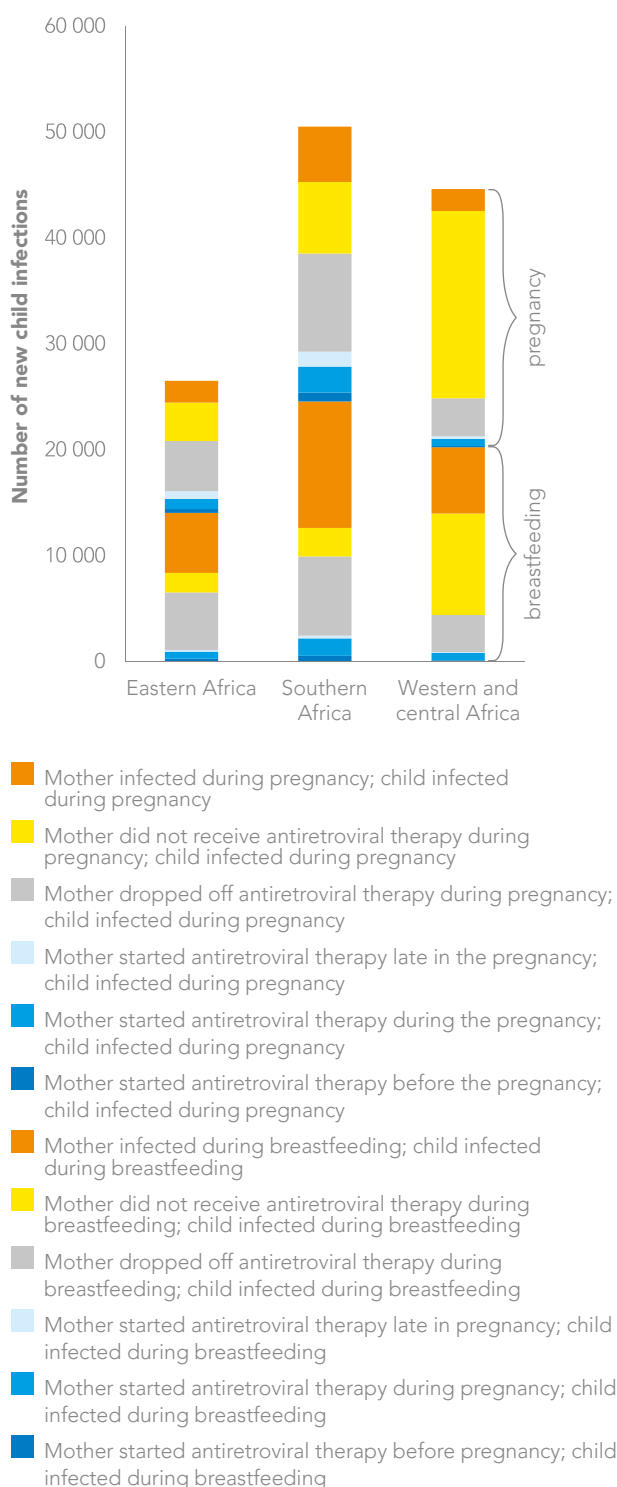
<sup>2</sup> The vast majority of children 0–14 years old who are living with HIV acquired HIV during pregnancy, birth or breastfeeding.

**IN WESTERN AND CENTRAL AFRICA, THE MAJORITY OF NEW CHILD INFECTIONS ARE DUE TO LOW TREATMENT COVERAGE AMONG PREGNANT WOMEN. IN EASTERN AFRICA, MORE THAN HALF OF CHILD INFECTIONS OCCURRED DURING BREASTFEEDING.**





**FIGURE 5.2** Sources of failures to prevent mother-to-child transmission of HIV: numbers of new child HIV infections by region, 21 sub-Saharan countries with the highest HIV burden, 2018



Notes:

Eastern Africa: Ethiopia, Kenya, Uganda, United Republic of Tanzania  
 Southern Africa: Angola, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia, Zimbabwe  
 Western and central Africa: Burundi, Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ghana, Nigeria

Source: UNAIDS 2019 estimates.

## Gaps in HIV services for pregnant and breastfeeding women

Across the 23 focus countries, the overall mother-to-child HIV transmission rate in 2018 was still unacceptably high at 12% [9.8–15.2%]. This reflects a variety of gaps along the continuum of services for eliminating mother-to-child transmission of HIV.

A recent UNAIDS analysis of data from the 21 African focus countries estimates the distribution of new HIV infections attributable to these gaps in sub-Saharan Africa. It found that the vast majority of new child HIV infections in western and central Africa are due to the low coverage of antiretroviral therapy among pregnant women living with HIV. Forty per cent of child infections in 2018 occurred because HIV-positive expectant mothers did not receive antiretroviral medicines during pregnancy. A further 22% of new child infections occurred because mothers living with HIV did not receive antiretroviral medicines during breastfeeding, and another 14% occurred because the mother seroconverted during breastfeeding (Figure 5.2).

In eastern Africa, more than half of child infections in 2018 occurred during breastfeeding, including 21% attributed to women living with HIV stopping treatment during breastfeeding and 21% to the mother becoming infected with HIV during breastfeeding. Another 18% of child infections were attributed to women living with HIV who stopped treatment during pregnancy and 13% to women who did not have access to antiretroviral therapy.

In southern Africa, where 42% of the total number of child infections in sub-Saharan Africa occurred in 2018, 23% were attributed to women who did not have access to antiretroviral therapy and 21% to mothers becoming infected with HIV during breastfeeding. A further 11% were attributed to women living with HIV who stopped treatment during breastfeeding, and 14% to women living with HIV who stopped treatment during pregnancy. ■

## STRENGTHENING A CASCADE OF SERVICES FOR ELIMINATING CHILD INFECTIONS

### Preventing HIV infections among women

The most effective way to prevent children from acquiring HIV is to ensure women are empowered to protect themselves from acquiring the virus. Primary prevention therefore is paramount, but it is a major shortfall in the global AIDS response. Among women of reproductive age (15–49 years), 540 000 [400 000–720 000] acquired HIV in 2018, a 19% decline since 2010 that is far slower than global targets require.

A road map developed by the Global HIV Prevention Coalition highlights the need to reach adolescent girls and young women and their male partners with effective prevention services, to scale up combination HIV prevention programmes for key populations, to increase the availability and uptake of condoms and pre-exposure prophylaxis (PrEP), and to expand voluntary medical male circumcision (VMMC) programmes for HIV prevention (2).

### Preventing HIV infections during pregnancy and after birth

In settings with a high prevalence or incidence of HIV infection, women are at elevated risk of acquiring HIV during pregnancy and breastfeeding, and they require specific support. It is only recently that countries with a high prevalence or incidence of HIV infection have begun offering repeat HIV testing and counselling during antenatal and postnatal care. Retesting for HIV during pregnancy and after birth is recommended in such settings, as well as for women from key populations and women in serodiscordant relationships.

Women should also know the HIV status of their male partners; couples testing and assisted partner notification services can facilitate that knowledge. In cases where male partners are living with HIV, treatment for these men is essential, as is couples counselling and the effective promotion of consistent condom use.

### Testing and treatment for pregnant women

All women living with HIV should be diagnosed and start treatment as soon as possible after acquiring HIV. Women who are already receiving antiretroviral therapy at the time of conception and who are supported through pregnancy and breastfeeding to remain on treatment have a less than 1% chance of transmitting HIV to their child (3). The integration of HIV testing with antenatal care is crucial for diagnosing women living with HIV and linking them to treatment and care services.

There were an estimated 360 000 [180 000–540 000] young women (aged 15–24 years) globally who were living with HIV and pregnant in 2018. Young women need enhanced support along these cascades of services (4). In sub-Saharan Africa, women aged 15–24 years account for almost half of women acquiring HIV, yet country studies indicate that pregnant adolescent girls and young women are less likely than older pregnant women to know their HIV status before starting antenatal care (5, 6). Integrating HIV testing into family planning services may be a good option for increasing access to (and uptake of) testing among younger women, especially if existing HIV testing coverage is low (7).

### WOMEN AT THE FOREFRONT

**A United Nations Children's Fund (UNICEF) report launched in 2018, *Women: at the heart of the HIV response for children*, examines and celebrates the role that women have played throughout the continuing AIDS response. Two complementary themes in the report are central to successful, coordinated efforts to put the world's response to HIV among children and adolescents on a trajectory towards ending AIDS while also meeting the highest quality human rights and equity standards. One is the dynamism and exceptionality of women across all aspects of the HIV response since the epidemic was first identified in the early 1980s. The other is the remarkable and ongoing development of new tools, medicines, approaches and emboldened advocacy that is driving progress and saving countless lives, families and communities.**

## Retaining mothers in care

Approximately 31 000 new child infections globally in 2018 were a result of women living with HIV not being retained in care either during pregnancy or breastfeeding. Women living with HIV who are receiving antiretroviral therapy require support, especially partner and peer support, to assist them in remaining in care and adhering to effective treatment (8, 9). That need is evident in the large numbers of mothers who drop out of care for extended periods, especially after giving birth (10–12).

Integrating antenatal care and services for eliminating mother-to-child transmission of HIV with maternal, newborn and child platforms and nutrition services has proved important for retaining mothers in care after they have given birth (13, 14). Other feasible improvements include home visits by community health workers, electronic client reminder systems with text messaging and peer support (15, 16). Differentiated care services allow for longer intervals between care appointments or antiretroviral pick-ups. The use by health systems of unique identifiers for all mother–infant pairs also facilitates tracking and monitoring the health of women who switch clinics.

There has been some interest in using financial incentives to promote retention in care. However, a recent study in South Africa showed that while

pregnant women regarded financial incentives as acceptable, they preferred improved counselling and education and reliable, integrated services (17). When early infant diagnosis is accessible, it can offer mothers reassurance about whether or not their children have acquired HIV, and it can serve as an additional incentive for mothers to remain in care and adhere to antiretroviral therapy. Early infant diagnosis is an essential stepping stone for linking children living with HIV to life-saving treatment.

## Preventing unintended pregnancies

Voluntary family planning to enable women and couples to determine the timing and spacing of their pregnancies is a basic human right (18). In 2017, an estimated 885 million women in low- and middle-income countries wanted to prevent a pregnancy, of whom about one quarter—214 million women—had an unmet need for contraception (19).

Family planning services can also provide a platform for HIV prevention, testing and treatment (19). Together, these services should ensure that safe and effective contraceptive options are available. They should also link with other efforts to overcome the gender-based obstacles that women face, both in accessing services for eliminating mother-to-child transmission of HIV and in using contraception. ■



**INTEGRATING ANTENATAL CARE AND SERVICES FOR ELIMINATING MOTHER-TO-CHILD TRANSMISSION OF HIV WITH MATERNAL, NEWBORN AND CHILD PLATFORMS AND NUTRITION SERVICES HAS PROVED IMPORTANT FOR RETAINING MOTHERS IN CARE AFTER THEY HAVE GIVEN BIRTH.**


## WOMEN LIVING WITH HIV HAVING THEIR SAY ON DUAL ELIMINATION IN UGANDA

United Nations Member States committed in 2016 to the dual elimination of mother-to-child transmission of HIV and congenital syphilis, and an increasing number of countries with low disease burden have validated dual elimination. The validation process calls for the establishment of multidisciplinary national committees and teams that include a broad range of technical experts, communities of women living with HIV and other civil society representatives (20).

Community engagement is critical to ensuring that elimination goals are achieved in a manner that protects and respects the human rights of women, particularly women living with HIV and/or syphilis. Lillian Mworeko, a leader of the International Community of Women Living with HIV and AIDS Eastern Africa (ICWEA), is a member of the WHO Global Validation Advisory Committee for dual elimination, and she has been active in validation efforts in her home country, Uganda.

“Even if the objective is to prevent transmission to the unborn child, the woman is at the centre,” Ms Mworeko says. “To have good policies and programmes that give you better health outcomes, you need the perspective of the end user. Women living with HIV must be involved from the word go. Whatever is done must have their perspective.”

ICWEA held focus group discussions with 264 women living with HIV from six regions of Uganda to assess whether services to prevent vertical transmission were implemented in a manner consistent with international, regional and national human rights standards. The assessment determined that Uganda has progressive laws and policies that have facilitated reductions of mother-to-child transmission in the country (21). The Patients’ Charter, the Constitution of the Republic of Uganda and the HIV Prevention and AIDS Control Act guarantee equality and nondiscrimination in health-care settings for all persons.

A portrait of Lillian Mworeko, a Black woman with short dark hair, smiling. She is wearing a white top with a colorful floral pattern. In the background, there is a large, stylized orange 'X' shape.

Lillian Mworeko, a leader of the International Community of Women Living with HIV and AIDS Eastern Africa (ICWEA), a member of the WHO Global Validation Advisory Committee for dual elimination.

**“WE ARE ONE OF THE FEW COUNTRIES WHERE GOVERNMENT DIDN’T RESIST [BRINGING] COMMUNITY REPRESENTATIVES ON BOARD. ... OUR RECOMMENDATIONS ARE BEING CONSIDERED WITHIN THE PROCESS.”**



There were approximately 30 000 new HIV infections among children (aged 0–14 years) per year in Uganda in the 1990s and early 2000s. The provision of antiretroviral medicines to prevent mother-to-child transmission scaled up from just 9% of expectant mothers living with HIV in 2004 to more than 95% by 2014, and that high coverage has been maintained since. New HIV infections among children (aged 0–14 years) plummeted to an estimated 11 000 [10 000–12 000] in 2014; they further declined to 7500 [5000–11 000] in 2018 (Figure 5.3).

The ICWEA assessment also expressed serious concern about laws that criminalize HIV and syphilis transmission, and about health-care guidelines that aggressively promote HIV testing and disclosure of HIV status. Women living with HIV who participated in focus group discussions said that health workers do not always seek informed consent from pregnant women when offering an HIV test, nor do they always communicate the option to refuse such a test. Participants also suggested that some women living with HIV are taking contraceptives against their will (21).

Ms Mworeko described her own experiences, which felt like forced disclosure of HIV status. “Recently, I went to get my medicines, and the first question I was asked was, ‘What is the name of your husband and children, and where are you living?’” she said. “I asked why they

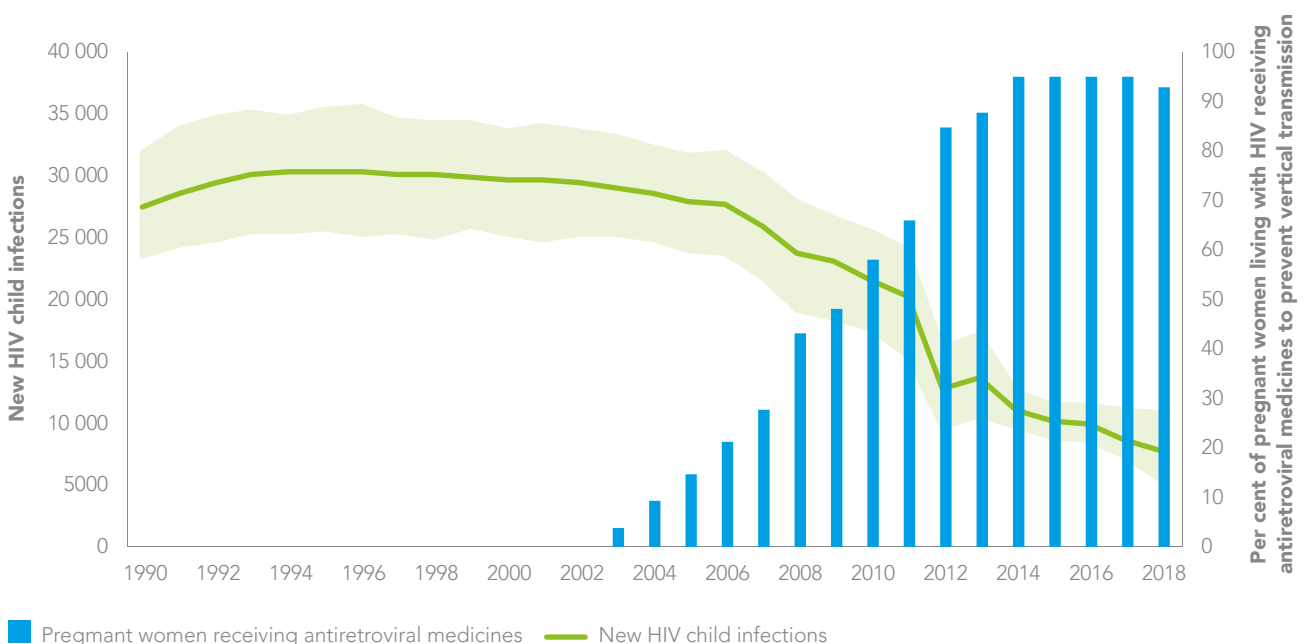
needed this information and what they were going to do with it. ‘You have not asked me if my husband knows my status or whether he is HIV-positive,’ I told them. The counsellor said that it is a requirement to ask for this information.”

That experience left her concerned for other women living with HIV. “I am informed and empowered to ask questions and refuse to give this information if I don’t want to. But what about others?”

The ICWEA assessment report calls on the government to decriminalize the transmission of HIV and syphilis, and to revise laws and health-care guidelines that can lead to coerced HIV testing and involuntary disclosure of HIV status. The assessment also called for health-care workers to ensure that all women accessing maternal health services—and other clients accessing health-care services—sign consent forms for HIV testing and partner notification.

Ms Mworeko praised the government’s openness to the participation of civil society in dual elimination efforts and the wider HIV response. “In terms of community engagement, Uganda needs to applauded,” she says. “We’ve done our own assessment [for the dual elimination process]. Our recommendations are being considered within the process.” ■

**FIGURE 5.3** Number of new child infections and prevention of mother-to-child transmission coverage, Uganda, 1990–2018



Source: UNAIDS 2019 estimates.



## OPEN LETTER TO MY DAUGHTER, FROM A MOTHER LIVING WITH HIV<sup>3</sup>

MARIANA IACONO IS THE COORDINATOR FOR THE INTERNATIONAL COMMUNITY OF WOMEN LIVING WITH HIV IN ARGENTINA. SHE WAS DIAGNOSED WITH HIV IN 2002. ON 13 MARCH 2019 SHE GAVE BIRTH TO A DAUGHTER, EVA MALIKA, WHO WAS RECENTLY CONFIRMED TO BE HIV-NEGATIVE.

Mariana Iacono with her mother  
Credit: Caio Mota



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<sup>3</sup> A longer version of Mariana Iacono's letter was first published in Spanish in *Nomada* on 31 May 2019. It is available from: <https://nomada.gt/nosotras/volcanica/carta-abierta-a-mi-hija-como-madre-con-vih/>.

## COMMUNITY VOICES

## Eva Malika,

When I dreamed of you, I always thought that throughout our pregnancy, I would be afraid that you would acquire HIV. However, that fear never appeared in the nine months that we were one.

After three years of looking for you, of waiting for you, the moment arrived. I wanted a vaginal delivery as a part of the struggle of women living with HIV. It is not in every country that women living with HIV have the single option of giving birth through a caesarean section. In Argentina, it depends on the doctor whether women living with HIV are allowed to choose. So you were born by caesarean section.

I must confess that if there was a moment during the caesarean section that I stopped to think, it was when I saw the blood on your face, when they brought you close to me so that I could see you. I wasn't allowed to kiss you. Many hours went by until I could hold you in my arms. What is this if not violence? I wasn't allowed to hold you in my arms during your first minutes of life.

I decided to tell the world about how it is to live with HIV—to join the struggle, so that the world can be a little fairer towards us, the people living with HIV. I want with all my heart that by the time you can read this, when you have some notion of reality and conscience, we will have a cure for HIV. I hope that you will never have the risk of acquiring HIV when you start having sex, and that the HIV inside your mom, my health or the fear of being discriminated against because I live with HIV will never be a concern.

The moment when you arrived in the world, I was fearful that you would be discriminated against because I live with HIV. How can we prevent this from happening? How can we prevent you feeling badly about the fact that I live with HIV when it's not bad? We have the world ahead of us now.

When the nurses came into the room, they always asked how the breastfeeding was going. The breastfeeding wasn't going anywhere, because we never reached an agreement on whether I could breastfeed you. I am absolutely certain that there is no risk of HIV transmission when the viral load is undetectable, like in my case, and mothers living with HIV breastfeed their babies in many parts of the world. The infectiology doctor said it wasn't problematic to not breastfeed, but I can't deny that it stirs a lot of feelings. I see other women breastfeeding, knowing that I could calm your cries of hunger with something that I can provide with my body. More so when you cry and look for my breast, when you press your face against my chest. That instinct, even when you have never been breastfed, makes you look for it even though it has been one month and a half since you were born. In Argentina, some doctors forbid mothers living with HIV to breastfeed. It's not the same as deciding not to breastfeed. Impotence and injustice—that is what I feel. Scientific progress is still falling short of our needs.

Thinking of your grandmother, my sense is that she never believed that I would have children. During the first years after my diagnosis, when she was the one who brought me my medicines, she always looked surprised when she saw women living with HIV who were pregnant. I think that during the days that we spent at the hospital following your birth, she must have been afraid. Your grandmother asked several times if you were alright, if you were healthy. The doctor won't be able to tell us if you have HIV or not by just looking at you, and the usual antibody test used for older children and adults doesn't work for babies like you. Doctors need to analyze the blood immediately after birth with a virologic test, and several times after that, usually one month and two months after birth. Your first two HIV tests came back negative. We have two more to go, and then it's over.

But of course, you were born healthy. Even if you had HIV, you would be healthy. Many people don't understand this. That is the stigma that I have dedicated my life to fighting against.



It feels strange to be a mom. I am still in phase zero: understanding my body and my new sensations, dreaming about being able to sleep for more than five hours in silence. I am enjoying waking up and seeing your face in the morning next to your dad. We are happy to live with you and grow up together.

I am writing you this letter so that you can read it in a few years and understand these lived feelings during this part of our story. As I said before,

hopefully by the time you read this, HIV will be a thing of the past, only remembered through people's stories and past experiences.

You would make your father and me very happy if you join our struggle for a better world.

With love,

**Your mom**

Mariana lascono and her daughter, Eva Malika. Eva was born on 13 March 2019 and recently confirmed to be HIV-negative thanks to the use of antiretroviral medicines to keep Mariana healthy and to prevent mother-to-child transmission.

Credit: Caio Mota



Note: The WHO recommends that elective caesarean section should not be routinely recommended to women living with HIV. When indicated for other medical or obstetric reasons, caesarean section should still be offered, as for all women (22). As well as immediate start of antiretroviral therapy after an HIV diagnosis, the WHO recommends mothers living with HIV should breastfeed for at least 12 months and may continue breastfeeding for up to 24 months or longer (similar to the general population) while being fully supported for antiretroviral therapy adherence (23).

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# CONFRONTING STIGMA AND DISCRIMINATION

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## AT A GLANCE

Gains have been made against HIV-related stigma and discrimination, but discriminatory attitudes towards people living with HIV remain extremely high in far too many countries.

Discrimination can manifest in criminal laws, aggressive law enforcement, harassment and violence that push key populations and people living with HIV to the margins of society and deny them access to services.

The percentage of the world's population that lives in countries that criminalize same-sex sexual relationships has fallen dramatically in recent years. However, more than half of countries in Africa still have anti-homosexuality laws.

Community-level accountability and oversight mechanisms, such as local health committees and paralegal health advocates, help realize people's right to health and ensure that breaches of rights are remedied.

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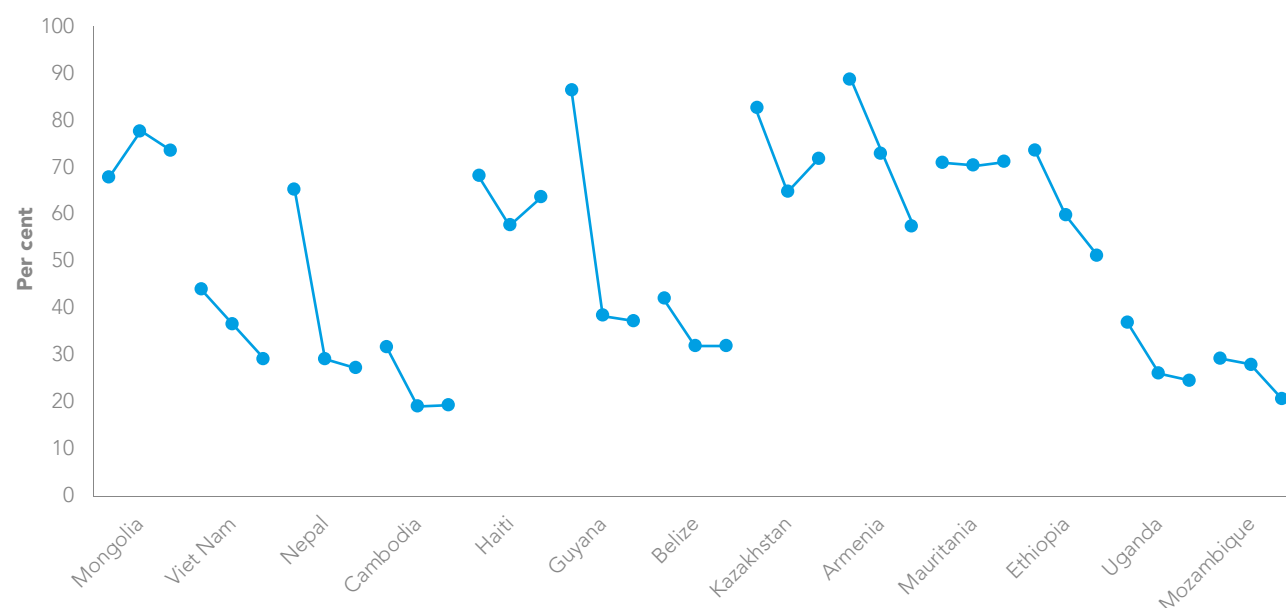
Stigma and discrimination are social and structural processes of disempowerment. Ignorance, fear and hatred create groups that are considered less valuable and less human than others, and consequently less worthy of human dignity. These divisions are often reinforced through laws, policies, governmental practices and other structural barriers.

In the early days of the HIV epidemic, pervasive stigma and discrimination against people at high risk of HIV infection and people living with HIV greatly slowed AIDS responses. Decades of civil society advocacy and awareness-raising have seen many reclaim their rights. Civil society networks and human rights organizations have successfully challenged punitive laws and blocked proposed punitive legislation. There is now global expert consensus that not only do such laws harm the HIV response and run counter to human rights, but they are also ineffective and counterproductive for meeting their

stated goals of reducing new infections (1). Grass-roots activism has also seen same-sex sexual relationships decriminalized and transgender people empowered in dozens of countries across all continents.

However, people at greatest need of HIV services remain criminalized and marginalized in many countries. People continue to be denied health care, employment and housing, and they face discrimination from health-care workers, police, prosecutors and judges because of their HIV status and because they are suspected of being sex workers, people who inject drugs or lesbian, gay, bisexual, transgender and intersex (LGBTI) people. In addition, members of groups that experience stigma and discrimination often internalize these negative views. Supporting the full and meaningful involvement of people living with and affected by HIV underpins efforts to transform these unjust power hierarchies and protect their human rights. ■

**FIGURE 6.1** Percentage of people aged 15–49 years who would not buy vegetables from a shopkeeper living with HIV, countries with available data, 2000–2018



Note: The data points for each country are for three surveys conducted within 2000–2018. Survey years vary by country. Data for Belize, Cameroon, Eswatini, Kazakhstan, Mauritania, Mongolia, Nepal and Viet Nam are for female respondents only.

## HIV-related stigma remains far too high

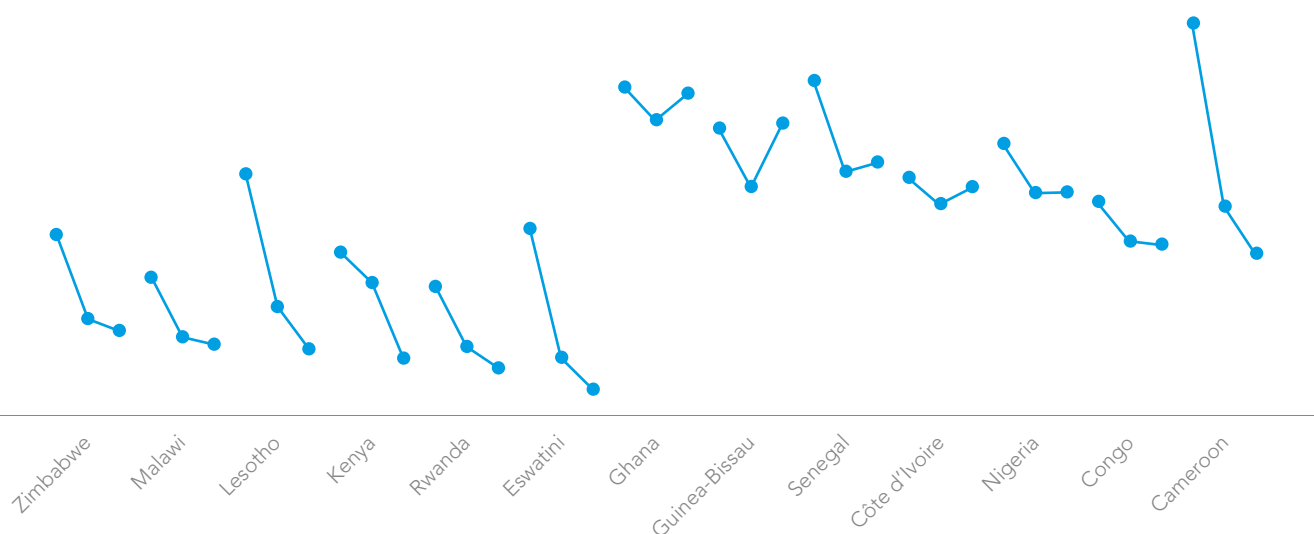
In the early days of the HIV epidemic, pervasive stigma and discrimination against people at high risk of HIV infection and people living with HIV nearly paralysed the AIDS response. Efforts to dispel the stigma surrounding the epidemic have had a measurable positive effect in eastern and southern Africa, where population-based surveys show lower levels of stigmatizing attitudes and declines in nine of 10 countries with sufficient data to track long-term trends (Figure 6.1). Progress has been mixed in other regions.

Discriminatory attitudes towards people living with HIV remain extremely high in far too many countries. Across 26 countries with recent population-based survey data for a composite indicator developed by UNAIDS, more than half of respondents expressed discriminatory attitudes (Figure 6.2).<sup>1</sup> In 29 of 68 countries with available data on one of the two questions within the composite indicator between 2013 and 2018, over half of people aged 15–49 years said they would not buy fresh vegetables from a shopkeeper living with HIV; in three of these countries, more than three quarters said they would not do so (Figure 6.3).

The Global Partnership for action to eliminate all forms of HIV related stigma and discrimination (Global Partnership) was launched on Human Rights Day, 10 December 2018. The Global Partnership aims to catalyze and accelerate implementation of commitments made to end HIV-related stigma and discrimination as essential for ending AIDS as part of achieving the Sustainable Development Goals by 2030. The partnership is co-convened by UN Women, UNDP, the UNAIDS Secretariat, the Global Network of People Living with HIV (GNP+) and the nongovernmental organizations delegation of the UNAIDS Programme Coordinating Board.

The partnership's implementation strategy will initially focus on health-care settings, workplace settings, educational settings, the justice system, household settings (individuals, families and communities), emergencies and humanitarian settings. All countries and partners committed to the HIV response and human rights principles are encouraged to join the global partnership and use their collective strength to eliminate HIV-related stigma and discrimination. ■

<sup>1</sup> This indicator is constructed from responses to the following questions in a general population survey from respondents who have heard of HIV: (1) Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV? (2) Do you think that children living with HIV should be able to attend school with children who are HIV-negative? An individual is considered to have discriminatory attitudes towards people living with HIV if he or she responds "no" to either of the two questions.



Source: Population-based surveys, 2000–2018.

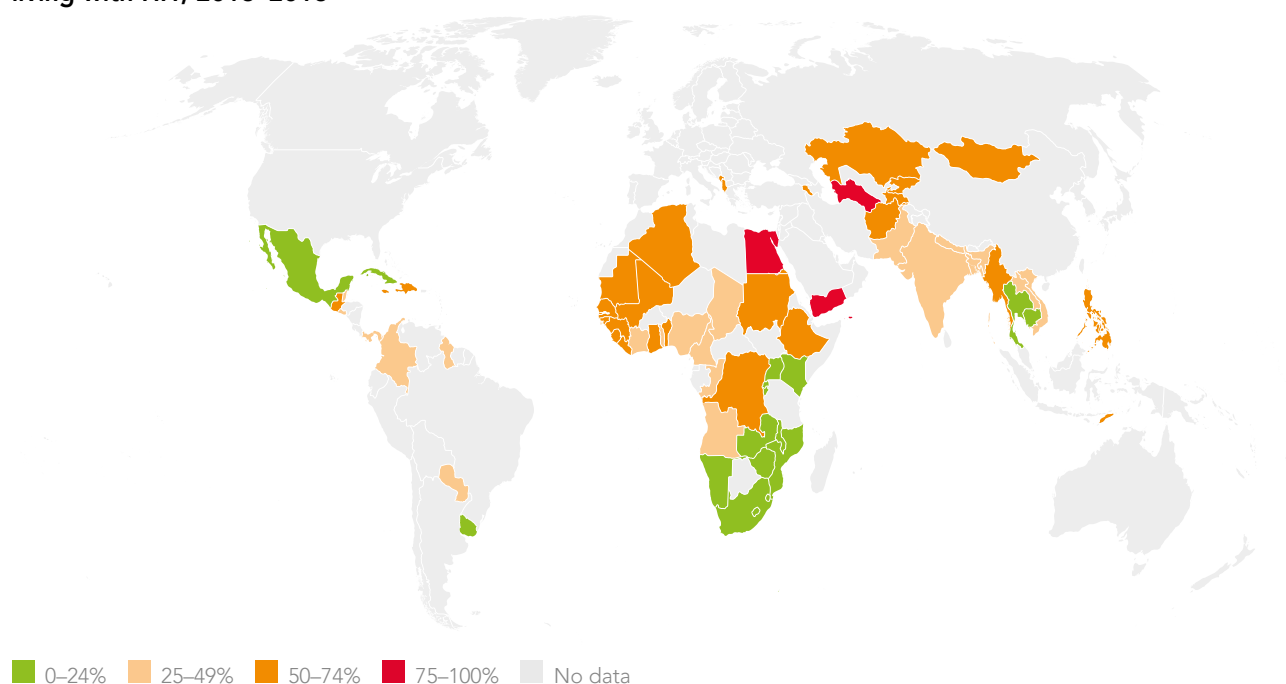
**FIGURE 6.2** Percentage of people aged 15–49 years who report discriminatory attitudes towards people living with HIV, countries with available data, 2014–2018



Note: Discriminatory attitudes are measured through "No" responses to either of two questions: (1) Would you buy fresh vegetables from a shopkeeper or vendor if you knew this person had HIV?; and (2) Do you think that children living with HIV should be able to attend school with children who are HIV-negative?

Sources: Population-based surveys, 2014–2018, countries with available data.

**FIGURE 6.3** Percentage of people aged 15–49 years who would not buy vegetables from a shopkeeper living with HIV, 2013–2018

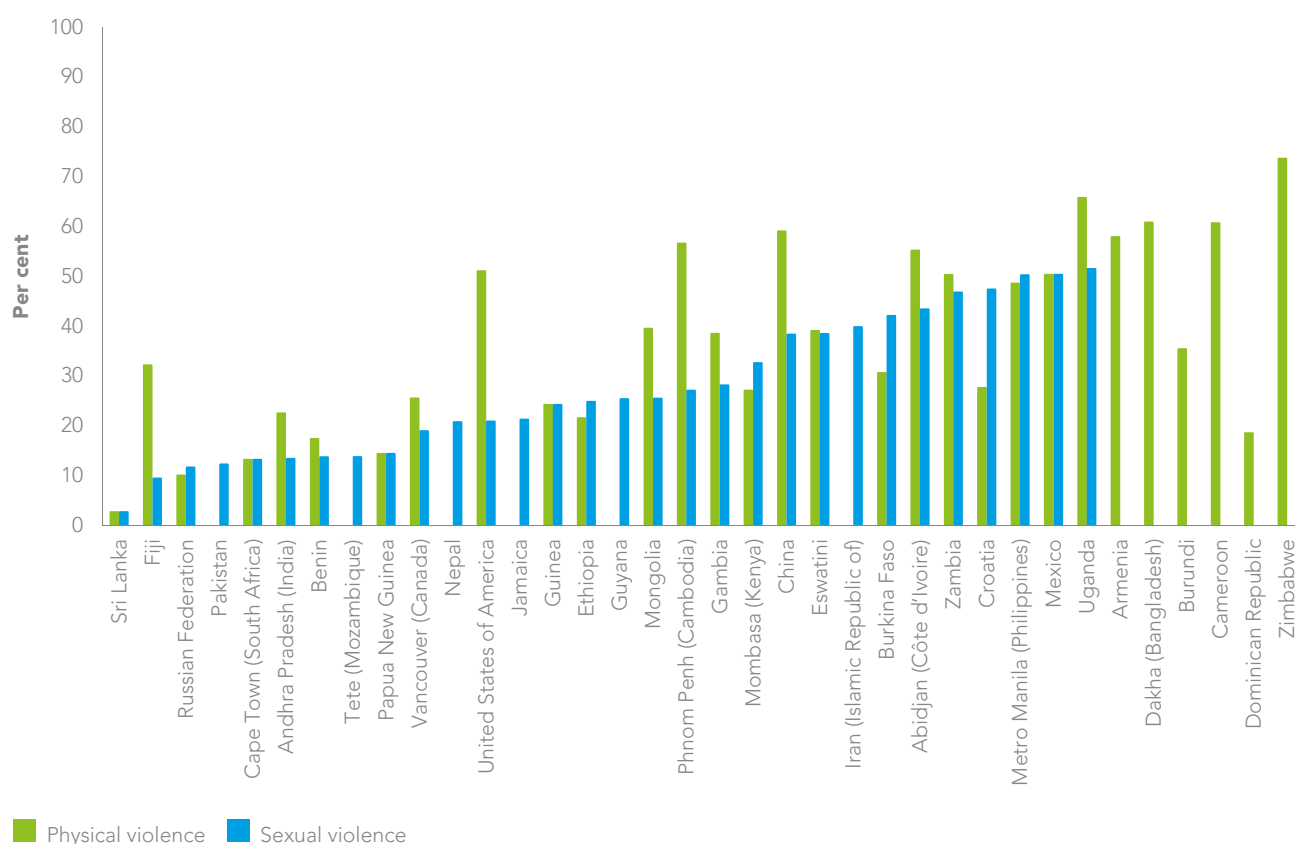


Note: Data for Algeria, Bangladesh, Egypt, El Salvador, Guinea, Kazakhstan, Kyrgyzstan, Panama, Paraguay, the Philippines, the Sudan, Tajikistan, Turkmenistan, Uruguay, Yemen and Viet Nam are for female respondents only.

Source: Population-based surveys, 2013–2018.

## TRAVEL RESTRICTIONS STILL IMPOSED ON PEOPLE LIVING WITH HIV

Data reported to UNAIDS in 2019 show that around 48 countries and territories still have restrictions that include mandatory HIV testing and HIV status disclosure as part of requirements for entry, residence, work and/or study permits. Out of the 48 countries and territories that maintain restrictions, at least 30 still impose bans on entry or stay and residence based on HIV status, and 19 deport non-nationals on the grounds of their HIV status. Other countries and territories may require an HIV test or diagnosis as a requirement for a study, work or entry visa. The majority of countries that retain travel restrictions are in the Middle East and North Africa, but many countries in Asia and the Pacific and eastern Europe and central Asia also impose restrictions.

**FIGURE 6.4** Percentage of sex workers who reported experiencing physical and sexual violence, selected countries, 2014–2018

Source: Literature review by UNAIDS and the Key Populations Program of the Center for Public Health and Human Rights, Johns Hopkins University. See references at the end of the chapter for details.

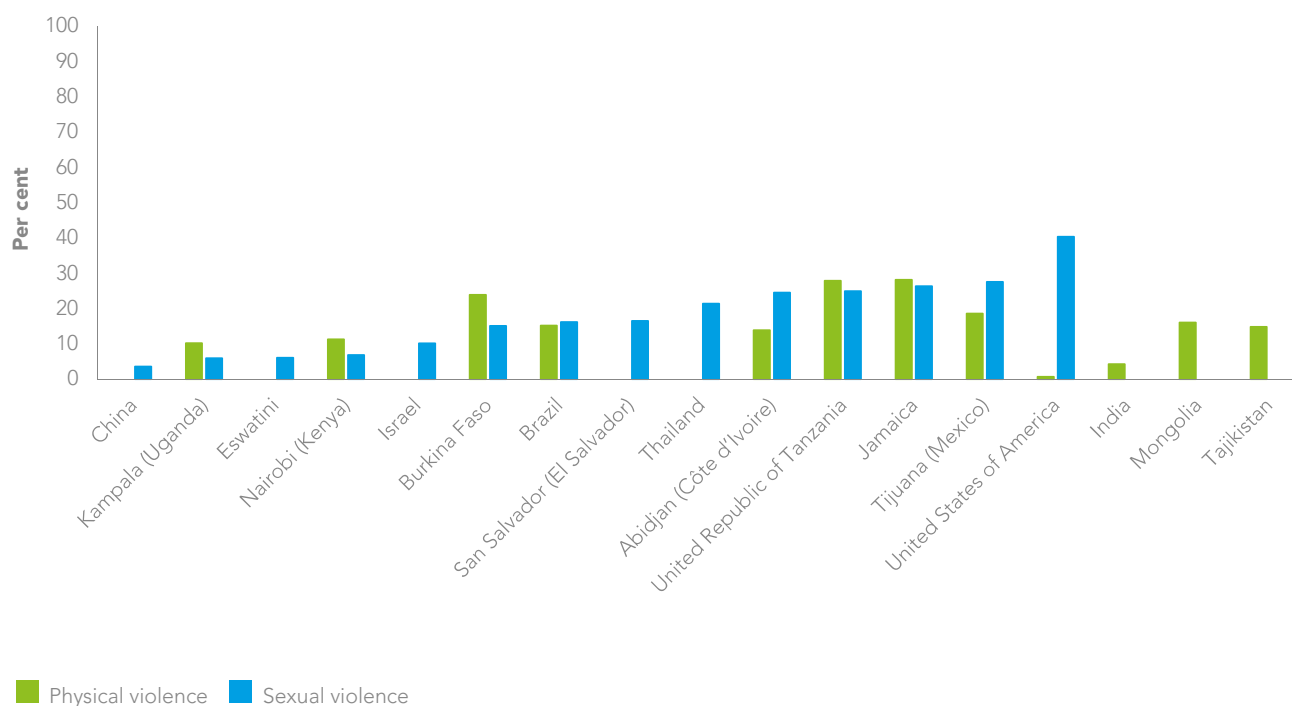
## Violence faced by key populations

Criminal laws give license to discrimination, aggressive law enforcement, harassment and violence, which push key populations to the margins of society and deny them access to basic health and social services. Surveys and special studies across regions show that large percentages of key populations are victims of physical and sexual violence: among 36 countries with recently available data, more than half of sex workers in eight countries reported experiencing physical violence, and in two countries, at least half reported experiencing sexual violence (Figure 6.4). In four of 17 countries with recently available data, more than one in five gay men and other men who have sex with men reported experiencing sexual violence (Figure 6.5).

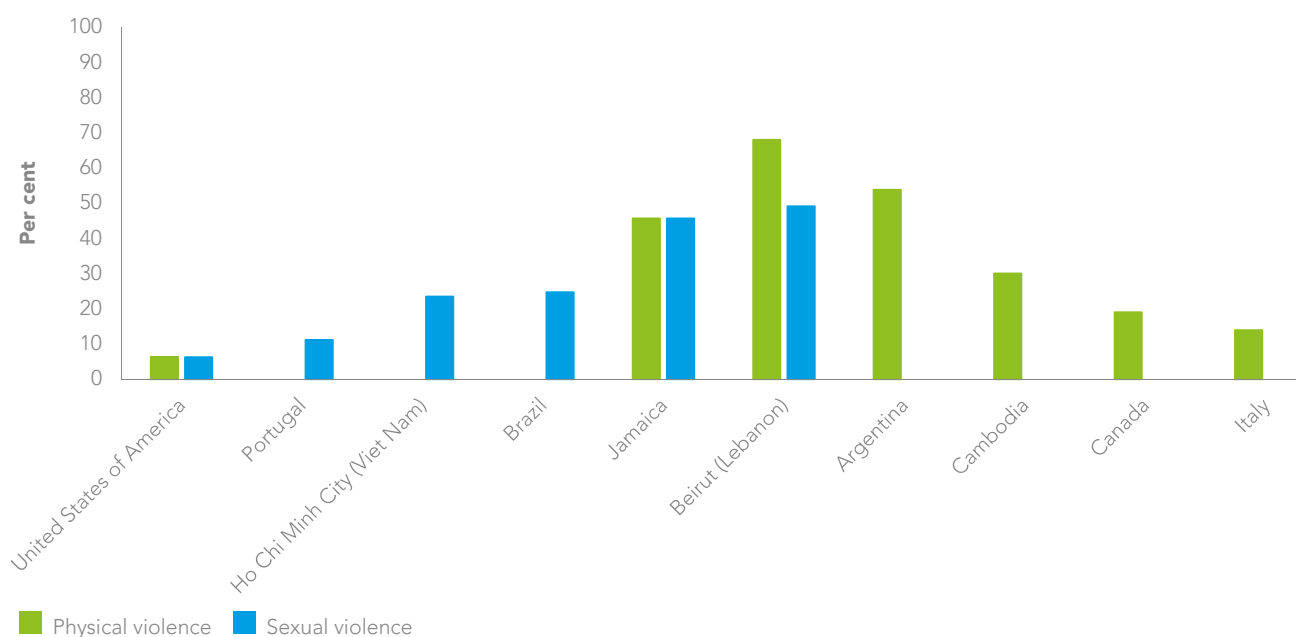
Physical and/or sexual violence were reported by large percentages of transgender people in Argentina, Jamaica and Beirut, Lebanon (Figure 6.6).

People who use drugs face an elevated risk of many forms of violence. For example, more than half of people who inject drugs surveyed in Pakistan reported that they had experienced physical violence in the previous 12 months (2). In the Philippines, a national campaign to crack down on the drug trade has resulted in thousands of extrajudicial killings (3, 4). Women who use drugs report particularly high rates of both gender-based violence and police abuse (5). A 2016 study in Kyrgyzstan found that 60% of the women who use drugs surveyed in the study reported surviving physical or sexual violence in the past year (5). ■



**FIGURE 6.5** Percentage of gay men and other men who have sex with men who reported experiencing physical and sexual violence, selected countries, 2014–2018

Source: Literature review by UNAIDS and the Key Populations Program of the Center for Public Health and Human Rights, Johns Hopkins University. See references at the end of the chapter for details.

**FIGURE 6.6** Percentage of transgender people who reported experiencing physical and sexual violence, selected countries, 2014–2018

Source: Literature review by UNAIDS and the Key Populations Program of the Center for Public Health and Human Rights, Johns Hopkins University. See references at the end of the chapter for details.

## GAINS AND SETBACKS IN THE DECRIMINALIZATION OF SAME-SEX SEXUAL RELATIONSHIPS

A police raid on a New York City gay bar on 28 June 1969 sparked public outcry and rioting—known as the Stonewall uprising—that marked a major milestone in the modern struggle for the rights of LGBTI people. In the 50 years since Stonewall, courageous activism by the LGBTI community has seen the number of countries criminalizing consensual same-sex sexual intercourse steadily decline (Figure 6.7) (6).

In June 2019, Botswana joined the list of countries that have decriminalized same-sex sexual relations. Its High Court ruled that laws criminalizing gay sex were unconstitutional and discriminatory (7). The case had been brought by LEGABIBO (The Lesbians, Gays and Bisexuals of Botswana), an organization that promotes the rights of LGBTI people.

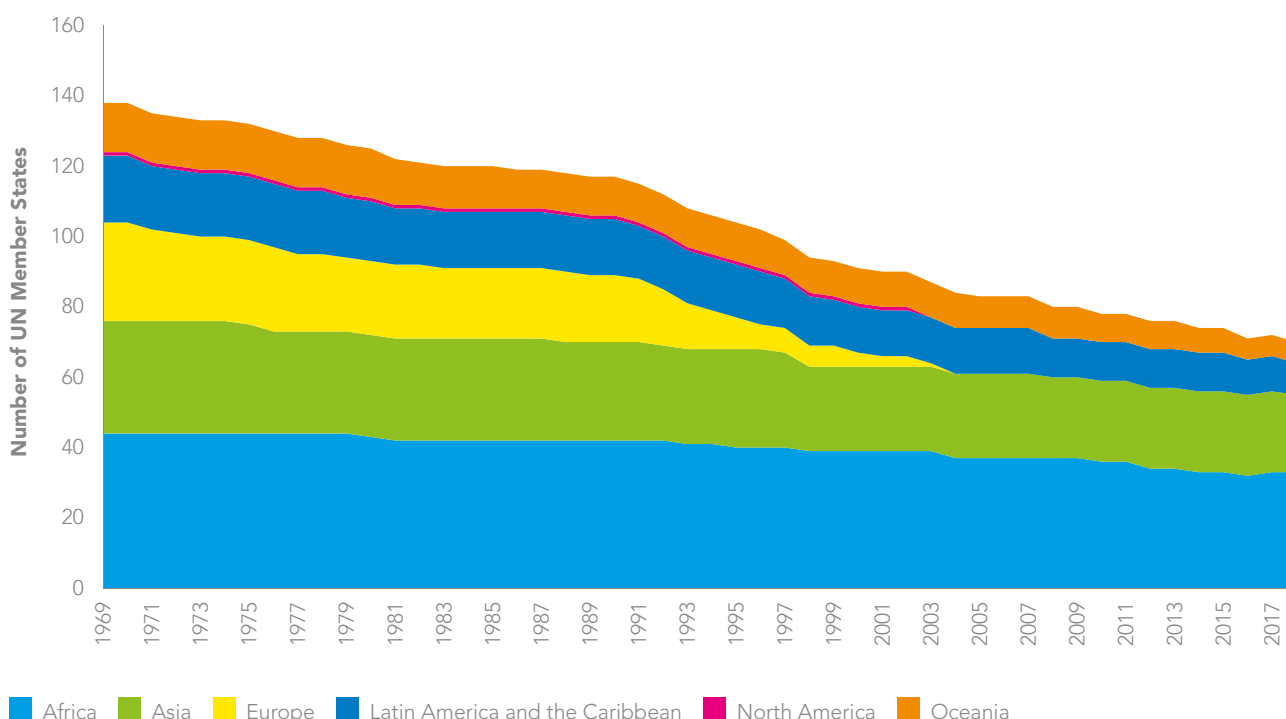
“Human dignity is harmed when minority groups are marginalized,” Judge Michael Leburu said as he delivered the judgment. “Sexual orientation is not a fashion statement. It is an important attribute of one’s personality” (7).

The court decision followed years of campaigning by community-based groups, supported by human rights organizations and by legal and public health experts. Together, they built a powerful case showing that laws criminalizing same-sex sexual relations discriminated against LGBTI people and threatened their health and well-being.

**“HUMAN DIGNITY IS HARMED WHEN MINORITY GROUPS ARE MARGINALIZED. SEXUAL ORIENTATION IS NOT A FASHION STATEMENT. IT IS AN IMPORTANT ATTRIBUTE OF ONE’S PERSONALITY.”**

*Michael Leburu, Botswana High Court Judge*

**FIGURE 6.7** Number of countries that criminalize consensual same-sex sexual relations, global, 1969–2018



Source: Yang D. Global trends on the decriminalisation of consensual same-sex sexual acts (1969–2019). In: Mendos LR. State-sponsored homophobia 2019. Geneva: ILGA; March 2019.

“Their willingness and resilience to publicly press for reform and respect for LGBT people and their rights in an environment that is often hostile or negative toward LGBT issues is particularly courageous,” wrote Tashwill Esterhuizen, a lawyer from the Southern African Litigation Centre, which supported LEGABIBO’s case (8).

Just a few years ago, LEGABIBO was fighting for the right to exist at all. In 2012, Botswana’s Ministry of Labour and Home Affairs refused LEGABIBO’s bid to register as a nongovernmental organization on the basis that its objectives conflicted with the Societies Act and that the Constitution of Botswana did not recognize homosexuals. Four years of legal battles eventually saw the Court of Appeal of Botswana rule in March 2016 that the government’s refusal to register an organization because it intends to support the rights and welfare of LGBTI individuals was unconstitutional (9).

Its legal status secured, LEGABIBO played a significant role in securing two landmark court victories in 2017 and 2019 that upheld the rights of LGBTI persons. The first upheld the right of transgender persons to change their gender on identity documents (10). In the second, LEGABIBO presented evidence of the discriminatory impact of a colonial-era penal law that outlawed same-

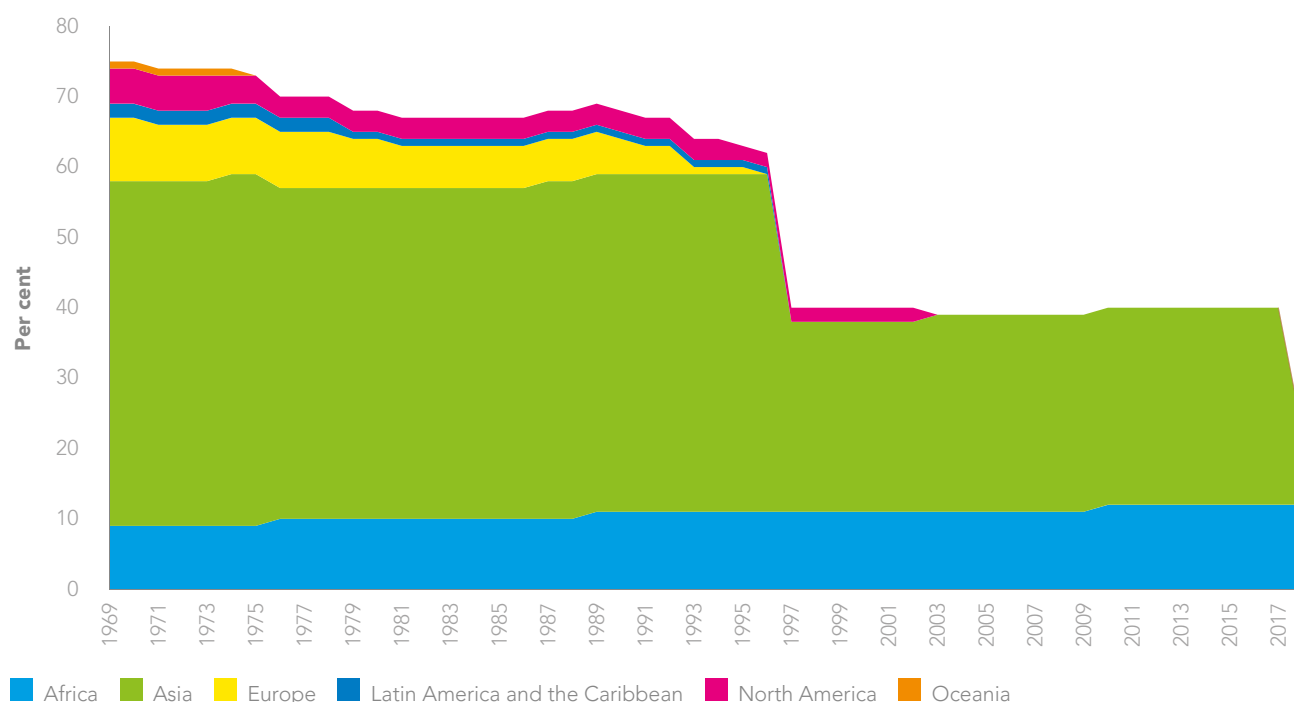
sex sexual activity, including how it was impeding access of LGBTI persons to health-care services and HIV prevention, testing and treatment. The court found that the criminalization of same-sex sexual activity amounted to discrimination and a breach of human rights under the Constitution.

The legal changes in Botswana are in keeping with a global trend. The percentage of the world’s population that lives in countries that criminalize same-sex sexual relations plummeted from about 40% to 23% in 2018 following the Indian Supreme Court’s landmark 2018 decision that decriminalized all consensual sex among adults. This was the largest annual decline since China decriminalized same-sex sexual relationships in 1997.

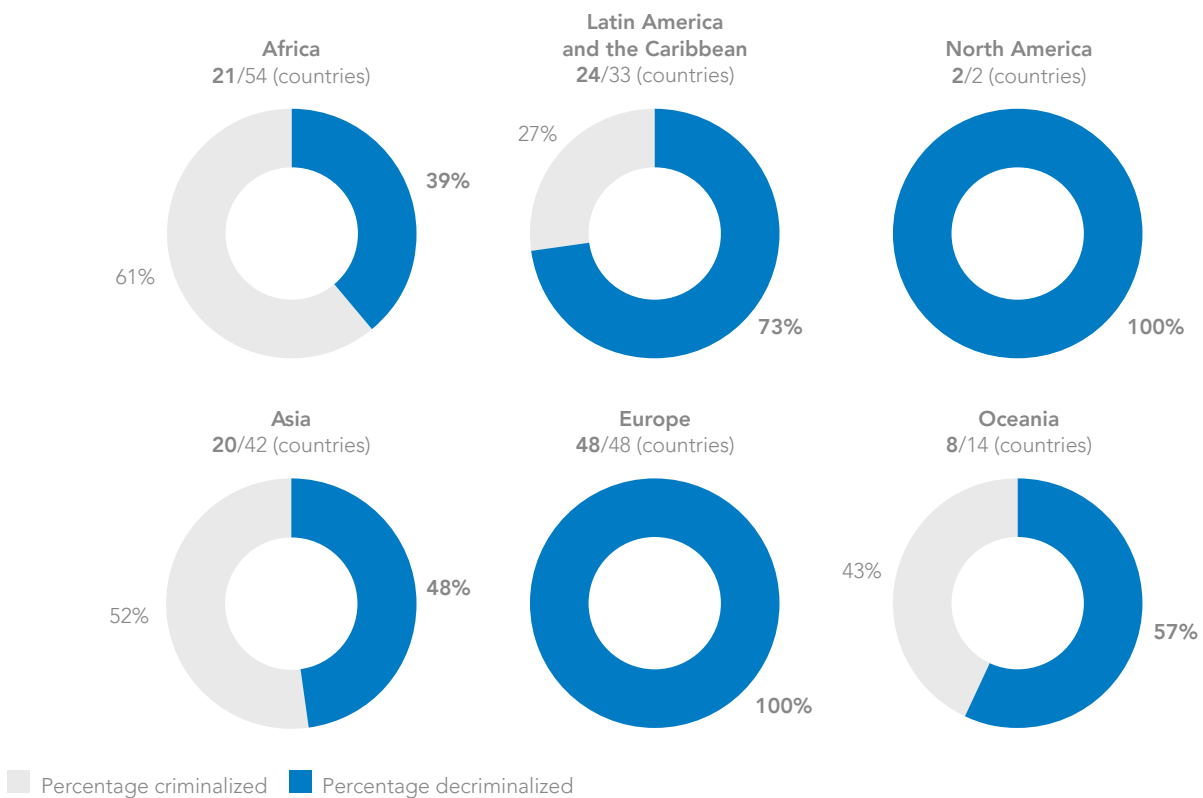
However, Africa now accounts for about half of the world’s population living in countries with anti-homosexuality laws (Figure 6.8). More than half of the 54 countries in Africa still had anti-homosexuality laws on their statute books in 2018, many of them dating to the colonial era (Figure 6.9) (6).

Laws that criminalize vulnerable sections of society—and the abuses that accompany their enforcement—compromise the ability of affected

**FIGURE 6.8** Percentage of the global population living in countries that criminalize consensual same-sex sexual relations, global, 1969–2018



Source: Yang D. Global trends on the decriminalisation of consensual same-sex sexual acts (1969–2019). In: Mendos LR. State-sponsored homophobia 2019. Geneva: ILGA; March 2019.

**FIGURE 6.9** Percentage of countries that criminalize consensual same-sex sexual relations, by region, 2018

Source: Yang D. Global trends on the decriminalisation of consensual same-sex sexual acts (1969–2019). In: Mendos LR. State-sponsored homophobia 2019. Geneva: ILGA; March 2019.

people to protect themselves against HIV (11, 12). Research in Nigeria and Uganda has shown how criminalization and homophobic abuse block access to HIV services and increase vulnerability to both HIV infection and to deaths from AIDS-related illness (13, 14).

Increased visibility of LGBTI rights and brave activism have helped convince some African countries to scrap anti-gay laws in recent years, including Lesotho (2012), Mozambique (2014) and Seychelles (2016). But there also have been setbacks. In the past decade, at least nine African countries have introduced or toughened punishment for same-sex sexual intercourse, mandating prison terms of up to 14 years in some cases.<sup>2</sup> In Asia and the Pacific, at least six countries have taken a similar route, either nationally or in certain provinces.<sup>3</sup> Many more countries—at least 23 in Africa and 21 in Asia and the Pacific—retain earlier criminalization laws on their statute books, some dating back to colonial eras. ■

**LAWS THAT CRIMINALIZE VULNERABLE SECTIONS OF SOCIETY—AND THE ABUSES THAT ACCOMPANY THEIR ENFORCEMENT—COMPROMISE THE ABILITY OF AFFECTED PEOPLE TO PROTECT THEMSELVES AGAINST HIV. COURAGEOUS ACTIVISM BY THE LGBTI COMMUNITY HAS SEEN THE NUMBER OF COUNTRIES CRIMINALIZING CONSENSUAL SAME-SEX SEXUAL INTERCOURSE STEADILY DECLINE.**

2 Burundi (2017), Cameroon (2016), Chad (2017), Eritrea (2015), Guinea (2016), Malawi (2011), South Sudan (2009), Togo (2015) and Tunisia (2012).

3 Afghanistan (2017), the Islamic Republic of Iran (2013), Indonesia (certain provinces), Papua New Guinea (2016), Solomon Islands (2016) and Tonga (2015).

## LINKING GRASS-ROOTS VOICES WITH GLOBAL DECISION-MAKING: THE KEY TO SUCCESSFUL HUMAN RIGHTS ADVOCACY

### COMMUNITY VOICES



**ALLAN MALECHE IS THE EXECUTIVE DIRECTOR OF THE KENYA LEGAL AND ETHICAL ISSUES NETWORK ON HIV AND AIDS (KELIN). HE HAS OVER A DECADE OF EXPERIENCE IN PROMOTING ETHICAL, HUMAN RIGHTS-BASED APPROACHES TO HEALTH PLANNING, PROGRAMMING AND SERVICE DELIVERY. HIS WORK HAS SUBSTANTIVELY FOCUSED ON HIV AND TUBERCULOSIS IN KENYA.**

National, regional and global advocacy on HIV and tuberculosis works best when it is informed by voices from the ground, based on their experiences of accessing health care, living with these diseases, or facing discriminatory legal and policy environments and stigma. Without these voices, the policies and decisions made at the global level will be empty and destined to fail, as they do not take realities into account.

The Africa Regional Grant on HIV: Removing Legal Barriers—supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund)—is an example of grass-roots voices bringing about change. The three-year grant, which ends in 2019, is a collaboration between the United Nations Development Programme (UNDP), the AIDS and Rights Alliance for Southern Africa (ARASA), ENDA Santé, KELIN and the Southern Africa Litigation Centre (SALC). Together, we are working to address human rights barriers faced by vulnerable communities and to facilitate access to life-saving health care in 10 African countries. We have trained lawyers, law enforcement officials, judges,

national human rights institutions, the African Union Commission and Regional Economic Communities stakeholders on human rights and issues faced by key populations. High-profile court cases in a number of countries where the grant has been funding work—including Botswana, Kenya, Malawi and Nigeria—demonstrate the importance of investments in programmes that address legal and structural barriers to HIV, tuberculosis and broader health services. Many of these cases have resulted in national-level policy and legislative changes that make a real impact for our communities.

As a lawyer, a former board member of the Global Fund and a director of a nongovernmental organization focusing on health and human rights, I have learned that the national, regional and global levels of advocacy are intricately linked: local realities need to inform regional and global advocacy, and global and regional decision-making processes and policies must be fed back to the national and local networks. This transparent exchange promotes trust, and it helps demonstrate the efficacy and impact of





KELIN Executive Director Allan Maleche (middle left) speaking with Henry Ng'etich (far left, deceased), Patrick Kipng'etich Kirui (middle right) and Daniel Ng'etich (far right), three Kenyan men who were imprisoned in 2010 for allegedly failing to take prescribed tuberculosis medication. Daniel Ng'etich and Mr Kipng'etich Kirui successfully challenged their confinement as a violation of their constitutional rights, a case that led to a Ministry of Public Health circular clarifying that patients with infectious diseases cannot be confined for purposes of treatment.

our advocacy work. When information flows freely, no matter where people are working—with the people facing discrimination or within international organizations—we can understand each other's perspectives: pieces of the puzzle come together to advance advocacy at all levels. The Global Fund regional grant is a prime example.

This flow of ideas and information must be based on the needs of those for whom Global Fund

resources were intended: key populations at higher risk of infection and people living with HIV, tuberculosis and malaria. Their realities of the challenges of discrimination and inequitable access to health care are the key to successful human rights advocacy. Their voices are needed to realize the pledge made by 193 United Nations Member States when they adopted the 2030 Agenda for Sustainable Development—to leave no one behind. ■

## DEFENDING TRANSGENDER RIGHTS IN LATIN AMERICA

Latin America continues to lead in the development of legislation and government programmes that recognize and uphold the rights of transgender people.

Uruguay passed one of the most progressive trans rights bills in the world in October 2018. Known as the Ley Integral de Persona Trans, it expanded the country's existing gender identity law to include transgender people younger than 18 years and provided important additional protections. The added measures included a right to access gender-affirming surgery and hormone therapy, a quota reserving 1% of government jobs for transgender people, and the establishment of a pension fund to compensate transgender people who had been persecuted during Uruguay's military dictatorship (15).

A month later, when Chile's President Sebastián Piñera signed a historic gender identity law (Ley de Identidad de Género), it was the culmination of five years of determined campaigning by civil society organizations, including Fundación Iguales. The new law allows transgender people over the age of 14 to update their names on legal documents and guarantees their right to be officially addressed according to their chosen gender.

Chile's legal breakthrough is not as far-reaching as Uruguay's: it does not apply to transgender people under the age of 14, and it remains difficult for transgender people to update identity documents to reflect their self-perceived identities (16). But the law is an important step forward that can add impetus to other initiatives, such as efforts by Fundación Iguales and businesses to broaden the inclusion of sexual minorities in Chilean workplaces (16).

The community activists and organizations driving these changes in Latin America and elsewhere are now working to ensure that resources and structures are in place so that the newly-affirmed rights make a difference in people's day-to-day lives. Argentina's Santa Fe province is an illustrative example.

In Argentina, severe discrimination and exclusion have taken their toll on the transgender community. More than 60% of transgender people in the country have not completed secondary-level schooling, and very few have formal employment. Sexual assault and other forms of violence are commonplace (17). HIV prevalence among transgender women has been estimated at 34% (compared with 0.4% in the general population), and

access to health services—especially those related to HIV and other sexually transmitted infections, hormonal therapy and gender affirmation surgery—has been poor (18, 19). The deprivation, institutional violence and physical insecurity have been so severe at times that the average life expectancy of a transgender woman in Argentina was estimated in 2007 to be about 35 years (20).

Years of dogged campaigning, much of it spearheaded by the Asociación de Lucha por la Identidad Travesti-Transsexual, led to Argentina's Senate passing a gender identity law in 2012 (21). This guaranteed transgender people recognition of their self-perceived identity and allowed people to change their name and gender on their identity documents through a simple administrative procedure. The law also provided for hormonal therapies and gender affirmation surgery in the public and private systems to be covered by the national health insurance system. By mid-2018, a total of 6870 transgender people had exercised those rights and received new birth certificates and identity documents (22).

The 2012 law offered a basis for increased access to education, work and health services for transgender people (23, 24). In Santa Fe province, for example, the provincial government created the Trans Universal Inclusion Programme, which facilitates access to employment, education, health and social protection services and promotes greater political inclusion. A dedicated structure was set up in the provincial Ministry of Social Development to coordinate planned activities. The initiatives are built on a partnership among civil society organizations, the provincial government and UN agencies.

Since 2016, nine municipalities in the province have passed local ordinances that set employment quotas for transgender persons; another four are planning similar actions. They also offer skills-training courses and on-the-job training to boost people's chances of gainful employment. The provincial government set up internship grants to increase opportunities for transgender people to gain work experience in private sector companies and cooperatives.

A scholarship programme was set up by Santa Fe's Ministry of Education so that people from the trans community can resume their school or tertiary studies. Almost 450 people have received such a grant since it was introduced in 2017.



A meeting at the LGBTI House in Rosario, Argentina. The LGBTI House includes a community-run day centre that provides legal and administrative help, medical and mental health services, and training courses for transgender people in the city.

Staff at primary health-care centres in five of Santa Fe's regions are being trained to offer hormone therapy services, which are currently available at more than 50 facilities across the province. The training spans clinical matters, dignified treatment procedures and human rights issues. The province of Santa Fe also has four surgical centres that offer gender affirmation operations.

Four LGBTI Houses—social and cultural centres for LGBTI people—now exist in the province. The first LGBTI House in all of Argentina opened its doors in the Sante Fe city of Rosario in 2016.

The Association of Transvestites, Transsexuals and Transgenders of Argentina (ATTTA) co-manages the LGBTI House with the Rosario municipality and the provincial government. It includes a community-run day centre, the Centro de Día para la Comunidad Trans, which assists transgender people in exercising their rights and making full use of services and opportunities. The Centre offers legal and administrative help, medical and mental health services, and training courses to about 120 regular attendees. It also serves lunches three times a week.

**"WE HAVE MADE THE DAY CENTRE THE FAMILY OF MANY COMPAÑERAS. IT IS AN INSTITUTION THAT WORKS WITH A LOT OF KINDNESS AND LOVE; A LOT OF PATIENCE AND TOLERANCE."**

*Patricia Xiomara Emanuele, coordinator in the day centre in Rosario*

Outside these LGBTI Houses, life remains hard, says Ms Emanuele. "Our biggest challenge is work—we need opportunities, work, education. We need to strengthen ourselves to live in these complex and tough times."

Santa Fe Province is determined to keep the momentum of change going. A first-ever provincial survey of the transgender population is being carried out in 52 municipalities across the province to identify unmet needs and assess the impact of the initiatives taken thus far. The findings will be used to plan future changes in provincial policy. ■

## REMAINING HOPEFUL ON THE LONG ROAD TO TRANSGENDER RIGHTS

### COMMUNITY VOICES

I think it is safe to say that transgender people, and transgender women's issues, are now on the global agenda, certainly more so than five or 10 years ago. Achieving this progress has not been an easy journey.

It was in 2010 that I first contributed to the narrative that transgender women are not men who have sex with men, and that we have unique needs when it comes to HIV prevention, testing, treatment and care. My greatest motivation for doing this work has been my cousin, a trans woman who died from HIV complications in 1999. Needless to say, this has been a painful journey, but one that holds so many important lessons in my life.

We strive for freedom, and not only freedom from HIV infection. The virus, the people it infects and the surrounding environment are known as the epidemiological triad. HIV thrives in a negative environment—an environment of ignorance, fear, violence and marginalization.

The epidemiological triad between us, HIV and its environmental host still requires a lot of work to deconstruct and understand. One example is legal gender recognition, which enables us to access HIV technologies such as pre- and post-exposure prophylaxis and antiretroviral therapy. We need full recognition that the very concept of gender is an obstacle for transgender women in the negotiation of safe sex. The literature shows that many transgender women model their femininity on prevailing gender stereotypes that call for women to be subservient; they therefore have less negotiation power around safer sex methods—unless they are empowered and resilient. We also need to recognize that transgender men

are severely underserved in HIV programming. Suffice it to say, we have a long way to go.

Our needs are far from fully met, so we continue to push and advocate for equitable health access, not just in South Africa, but the world over. I believe that none of us are free until we are all free. It would be foolish to think that I, as a transgender woman in South Africa, am not affected by what is happening to transgender people in Liberia, Belize, India or Australia.

In the meantime, despite the obstacles ahead, I remain hopeful. I am inspired by the innovative research coming out of many countries, including my beloved homeland, South Africa. For the first time, we have HIV prevalence estimates of transgender women in three South African cities. We are seeing very interesting research on pre-exposure prophylaxis, and we now know more about the possible drug interactions between it and feminizing hormones in transgender women. More and more systematic reviews on the global burden of HIV among transgender people are being published, adding to the body of knowledge about the impact of HIV on transgender populations. We are starting to see investment, albeit small, in addressing the HIV burden among transgender people.

Most importantly, it is heart-warming to see transgender people leading the response to address HIV in our community. However small these actions may seem, we take them knowing that we operate from a starting point a few years ago when we were mostly invisible. We have taken big steps as a movement, and that is what inspires confidence and hope in me to do this work every day. ■





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## WE ARE THE EXPERTS IN OUR OWN LIVES; LAWS MUST REFLECT OUR LIVED REALITIES

### COMMUNITY VOICES



**JULES KIM IS CHIEF  
EXECUTIVE OFFICER  
OF SCARLET ALLIANCE,  
AUSTRALIAN SEX  
WORKERS ASSOCIATION.**

Laws are not separate from health and health care: sound and fair laws are a crucial part of achieving positive health outcomes for all of us.

Removing bad laws is a key aspect of building an effective HIV response. Around the world, punitive laws continue to have a negative impact on the lives of sex workers and other key populations at high risk of HIV infection. Sex worker organizations—armed with irrefutable evidence and our red umbrellas—are lobbying politicians and policy-makers to bring an end to the harmful laws that affect our health, lives and livelihoods. UNAIDS, Amnesty International and a growing number of organizations have put their weight behind what sex workers have long been calling for: the full decriminalization of sex work, sex workers and third parties.

Sex workers must be meaningfully involved in the development of any policies and laws about us. Why? Because we are the experts in our own lives and the most invested in our safety, health and rights. So we are providing testimony in government inquiries and law reform processes about the negative impact of punitive laws.

We are helping to shape draft legislation. We are working with politicians towards positive reforms so none of us are left behind.

An example is the Statutes Amendment (Decriminalization of Sex Work) Bill 2018 in South Australia. Sex workers have been central to the development of the bill at all stages, lobbying alongside politicians. The bill proposes full decriminalization for all sex workers, includes provision for the removal of prior criminal records for sex work, and provides anti-discrimination and workplace health and safety protection. The bill responds to the lived reality and needs of all sex workers, informed by evidence and led in partnership with sex workers and strong female politicians from all parts of government.

Sex workers are loud, visible and unapologetic. We are not weak and voiceless. If we are denied a seat at the table, you will still see us—a glorious red tide of sex workers and supporters outside parliament with our signs, flyers and loudspeakers, making our voices heard and impossible to ignore. ■

Scarlet Alliance Chief Executive Officer Jules Kim calls for the full decriminalization of sex work at a 2016 sex worker rally on the steps of Parliament House, South Australia. The bill was being debated in parliament in 2019.



## HIV DECRIMINALIZATION IN COLOMBIA AND MEXICO

Criminalization of perceived, potential or actual HIV transmission and criminalization of non-disclosure of HIV-positive status continues to slow the HIV response and violate the rights of people living with HIV in many countries.

The United Nations General Assembly's 2016 Political Declaration on Ending AIDS commits countries to review and reform legislation that may undermine the HIV response, including laws related to HIV non-disclosure, exposure and transmission. In 2018, however, at least 86 jurisdictions around the world still criminalized HIV non-disclosure, exposure and transmission. A recent global review found that arrests, investigations, prosecutions and convictions related to HIV transmission have occurred in 49 countries in recent years, including in 14 where such actions were being taken for the first time (25).<sup>4</sup>

Supported by health and legal experts, networks of people living with HIV have been working hard to challenge such legislation, armed with compelling evidence that HIV criminalization undermines public health, impedes HIV prevention and worsens stigma and discrimination (26). Bolstering their cases is the powerful impact of HIV treatment, which can reduce a person's HIV viral load to untransmissible levels.

Two recent victories were achieved in Colombia and Mexico's Veracruz state (27, 28).

In June 2019, Colombia's Supreme Court overturned a section of the criminal code that criminalizes HIV and hepatitis B transmission.<sup>5</sup> The court ruled that the law in question violated the principles of equality and nondiscrimination, as it singled out people living with HIV, stigmatizing them and limiting their rights. It also established that the law violated the sexual rights of people living with HIV and was ineffective at meeting any public health objectives.

The court challenge was supported by a broad partnership that included Colombian nongovernmental organizations, international human rights organizations and United Nations agencies. UNAIDS had filed an intervention before the Constitutional Court stating that no evidence supported the broad application of

criminal law to HIV transmission in order to prevent HIV transmission (29).

A victory in Mexico's Veracruz state in 2018 was the culmination of a lengthy struggle. The State Congress had appended a provision to the Criminal Code in 2015 calling for a penalty of six months to five years in prison for anyone who "willfully" transmits HIV to another person. The stated aim was to protect women from acquiring HIV from their husbands.

HIV organizations in Veracruz, including Grupo Multi de Veracruz, challenged the constitutionality of the proposed amendment. HIV Justice Worldwide, a global coalition working to end HIV criminalization, and the National Human Rights Commission supported their effort. Together, they mobilized legal and public health policy leaders, people living with HIV and other advocates to draw attention to the issue in the media.

HIV Justice Worldwide argued in a letter to Mexico's Supreme Court of Justice that the proposed law would not protect women against HIV; rather, they said, it increased their risk, citing research and recommendations that UNAIDS, the UN Special Rapporteur on the Right to Health and the Global Commission on HIV and the Law had compiled and publicized (12, 26, 30–33).

Two years of sustained campaigning brought success: in May 2018, the Supreme Court found that the amendment to the Penal Code of the State of Veracruz was invalid. The court ruled that the law violated several fundamental rights, including the rights to equality before the law, to personal freedom and to nondiscrimination (34).

The mobilization against the Veracruz law helped inspire the creation in late 2017 of the Mexican Network of Organizations against the Criminalization of HIV, known as La Red Mexicana. The network coordinates the activities of organizations across the country. In addition to successfully supporting the Supreme Court challenge, La Red Mexicana also persuaded a State Congress Committee in the

4 Most of the cases were reported in the Russian Federation (at least 314 cases), Belarus (249), the United States of America (158), Ukraine (29), Canada (27), Zimbabwe (16), Czechia (15), the United Kingdom of Great Britain and Northern Ireland (13), France (12) and Taiwan (11).

5 The Constitutional Court overturned Article 411 of Law 599 of 2000.





Parade cars getting ready for the LGBTI Pride Parade on Mexico City's Reforma Avenue, 29 June 2018.  
Credit: Shutterstock

state of Quintana Roo to vote against a proposal to criminalize HIV transmission (25).

“Our country’s experience demonstrates how local and global activists can support each other and work jointly with strong national institutions for human rights and the HIV response to protect and defend the human rights of the most vulnerable,” says Patricia Ponce, coordinator of La Red Mexicana.

There have been positive changes elsewhere, too. In Malawi, a proposed legal change that would have outlawed the “wilful transmission” of HIV was abandoned following a concerted campaign by legal activists and civil society networks, including Malawian women living with HIV, sex workers, the Malawi Women Lawyer’s Association, regional and global human rights groups, and HIV networks (25). There have also been positive changes in Austria, Belarus, Denmark, England, Scotland and Sweden (28).

More such victories are needed. Research by the HIV Justice Network shows that more than 900 people living with HIV were arrested, prosecuted, convicted or acquitted between October 2015 and December 2018 for not disclosing their HIV-positive status or for allegedly transmitting HIV to a sexual partner (25). ■



**“OUR COUNTRY’S EXPERIENCE DEMONSTRATES HOW LOCAL AND GLOBAL ACTIVISTS CAN SUPPORT EACH OTHER AND WORK JOINTLY WITH STRONG NATIONAL INSTITUTIONS FOR HUMAN RIGHTS AND THE HIV RESPONSE.”**

*Patricia Ponce, coordinator of La Red Mexicana*

## GRASS-ROOTS ACTION TO DEFEND HEALTH RIGHTS IN MOZAMBIQUE

The right to the highest attainable standard of health is universally recognized, enshrined in the Universal Declaration of Human Rights and stipulated in laws and policies. But those commitments do not always translate into practice, and the right to health is not enjoyed equally.

Surveys and studies regularly record service problems at health facilities, including denial of services, violations of confidentiality and privacy, negligent or stigmatizing care, coerced procedures (including sterilization) and corruption. Communities that are subjected to multiple forms of discrimination and inequality are often most affected.

Accountability and oversight mechanisms help realize people's right to health and ensure that breaches of those rights are remedied. A programme in Mozambique is showing how community-based action can efficiently and effectively safeguard health rights within a low-income country grappling with one of the world's largest HIV epidemics and many other public health challenges. The country's health system faces major pressures, including severe poverty, unequal access to services, and profound shortages of health facilities and health-care providers (35).

Namati Moçambique (Namati), a legal empowerment nongovernmental organization, deploys grass-roots health advocates—known locally as “defensores de saúde”—to identify and solve health service problems by working with both community members and health workers. They inform residents of their rights, raise awareness about basic health policies and support community efforts to achieve fairer, better health services (36).

Namati began working in two rural districts in southern Mozambique in March 2013. It now has health advocates at more than 60 health facilities in the capital city, Maputo, as well as in Inhambane, Maputo and Zambezia provinces. Each advocate is responsible for between one and three health facilities and receives back-up support from programme officers and a small technical team that monitors and assists with the cases.

The health advocates speak to patients waiting at clinics and address local cooperatives, HIV associations and women's groups, informing them about the health policies and protocols that affect their lives. They also arrange meetings between communities and health-care staff to identify and deal with barriers to care. When problems do arise, Namati uses dialogue to solve them.

Sometimes, however, a forthright approach is required. When Marizinha,<sup>6</sup> a woman living with HIV in Inhambane province, filled her antiretroviral prescription at the local clinic pharmacy, she discovered she had been handed only 30 of the 60 prescribed pills. “[The pharmacist] acted like he had given me all of them,” she recalled, pointing to the “certo” (“OK”) check mark on the pill container (37).

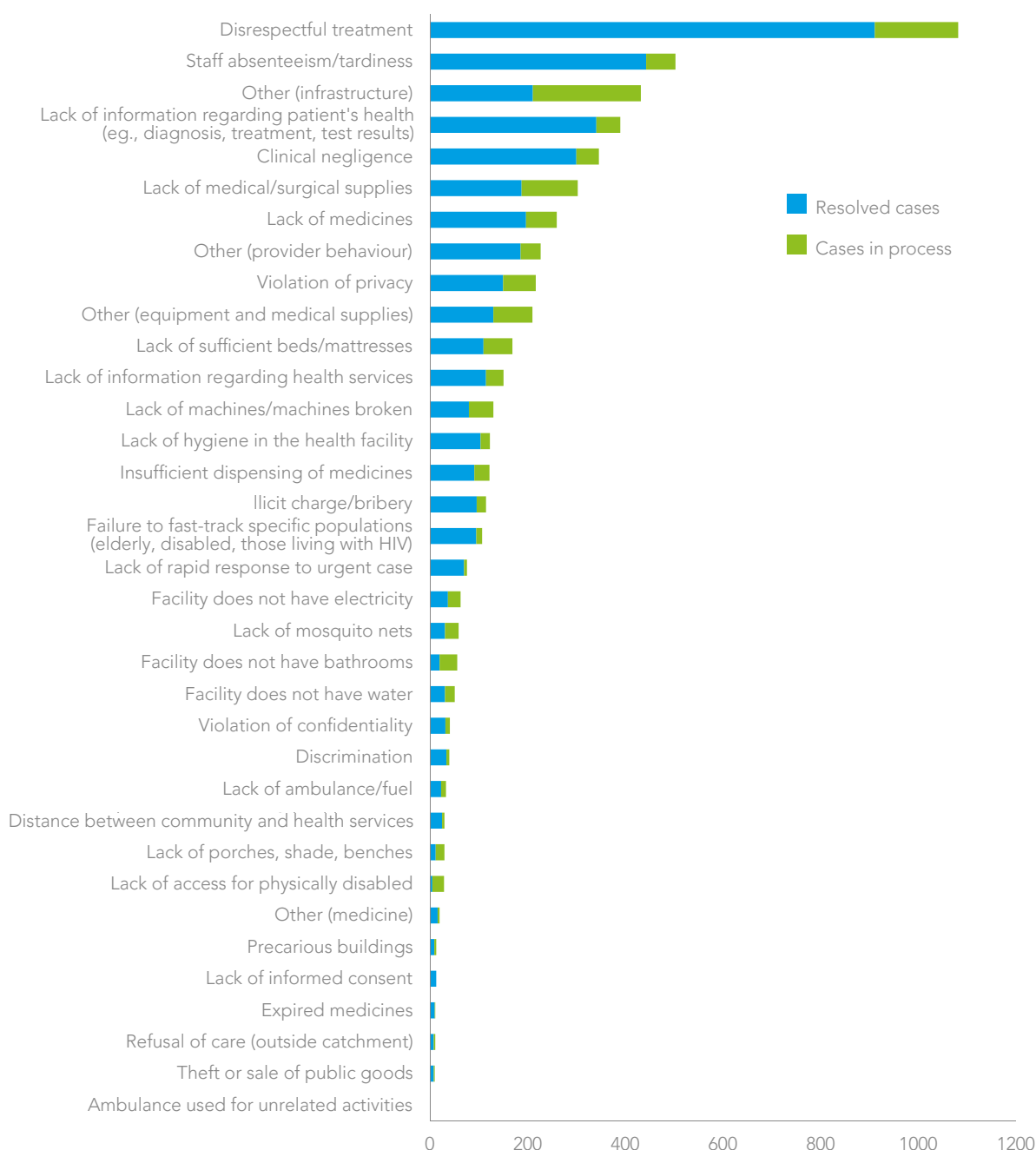
Marizinha alerted the local health advocate, Davide da Conceição Saúde, who summoned members of the village health committee. Together, they approached the facility pharmacist, who claimed that he had been trying to ration antiretroviral medicines because of a warning of an imminent stock-out. But further enquiries revealed that it had not been an isolated incident. There also was suspicion that the withheld medicines were being sold on the black market. After the conversation, the pharmacist apologized and handed Marizinha the remainder of her pills.

Since then, the health advocate and committee members have been sporadically interviewing patients as they leave the pharmacy. “We try to find out whether they are getting the right amount of medicine, and also whether they are getting all the necessary information about how to take their medicines and about side-effects,” Davide explained. In the subsequent months, no similar problems were reported at the health facility.

Namati's health advocates have addressed more than 5400 concerns at health facilities since 2013, three quarters of which were successfully resolved (38). The complaints have been related to a variety of issues, including staff absenteeism, disrespectful treatment, unlawful charges and fees, breaches of privacy and confidentiality, inadequate infrastructure, and poor or incorrect counselling about diagnoses and health care (Figure 6.10).

<sup>6</sup> Not the patient's real name. A pseudonym has been used.



**FIGURE 6.10 Patient grievances, by issue, 52 health facilities in Mozambique, March 2013–May 2019**

Source: Programme data from the Moçambique Right to Health Program, March 2013–May 2019, provided to UNAIDS on 11 June 2019.

Changes include improved observance of health protocols—for example, immediate initiation of antiretroviral therapy following HIV diagnosis, and provision of tuberculosis prevention therapy for seropositive children and adults—as well as increased respect for patient dignity. Health advocates have also successfully lobbied district-level authorities to renovate unused structures, repair toilet facilities and install privacy screens at pharmacy windows.

At Chicunque Rural Hospital, the second-largest health facility in Inhambane province, lack of privacy was a problem, with staff often attending to a patient in the same room where others were waiting for care. The health advocate and health committee raised the problem at various levels of the hospital hierarchy before discussing it with the hospital director, who proposed renovating an unused space for patient consultations.

“Almost every day, we were receiving complaints about privacy,” said committee member Maria Francesco. “When the director said that we had another room for consultations, it was such a relief for us” (37).

Many problems take time to sort through. Medicine stock-outs, for example, often require more complicated changes to logistics and supply chain management systems. Namati estimates that grievances related to infrastructure and equipment require about three months to resolve on average, while those related to provider performance, supplies or medicines take between 45 and 60 days. The vast majority of cases tend to be resolved at the level of the health facility supervisor.

One of Namati’s biggest achievements has been strengthening village health committees. These were set up to act as liaisons between communities and formal health services, but when the Namati programme began operating in 2013, it found that many committees were not functioning. Health advocates have been working with local health and community leadership to revitalize these committees, ensuring that they include representation from groups that often are marginalized.

Namati provides training and technical support (e.g., on the patient bill of rights, key health protocols and conflict resolution methods), working with health committees to resolve barriers to care and treatment. Together, they carry out twice-yearly assessments of local facilities that draw on feedback from community members and health workers.

“Problems always existed, but no one reported them,” reflects a nurse at the Morrumbene Health Centre in Inhambane province. “But now people’s concerns are heard by the health advocate and the village health committee. . . . With the existence of the committee, they get a prompt response, and the health providers change immediately” (39).

As village health committees become active again, it allows the health advocates to step back and assist other health facilities and communities, making it a highly sustainable approach. Mozambique’s Ministry of Health has formally approved this partnering approach and has incorporated it into its new five-year strategy—recognition of the power of community-based action (39). ■

Lúcia Levene attends a village health committee meeting. Village health committees in Mozambique act as liaisons between communities and formal health services. Namati health advocates have been helping to revitalize these committees and ensure that they include representation from groups that often are marginalized.

Credit: Namati Mozambique



## SUPPORTING PEOPLE WITH DISABILITIES IN WESTERN AND CENTRAL AFRICA

People with disabilities are often left behind by HIV responses. In western and central Africa, the Regional HIV and Disability Project is working to make regional and national HIV laws, strategies and policies more inclusive of people with disabilities (40). The involvement of national disability networks in relevant discussions, their empowerment and the improvement of their capacity to advocate are both key aims and key strategies of the project.

The project—established by Humanity & Inclusion and the West Africa Federation of Associations of People with Disabilities, with support from the Global Fund—aims to construct a regional database and collate information and good practices around HIV-related and health facility care for people with disabilities (40). It also seeks to increase capacity and knowledge among civil society organizations, policy-makers, and other HIV and human rights stakeholders (41).

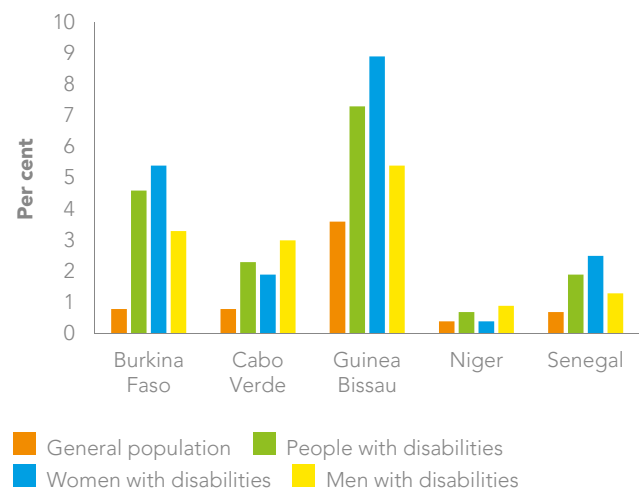
### Collecting data on HIV and disabilities

Between 2016 and 2018, biobehavioural surveys of people with disabilities were undertaken in Burkina Faso, Cabo Verde, Guinea-Bissau and Niger, while a broader biobehavioural survey was conducted in Senegal. They found that HIV prevalence is on average three times higher among people with disabilities than it is among the general population (Figure 6.11) (42). In Burkina Faso, Guinea-Bissau and Senegal, women with disabilities were considerably more likely to be HIV-positive than men with disabilities (41–44).

The studies also found that people with disabilities have low levels of knowledge about HIV compared to the general population, with lower levels among women than men in Niger and Senegal (42–45). Less than one fifth of respondents had participated in HIV prevention activities, and fewer than half had access to health-care services (Figure 6.12) (42–45).

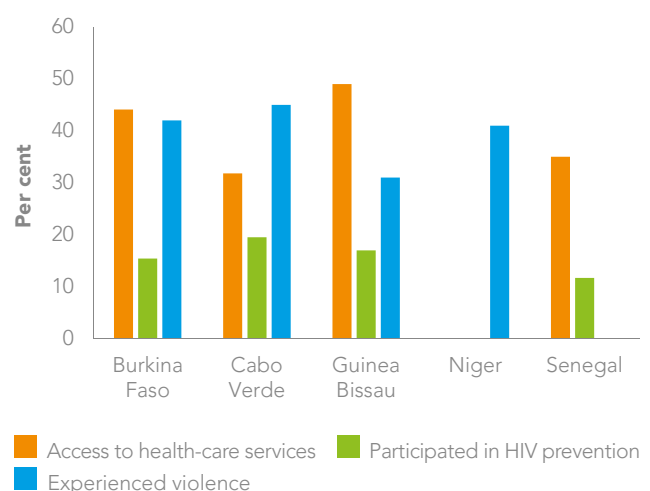
An alarmingly high number of respondents had been victims of violence (42). In Senegal, for example, more than one third (36.8%) of respondents reported physical, verbal or emotional violence, with more women (11.5%) than men reporting sexual violence (44). This was also the case in Burkina Faso and Niger (43, 45). In Senegal,

**FIGURE 6.11 HIV prevalence among people with disabilities compared to the general population, selected countries, western and central Africa, 2016–2018**



Source: Global Fund to Fight AIDS, Tuberculosis and Malaria, Humanity & Inclusion, West Africa Federation of Persons with Disabilities. Une population oubliée: résultats des études bio comportementales [A forgotten population: results from the biobehavioural studies]. Power Point presentation. 2019.

**FIGURE 6.12 Access to HIV prevention and health-care services and prevalence of violence, people with disabilities, five countries in western and central Africa, 2016–2018**



Source: Global Fund to Fight AIDS, Tuberculosis and Malaria, Humanity & Inclusion, West Africa Federation of Persons with Disabilities. Une population oubliée: résultats des études bio comportementales [A forgotten population: results from the biobehavioural studies]. Power Point presentation. 2019.

respondents who had been victims of any kind of violence also had higher prevalence (1.6% in Zone 1 and 7.4% in Zone 2 of the study) than those who did not report violence (1.1% and 3.8%, respectively) (44).

### Advocacy for laws and policy

Legal and policy advocacy supported by the project includes the participation of the Malian Federation of Associations of People with Disabilities in the development of the new Law relating to the Rights of People Living with Disability in Mali, which was adopted by the National Assembly on 10 May 2018 (46). People with disabilities have also been included in Mali's 2018–2019 acceleration plan for the HIV response, and in the National Strategic Plans in Burkina

Faso, Niger and Senegal. Relevant indicators have been integrated into HIV-related data collection tools and the national census processes in Cabo Verde, Mali, Niger and Senegal in order to improve the availability of data relating to people with disabilities (41).

In Guinea-Bissau, the national federation of people with disabilities was involved in the creation of Guinea-Bissau's new National Strategic Plan 2019–2023. As a result of the federation's involvement in the multi-stakeholder platform on HIV and disability—which advocated at the highest political level to draw attention to the higher rates of HIV among people with disabilities—Guinea-Bissau's national strategic plan now includes people with disabilities as a vulnerable population that will be considered a priority (41). ■





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# MEETING THE NEEDS OF WOMEN AND YOUNG PEOPLE

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## AT A GLANCE

Violence against women increases their susceptibility to HIV and worsens health outcomes for women living with HIV. Intimate partner violence and HIV share common risk factors.

HIV infections among young women (aged 15–24 years) globally are 60% higher than among young men of the same age. This disparity is greatest in the regions hardest hit by the epidemic.

A rights-based, gender-transformative and holistic approach is needed to reach young people with the information and services they need to protect themselves from HIV and to exercise their sexual and reproductive health rights.

A substantial body of evidence indicates that comprehensive sexuality education plays a central role in the preparation of young people for a life free from AIDS, sexually transmitted infections, unintended pregnancies and gender-based violence.

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Everyone has the right to make their own choices about their sexual and reproductive health and to live free from violence. However, the sexual and reproductive health and rights of women and young people are too often denied, and one in three (35%) women globally have experienced physical and/or sexual violence (1).

There has been significant mobilization for women's empowerment since gender equality was placed on the global agenda within the landmark Beijing Declaration and Platform for Action at the Fourth World Conference on Women in 1995. As the 25th anniversary of the Declaration approaches, there is urgent need for accelerated action—especially for the millions of women and girls who face multiple and intersecting forms of discrimination, violence and exclusion that leave them at heightened risk of HIV and other sexual and reproductive health issues, especially in high-prevalence settings.

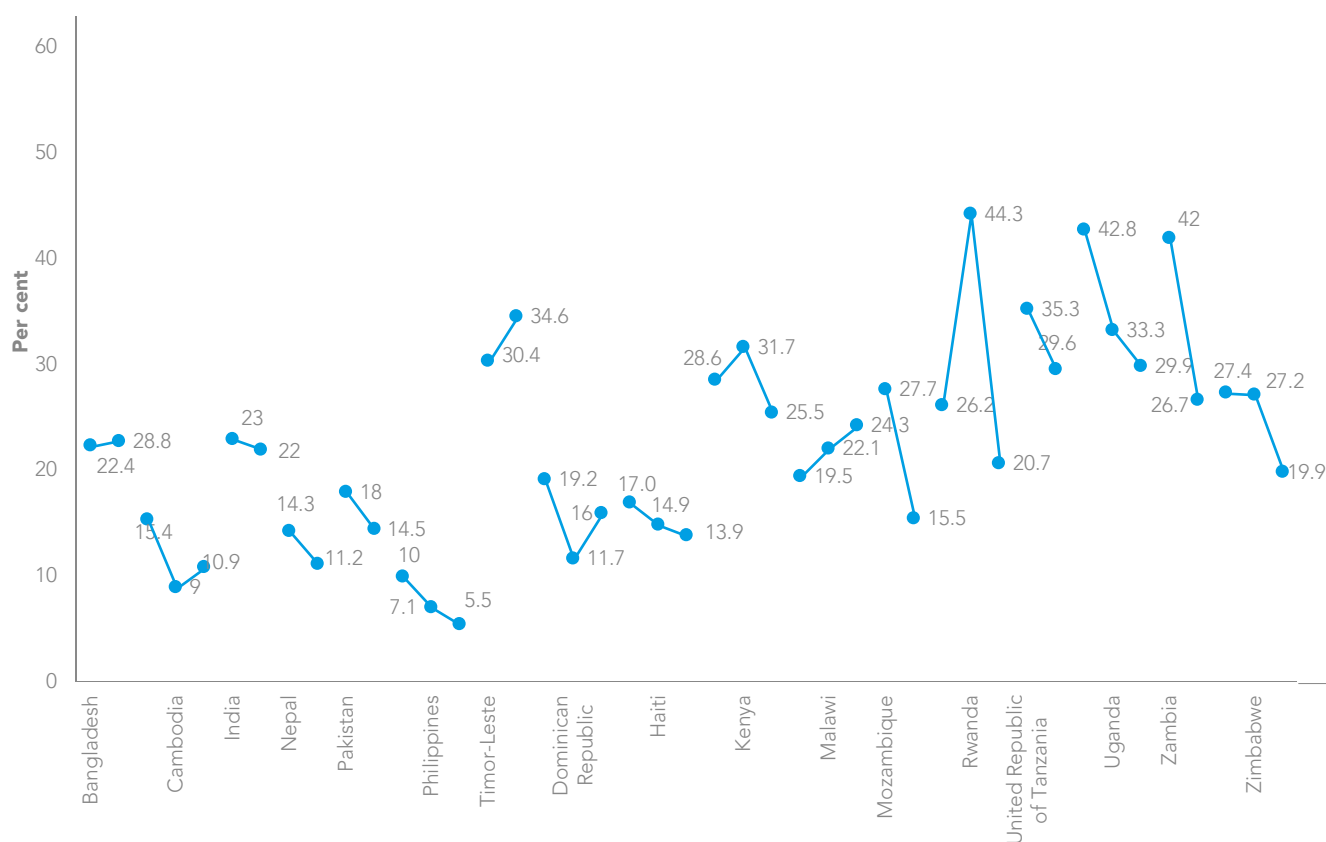
This disproportionate risk of HIV is greatest among young women. Both young women and young men in

many parts of the world face substantive challenges when accessing HIV and sexual and reproductive health services, including inequalities, discrimination, exclusion and violence. These challenges can be exacerbated in humanitarian contexts such as conflict and natural disasters. Young key populations (including young transgender people, young people who sell sex, young people who inject drugs, and young gay men and other men who have sex with men) are at a higher risk for HIV infection.

More efforts are needed to ensure that young people in all their diversity receive sexual and reproductive health information and support through social protection mechanisms, and that programmes are tailored to their specific and varied needs. Parental consent barriers require removal. When young people participate in the HIV response as partners, they are included in the design, implementation, and monitoring and evaluation of programmes, policies and interventions that affect their health and HIV outcomes. ■



**FIGURE 7.1** Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, previous survey (2004–2012) compared to most recent survey (2011–2018)



Note: The data point for each country are for three surveys conducted within 2004–2018. Survey years vary by country.

Source: Population-based surveys, 2004–2018.





## Violence against women a health and human rights concern

Violence against women remains a major public health problem and a violation of women's human rights. Among 26 countries that have collected population-based data on violence against women, 15 have seen a decrease in the prevalence of recent intimate partner violence experienced by adult women (aged 15–49 years). Among countries with three different data points, there has been a decrease in recent intimate partner violence in Colombia, Haiti, Peru, Uganda and Zimbabwe, an increase in Malawi and a stable trend in Jordan. Trends are mixed in Cambodia, the Dominican Republic, Kenya and Rwanda (Figure 7.1).

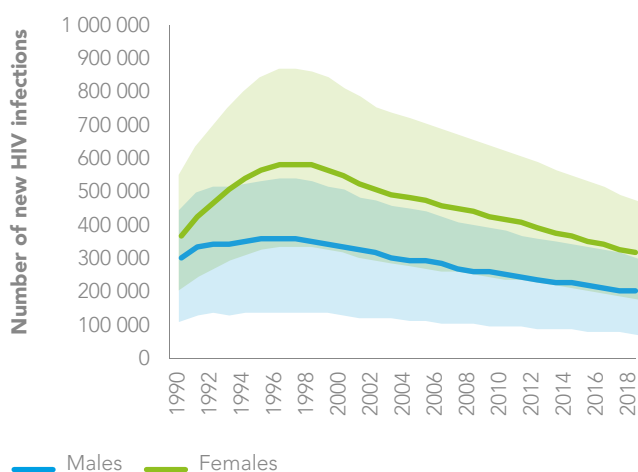
Evidence from locations with high HIV prevalence in sub-Saharan Africa suggests that intimate partner violence increases susceptibility to HIV, and that violence (or the fear of violence) is associated with lower treatment access, treatment adherence rates and rates of viral suppression among women and girls (2–4).

The STRIVE Research Programme Consortium has gathered and analysed evidence on links between intimate partner violence and HIV. It found that HIV and intimate partner violence share common risk factors: poverty, economic stress, gender inequality, social norms, and rigid constructions of masculinity and femininity (which often condone sexual infidelity, heavy alcohol use and violence within relationships among men) (5). STRIVE also found that it is possible to reduce levels of violence against women and improve HIV outcomes through community-based programmes, such as SASA! in Uganda and MAISHA in the United Republic of Tanzania (5). ■

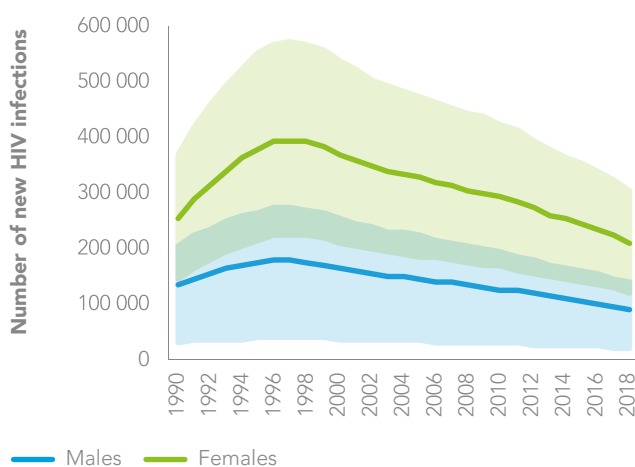
**SASA! AND MAISHA HAVE SHOWN HOW COMMUNITY-BASED PROGRAMMES CAN REDUCE LEVELS OF VIOLENCE AGAINST WOMEN AND IMPROVE HIV OUTCOMES.**

Grassroots Soccer community project, Khayelitsha, Cape Town, South Africa.

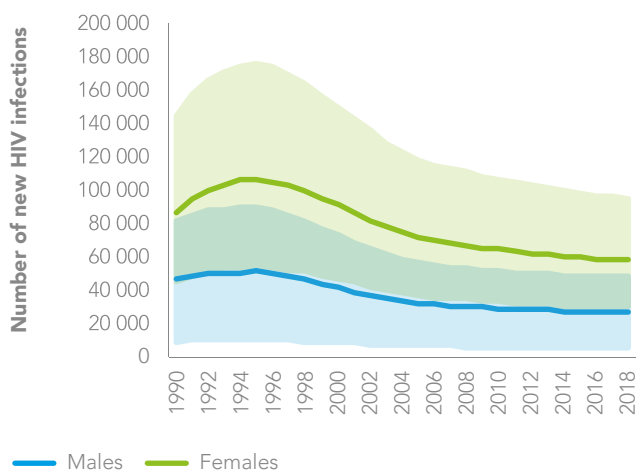


**FIGURE 7.2** Number of new HIV infections among young people (aged 15–24 years), by sex, global, 1990–2018

Source: UNAIDS 2019 estimates.

**FIGURE 7.3** Number of new HIV infections among young people (aged 15–24 years), by sex, eastern and southern Africa, 1990–2018

Source: UNAIDS 2019 estimates.

**FIGURE 7.4** Number of new HIV infections among young people (aged 15–24 years), by sex, western and central Africa, 1990–2018

Source: UNAIDS 2019 estimates.

This disparity is greatest in the regions hardest hit by the epidemic: in eastern and southern Africa, there were 2.4 HIV infections among young women (aged 15–24 years) in 2018 for every one infection among young men of the same age (Figure 7.3), and in western and central Africa, there were more than twice as many HIV infections among young women than young men (Figure 7.4).

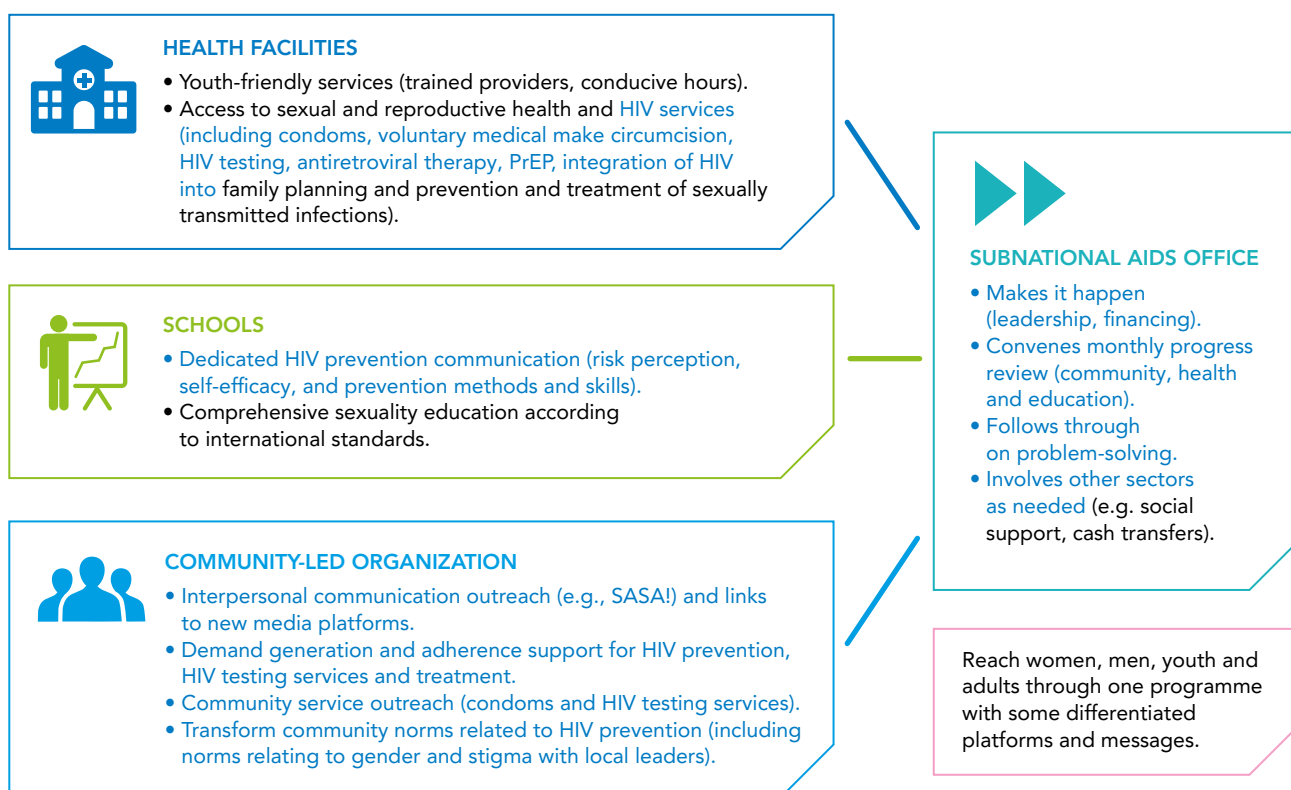
Parental and spousal consent laws and adult-oriented HIV services discourage service uptake by adolescents and young people. Adolescent girls are especially affected when approval by a parent, guardian or spouse is required before seeking basic health information and services, sexual and reproductive health services, and HIV testing.

A holistic approach is needed to reach young people with the information and services they need to protect themselves from HIV and to enable them to exercise their sexual and reproductive health rights. Health facilities, schools and community-led organizations all have important roles to play and services to provide, coordinated and supported by the local HIV authority (Figure 7.5). Policy and legal barriers that require parental consent for young people to access a range of health services—including HIV testing and counselling, sexual and reproductive health, and harm reduction—should be removed.

### A holistic approach to addressing young women's higher HIV risk

Globally, new HIV infections among young women (aged 15–24 years) in 2018 were 60% higher than among young men of the same age (Figure 7.2).

**FIGURE 7.5** Delivery platforms for scaling up programmes for adolescent girls and young women and men in settings with high HIV incidence



**Blue font** = primary focus of HIV funding.

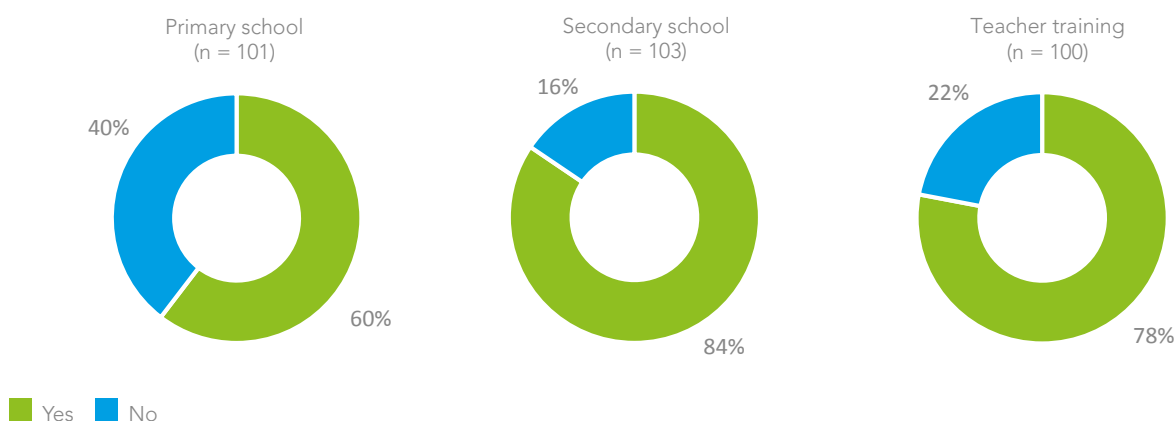
**Black font** = complementary health and social sector funding (potentially with contribution of HIV funding).

Source: Fast-Track Implementation Webinar Series. Geneva: UNAIDS; May 2019.

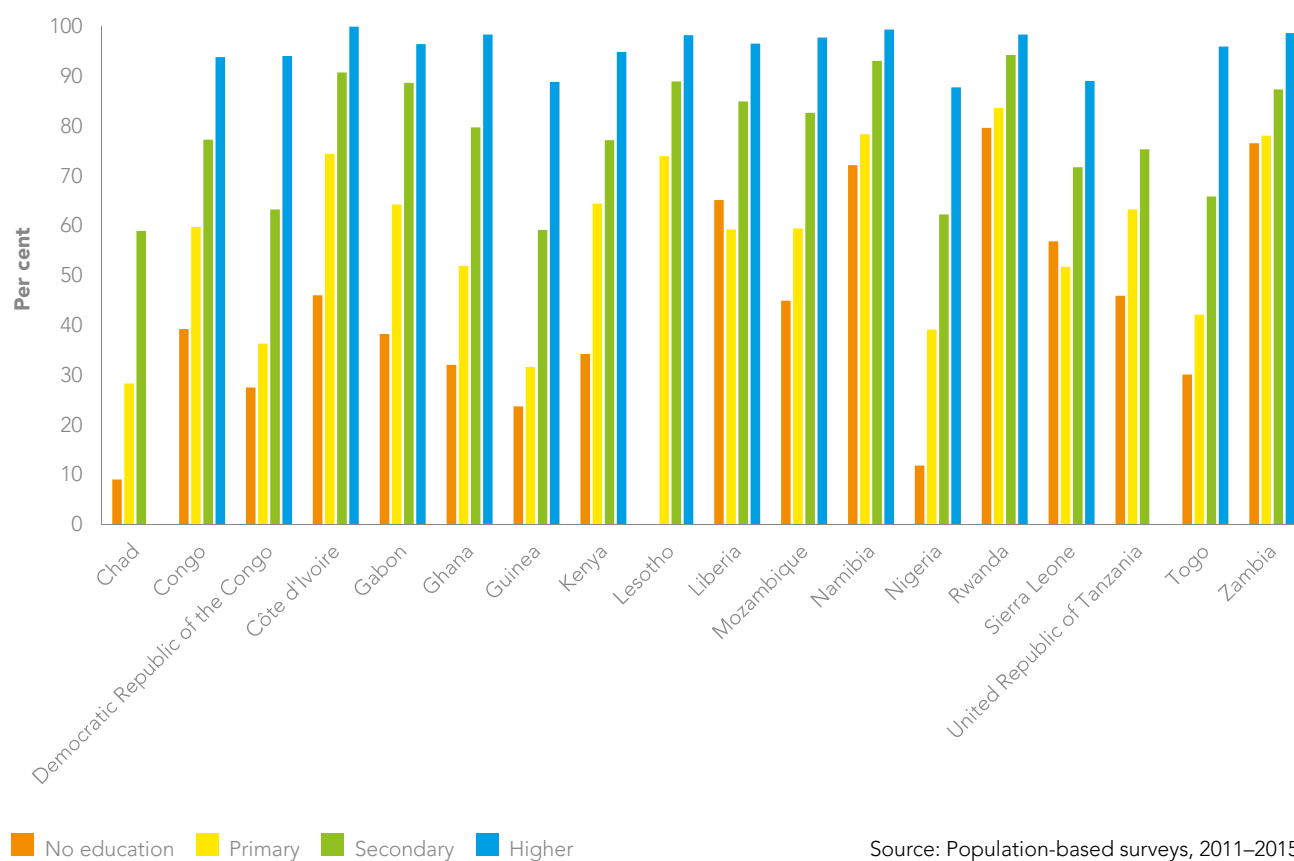


**"I WAS ENCOURAGED TO REMAIN HIV-NEGATIVE AND CONCENTRATE ON MY STUDIES ALSO TO AVOID PEER PRESSURE. IT WAS EASY BECAUSE THE SCHOOL NURSE WAS THE ONE WHO HELPED ME."**

*Abitekaniza Agatha, age 20, Butembe Cell, Bujumbura Division, Hoima Municipality*

**FIGURE 7.6** Countries with education policies that guide the delivery of life skills-based HIV and sexuality education according to international standards, 2019

Source: 2019 National Commitments and Policy Instrument.

**FIGURE 7.7** Percentage of young women (aged 15–24 years) who know of at least one formal source of condoms, by education, countries with available data, 2011–2015

Source: Population-based surveys, 2011–2015.



## Comprehensive sexuality education

An important component of the HIV response for young people is comprehensive sexuality education. The United Nations *International Technical Guidance on Sexuality Education* defines comprehensive sexuality education as a curriculum-based process of teaching and learning about the cognitive, emotional, physical and social aspects of sexuality (6).

A substantial body of evidence indicates that comprehensive sexuality education plays a central role in the preparation of young people for a safe, productive and fulfilling life in a world where HIV, sexually transmitted infections (STIs), unintended pregnancies, gender-based violence and gender inequality still pose serious risks to their well-being (6). National policies and curricula vary depending on the local context, but all quality comprehensive sexuality education programmes share core elements that aim to develop learners' knowledge, skills and attitudes for good sexual and reproductive health through a gender-equitable and rights-based approach. The *International guidance* includes standardized benchmarks for a national sexuality education curriculum to ensure quality, age-appropriate teaching on generic life skills, sexual and reproductive health, sexuality, and HIV transmission and prevention (7).

Significant strides have been made by countries in recognizing young people's need for comprehensive sexuality education and committing to scaling up quality programmes in tandem with access to youth friendly health services. For example, in 2013, government officials from ministries of education and health from

20 countries in eastern and southern Africa committed to scaling up comprehensive sexuality education and access to youth-friendly sexual and reproductive health services. Considerable achievements have since been made among these countries. However, further efforts are needed globally to ensure that young people receive quality, age-appropriate comprehensive sexuality education. As they enter secondary school, adolescents are already grappling with complex issues related to their health and safety, ranging from puberty to peer pressure to bullying and violence. Among countries that reported to UNAIDS in 2019, 16% said that they did not have an education policy that guides the delivery of life skills-based HIV and sexuality education in secondary schools according to international standards, and 40% reported that they did not have such policies in primary schools (Figure 7.6).

Survey data show that more effort is needed to ensure that young people are reached with comprehensive information and services to help them prevent HIV infections. Thirty-six per cent of young men and 30% of young women (aged 15–24 years) had comprehensive and correct knowledge of how to prevent HIV in the 37 countries with population-based survey data for the period of 2011 to 2016. Among the 41 countries with data available for both young men and women (aged 15–24 years) for the same period, condom use at last high-risk sex in the previous 12 months was less than 50% among young women in 31 countries and among young men in 18 countries (8). These population-based surveys also show that knowledge of a formal source of condoms tends to be higher among young people who have completed higher levels of education (Figure 7.7). ■



Three participants in a workshop on sexual education in Bobo-Dioulasso, Burkina Faso.



## ADDRESSING VIOLENCE AGAINST WOMEN LIVING WITH HIV

Social isolation and violence are near certainties for women living with HIV in the Middle East and North Africa, according to a community-led study in one of the few regions of the world where HIV infections and deaths from AIDS-related illness continue to rise.

“When I told my mother and sister about my diagnosis, they rejected me,” recalls a young mother living with HIV from Morocco. “[They] told me not to touch anyone and to stay away from their children. In the end, I had to use sex work to support myself and my kids.”

Led by MENA Rosa, a regional network of women living with or affected by HIV, the LEARN MENA study conducted community dialogues in seven countries across the region in 2018.<sup>1</sup> Designed and led by women, these dialogues enabled women to share their experiences and explore the underlying causes of violence and HIV in their communities. The women came from all walks of life: more than half were living with HIV (53%), and almost all had experienced violence at some point in their lifetime (9).

The initiative drew on the Action Linking Initiatives on Violence against Women and HIV Everywhere (ALIV[H]E) framework, a research initiative developed by women living with HIV. The framework helps women strengthen their understandings of the links between the violence they experience and HIV, gather evidence on promising ways to prevent such violence and provide violence survivors with support.

The dialogues catalogued numerous examples of women and girls being discriminated against on the basis of their gender—experiences that included early forced marriage, genital mutilation, sexual subjugation and violence. Ninety-five per cent of the women who participated reported that they had been subjected to violence at least once in their lifetime, and 73% had experienced violence in the previous 12 months (9). Many of the women were survivors of rape or incest, and most had experienced multiple forms of violence at the hands of partners, family members, the police and even health-care workers.

“Violence is everywhere,” said a participant from Algeria. “Over time, and as you get older, you come to see it as normal.”

More than half of the women who participated in the dialogues said that violence or the fear of violence had affected their ability to protect themselves from HIV or manage their HIV.

“We are living in a community where people perceive women as inferior human beings and want them to stay stuck in a corner forever,” a community dialogue participant from Egypt commented.

This pervasive gender inequality—combined with deeply entrenched HIV-related stigma—convinces many women living with HIV to hide their HIV status and risk their health. Participants living with HIV described being abused and insulted at clinics and by their own families. A participant from Tunisia recalled her visit to a hospital to give birth: “They took a picture of me and they posted my picture saying that I am HIV- positive,” she said. “They asked the other mothers not to use the same toilet I use. I went through hell after giving birth.”

The stigma and discrimination associated with HIV, and high levels of gender-based violence, appear to be factors holding back progress against the epidemic in the region. An estimated 240 000 people [160 000–390 000] were living with HIV in this region in 2018, with the number of new infections having increased by 10% between 2010 and 2018. The number of deaths from AIDS-related illness were 9% higher over the same period.

The personal testimonies of women also revealed extraordinary resilience and mutual support. Community organizations and peer groups are providing a lifeline to women and girls, and findings from the project are helping women advocate for stronger actions that can reduce violence against women.

“MENA Rosa leaders have learned through this painful process that violence against us should be denounced and not brushed under the carpet,” said Rita Wahab, Regional Coordinator of MENA Rosa.

<sup>1</sup> Algeria, Egypt, Jordan, Lebanon, Morocco, the Sudan and Tunisia.

## Violence against women is a global threat

Gender-based violence is a global phenomenon, with much of this violence meted out by intimate partners: it is estimated that nearly 30% of women globally experience physical and/or sexual violence by their intimate partner at least once in their lifetime (10).

Combined with gender inequality, violence against women increases the HIV risk for women, hinders their access to HIV and other health services, and is associated with poor HIV treatment adherence and outcomes (4, 11, 12). Since gender-based violence is closely tied to social relations that entrench male privilege and domination, those factors must be tackled to achieve effective violence reduction and HIV prevention (13). Evidence from China, South Africa and Uganda suggests that livelihood support and social interventions—including group training for women and men, and community mobilization—may reduce intimate partner violence (14–18).

The MAISHA study in Mwanza, the United Republic of Tanzania, aimed to reduce intimate partner violence through the establishment of microfinance loan groups and offering the women participants 10 empowerment training sessions that focused on women's rights, relationship skills and mutual support. Over a two-year period, the intervention reduced the risk of intimate partner violence by one quarter among women who participated in the intervention compared with women in the control group. Women in the intervention arm were also less likely to accept or tolerate intimate

partner violence and felt more confident challenging domineering male behaviour (19).

The trial has attracted such interest in the local community that a nongovernmental organization is working with the MAISHA team to implement the intervention more widely. The team is also working with a new national network of researchers to investigate gender-based violence across the country (19). Trials such as these are contributing to a better understanding of how economic empowerment might help reduce violence against women.

While there is some evidence that structural interventions can reduce intimate partner violence, other studies suggest there is still much to be learned (20–22). One recent review of microfinance interventions in Africa found little rigorous empirical evidence that the activities, alone or combined with gender equity training, can reduce intimate partner violence (23).

Similarly, current evidence of the impact of cash transfers and other income generation support on intimate partner violence and HIV risk for women and girls is mixed (24). Although there is some evidence of a positive impact, a recent review commissioned by UNAIDS found limited evidence that cash transfer programmes reduce HIV-related risk behaviours and HIV infection, with most studies finding no evidence of significant changes for those outcomes (25–27). Several other cash transfer studies are currently in the field, and their results may cast new light on the impact of these interventions. ■

## HEFORSHE: ADDRESSING GENDER-BASED VIOLENCE AND ENHANCING RESILIENCE

**In 2018, a UN Women's HeForShe community-based initiative engaged 39 577 men and women across three districts of South Africa, resulting in improved male attitudes and behaviours to prevent gender-based violence and HIV. The initiative included regular community dialogues with men and women focused on prevention of gender-based violence and HIV in order to transform harmful social norms, to encourage men's responsible health-seeking behaviour and enhance access to local HIV counselling and testing services. The dialogues were led by trained changemakers—tavern owners and faith leaders—in 206 locations. Through the regular community discussions, the changemakers explained the link between violence and HIV, impact of unequal gender norms on women's ability to prevent HIV, importance of knowing HIV status and adherence to HIV treatment, need for responsible sexual behavior, and the role of various socio-economic factors in the context of HIV for men and women. After eight months of implementation, 57% of the participants involved in the initiative (22 579 beneficiaries, 54% of whom were men) reported accessing HIV testing and, if diagnosed with HIV, linkage to care. Participating men also demonstrated positive changes in attitudes and behaviour relating to HIV and violence prevention, increased engagement in community-level advocacy to promote HIV awareness and condemn violence against women.**

## WOMEN LIVING WITH HIV IN KAZAKHSTAN WILL NO LONGER BE SILENCED

### COMMUNITY VOICES



**LYUBOV VORONTSOVA STARTED WORKING AS A PEER COUNSELLOR TO OTHER WOMEN LIVING WITH HIV IN 2010. SHE IS CURRENTLY AN ADVOCACY SPECIALIST IN THE KAZAKHSTAN UNION OF PEOPLE LIVING WITH HIV AND IS ACTIVELY ENGAGED IN DOCUMENTING RIGHTS VIOLATIONS AGAINST WOMEN LIVING WITH HIV AND KEY POPULATIONS IN CENTRAL ASIA.**

### WOMEN LIVING WITH HIV IN KAZAKHSTAN FACE ABUSE AND VIOLENCE

A young woman with a child who fled abuse by her husband and sought refuge at a shelter during the winter was refused, and this was legal, because she had HIV.

A pregnant client of mine did not start HIV treatment because of the violence she had experienced at the hands of health workers. With our counselling and support, she began treatment, but it was too late. She died.

Almost one in four women living with HIV who participated in the Stigma Index survey in Kazakhstan reported that health workers had forced them to have an abortion. Such cases will continue to happen until the problems of institutionalized discrimination against women living with HIV are addressed and the rights of women are protected.

Seven years ago, when we organized a national network of women living with HIV, we set out to gather evidence and tell the world about what was going on with women like us. We supported and helped women in difficult situations like the ones I described above.

We conducted training for women on protection from violence, on access to HIV prevention and treatment, and on leadership and advocacy. This is because it was important not only to help women, but also to get them engaged in a dialogue with decision-makers to bring about positive change together.

Later, in 2015, I started working with the Central Asian Association of People Living with HIV. Protecting women's rights remains my priority. With peer-to-peer support, we can help a lot of women, case by case. However, for sustainable positive change, we must change the system.

In 2018, several nongovernmental organizations in Kazakhstan got together to develop a shadow report to the Committee on the Elimination of Discrimination Against Women. The report was based on studies and reported cases of human rights violations gathered from 2015 to 2017. We wrote about institutionalized discrimination against women who use drugs, women living with HIV, sex workers and women in prison. We wrote about criminalization of marginalized groups of women, the violence and cruelty they face in law enforcement and health settings, the violation of parental and reproductive rights, unauthorized disclosure of HIV status, and insufficient access to opioid substitution therapy for women who use drugs.

With the report in hand, we went to Geneva to present at the Committee's expert meeting. As a result, the issues we highlighted were reflected in the Committee's official list of questions to the Government of Kazakhstan. As we prepare an updated report to be presented at an upcoming session of the Committee, we want to ensure that our recommendations are included in the final questions for the Government of Kazakhstan.

**WHY IS THIS WORK SO IMPORTANT? BECAUSE WE CAN NO LONGER REMAIN SILENT ABOUT IT, AND WE WILL NO LONGER BE SILENCED.**

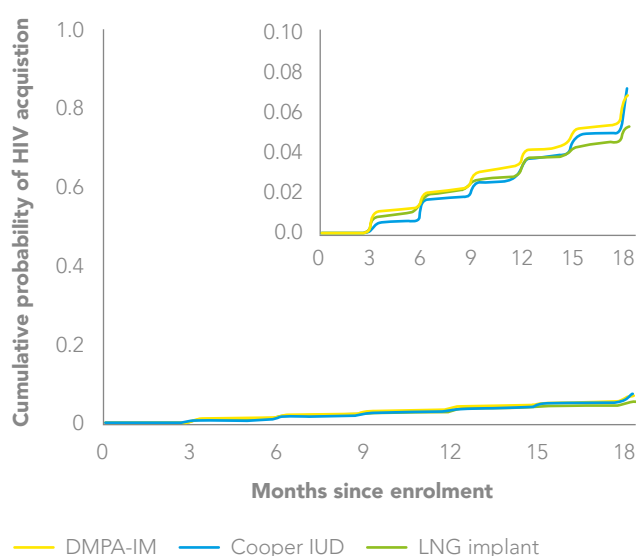
## REVIEWING BARRIERS TO WOMEN'S ACCESS TO HIV TREATMENT

**Approaching HIV treatment access from a gender-responsive and human rights-based approach yields valuable insights into the availability, affordability, acceptability, and quality of services and care.**

**A community-based, participatory review led by 14 women living with HIV from 11 countries has identified the key barriers to HIV treatment faced by women living with HIV. The global review—commissioned by the United Nations Entity for Gender Equality and the Empowerment of Women (UN Women), the AIDS Vaccine Advocacy Coalition, Athena Network and Salamander Trust—was informed by a gender-responsive and human rights-based framework to explore the micro-, meso-, and macro-level factors that impact women's experiences of treatment availability and their decision-making processes around its uptake.**

**The review's findings address the interplay of structural factors that affect women's overall access to health and resources, such as poverty, economic security, decision-making power, and stigma and discrimination. The most frequently cited barriers included actual and/or fear of violence, stigma and discrimination, treatment side-effects, low treatment literacy, gender roles and care responsibilities, lack of access to and control over resources, dismissal, and of disclosure or HIV-related employment refusal, and other barriers.**

**FIGURE 7.8** Probability of HIV acquisition, three forms of contraception, ECHO trial participants, Eswatini, Kenya, South Africa and Zambia, 2015–2018



**No. at risk**

DMPA-IM	2556	2555	2478	2412	2341	2077	1595
Cooper IUD	2571	2571	2539	2492	2440	2158	1656
LNG implant	2588	2587	2534	2484	2442	2166	1670

### ECHO trial shows need for a proactive approach to sexual and reproductive health and HIV prevention

A landmark study has brought important news to women living in areas with high HIV burden who want to use injectable hormonal contraception. It has also shone a light on the extremely high incidence of HIV infection among these women, and on their pressing need for multiple contraception and HIV prevention options.

Previous observational studies have suggested that injectable hormonal contraception may increase the risk of HIV infection among women. To explore this further, the Evidence for Contraceptive Options and HIV Outcomes (ECHO) trial compared a brand of progestogen-only injectable contraception with a non-hormonal copper intrauterine device (copper IUD) and a progestin-based implant containing the hormone levonorgestrel (LNG implant).<sup>2</sup> The study found no significant difference in HIV risk among women using these three highly effective contraceptive methods (Figure 7.8) (28).

In all, 7829 women living in areas of Eswatini, Kenya, South Africa and Zambia with high HIV prevalence were recruited when they sought contraception at local clinics; they were then randomly assigned to one of the three contraceptive methods.

The investigators had anticipated that HIV incidence among young sexually active women would be high, and they observed 397 infections during the study (an incidence of HIV infection of 3.8% per year). Among the study participants under the age of 25 years, the incidence of HIV was 4.3% per year. This extremely high incidence occurred despite excellent attendance over the 18 months at study clinics, where staff counselled women on HIV risk reduction, including use of dual methods for prevention of pregnancy and STIs. Staff also provided male and female condoms, HIV testing, and screening and syndromic treatment for STIs.

This seroconversion rate underscores the need for women of reproductive age to have access to a broad choice of effective contraceptive methods and tools to protect themselves from HIV. Condoms are a cheap and easy way to prevent both pregnancy and HIV infection (29–31). However, their use generally requires the knowledge and cooperation of both sexual partners. DMPA-IM, which is injected once every three months, is popular with some women because it does not require them to negotiate with their partner.

Daily oral pre-exposure prophylaxis (PrEP) is a relatively new HIV prevention option for women in settings with high HIV prevalence. However, early efforts to provide PrEP in eastern and southern Africa have proved challenging. Several pilots in the region have struggled to achieve high rates of acceptance, retention and adherence to a daily PrEP regimen (32–36). An injectable, long-acting form of PrEP (which could be available within the next few years) that is offered concurrently with injectable or other long-acting contraception could be a powerful tool for these women and girls as they work to claim their sexual and reproductive health rights.

In the meantime, a true combination approach to HIV prevention and contraception in settings with high HIV prevalence requires a paradigm shift in how services are delivered. In addition, oral PrEP should be integrated into contraceptive services in settings with high HIV prevalence, alongside active condom promotion, HIV testing, assisted partner notification and antiretroviral therapy. ■

<sup>2</sup> The study used intramuscular depot medroxyprogesterone acetate (DMPA-IM), which is marketed by Pfizer under the brand name Depo-Provera™.



## YOUTH-LED AND DATA-DRIVEN ADVOCACY IN THE PHILIPPINES

The Philippines has the third youngest population in Asia and the Pacific, and with more than 27% of the population aged 15 to 29 years, youth leadership, advocacy and involvement are key to the success of the HIV response in the country (37, 38).

With this in mind, the ACT!2030 alliance brought together youth-led and youth-serving organizations with knowledge and experience of sexual and reproductive health and rights and HIV. It galvanized them to investigate the delivery of comprehensive sexuality education in the country, and to advocate for the sexual and reproductive health needs of young people.

As one of 12 country alliances under the global ACT!2030 umbrella, the experience of the Philippines alliance is a useful case study in how to empower youth to work together to take the reins of information gathering and advocacy for their own sexual and reproductive health.

ACT!2030 Philippines was led by Action for Health Initiatives (ACHIEVE) Inc., and it comprised seven other youth-led and youth-serving organizations. Crucially, there were peer education groups and high school student government representatives who brought with them good knowledge of comprehensive sexuality education and related issues. This meant that ACT!2030 Philippines had strong links to students, and they became the project's qualitative researchers. The alliance was also carefully constructed to ensure that the voices of marginalized young people and key populations—including lesbian, gay, bisexual, transgender and intersex (LGBTI) young people—were included.

Sixty youth data reporters were tasked with collecting qualitative data on comprehensive sexuality education in the Philippines. The focus of the research project was to investigate the extent to which mandatory reproductive and sexuality education for young people—called for by the 2012 Responsible Parenthood and Reproductive Health Act—had been implemented. Delays in operationalizing the new law meant that the Philippines Department of Education had not developed minimum standards for comprehensive sexuality education, making it important to know the real situation on the ground (39).

The data collectors were trained using ACT!2030's Making it Count training curriculum, which focuses on youth-led research and the use of data for advocacy. The findings revealed that there was broad support for comprehensive sexuality education, but that delivery was not being effectively introduced (39). As well as collecting data, the ACT!2030 Philippines alliance was able to bring them to the decision-making table as a member of the Technical Working Group of the National Adolescent Health and Development Programme.

The alliance also worked with the Philippine National AIDS Council and the Committee on Children and HIV/AIDS during the development of the country's Sixth AIDS Medium Term Plan (39). One of the keys to the success of the ACT!2030 Philippines alliance was the fact that because of their work on previous projects, ACHIEVE and the other alliance members had already cultivated strong networks of contacts and relationships with civil society, legislators and government representatives. Through the ACT!2030 Philippines alliance, these disparate connections were brought together to create a youth-led, data-driven initiative for sexual and reproductive health education and services, a key component of ending AIDS in the country. ■

### ADDRESSING RAPE AND INTIMATE PARTNER VIOLENCE IN HUMANITARIAN SETTINGS

**WHO, UNFPA and UNHCR will soon publish an updated guide for developing protocols in humanitarian settings on the clinical management of rape and intimate partner violence. Following on from the current guidance developed in 2004, the updated guide incorporates new guidance and evidence, new interagency learning and known gaps in current responses, including intimate partner violence and mental health and psychosocial support. The updated guide, scheduled for publication in the third quarter of 2019, will be available in English, French, Arabic and Spanish. An interagency rollout will include webinars, country-level workshops and events.**

## YOUNG PEOPLE RISING UP AND BEING COUNTED

### COMMUNITY VOICES



**JUSTIN FRANCIS BIONAT IS THE REGIONAL COORDINATOR OF YOUTH VOICES COUNT, A YOUTH-LED REGIONAL NETWORK FOR YOUNG LESBIAN, GAY, BISEXUAL, TRANSGENDER, QUEER AND INTERSEX PERSONS IN THE ASIA AND THE PACIFIC REGION WORKING ON SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS.**

Gone are the days when HIV was known as “gay cancer,” but the biomedicalization of homosexuality that intensified in the early days of the HIV epidemic, and which labelled queer bodies as diseased and heterosexual bodies as healthy, still exists. Structural and systematic discrimination against gay, bisexual and other men who have sex with men is a harsh reality in many countries.

Members of our community are disproportionately affected by communicable diseases, including HIV and other STIs. This is perpetuated by restrictive and oppressive social and political environments that criminalize and pathologize their identities. If we are to increase the uptake of HIV testing and treatment and reduce the incidence of HIV infection, these inequalities must be uprooted. The solution: provide inclusive and youth-friendly spaces for young people to engage meaningfully in decision-making, programme development, service delivery, and performance monitoring and evaluation processes.

There is renewed fervour among young people and members of the community to rise up and take our health and human rights in our own hands. Initiatives such as the #Uproot Scorecard—developed by the PACT, a global coalition of youth-led organizations, and supported by UNAIDS—have enabled young people to take the lead on tracking state commitments on sexual and reproductive health and rights. Youth Voices Count

has led this process in five countries in Asia and the Pacific, and it has proven to be an effective methodology for understanding the perceptions of young people about the state of sexual and reproductive health and rights for young key populations in their countries.

Many other youth-led initiatives have highlighted the unifying efforts of civil society, donor agencies, government institutions, and regional and international organizations. Some of the measurable results include policy developments that benefit youth and key populations, and behaviour change among individuals and high-risk groups. However, there is another, less tangible result: the new-found recognition and added confidence given to youth leadership and youth leaders. Now the concept of “nothing about us, without us” is coupled with the practice of acknowledging youth as partners, not as mere beneficiaries, participants who can advise global programmes.

Young people are claiming their place, and they are inspiring a powerful response. Despite the fact that they often must operate in restricted spaces that silence queer and youth dialogues, young people will continue to punch through the glass ceilings that stand in their way. Young people are no longer voiceless and silenced. However, our efforts are in vain if we cannot bring together civil society, governments, donors and United Nations agencies. Raise your voices with us, young people!

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# INTEGRATED, PEOPLE-CENTRED SERVICES

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## AT A GLANCE

Integration of quality HIV and other related services can improve the health and well-being of people in need of these services and improve the efficiency and effectiveness of efforts to meet global health goals.

Scale-up of HIV treatment and improvements in the delivery of HIV and tuberculosis services have greatly reduced tuberculosis-related deaths among people living with HIV.

National plans for hepatitis prevention and treatment should include focused efforts to reach two populations at high risk of infection: prisoners and people who inject drugs.

Efforts to end the AIDS epidemic and achieve all of the health commitments within the Sustainable Development Goals are being enabled by the movement for universal health coverage.

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The synergies of responses to communicable and noncommunicable diseases has risen in importance as countries search for the most efficient and effective ways to meet global health goals. National HIV responses must address the rising prevalence of noncommunicable diseases globally and take into account the increased understanding of the importance of social determinants of health and of addressing mental health issues.

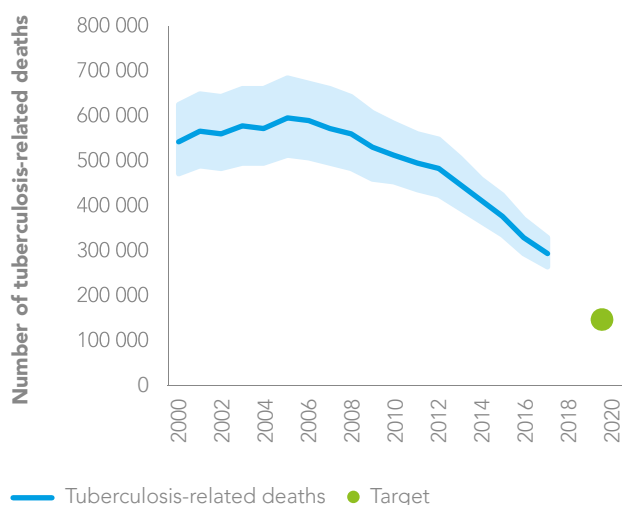
The International AIDS Society–Lancet Commission explored how advancing global health and strengthening the HIV response can be achieved in unison. The Commission’s 2018 report called for HIV services to be co-located with broader health services where possible, with the aim of improving both HIV-related and non-HIV-specific health outcomes (1). The provision of services for HIV, tuberculosis, viral hepatitis, sexually transmitted infections (STIs) and human papillomavirus (HPV) have clear synergies, as these epidemics have similar modes of transmission and affect similar hard-to-reach populations. The integration of HIV services into sexual and

reproductive health care, family planning, maternal and child health care, and food and nutritional support has comparable advantages.

However, the International AIDS Society–Lancet Commission warned against wholesale relinquishment of a focused approach to HIV (1). It found that the exceptional nature of the HIV response has driven its ability to mobilize financial, technical and human resources, unite diverse stakeholders, focus global attention on concrete results, stimulate scientific innovation and engage communities. The Commission stressed that the greater integration of HIV and global health “must preserve and build on key attributes of the HIV response, including participatory community and civil society engagement and an ironclad commitment to human rights, gender equality, and equitable access to health and social justice” (1).

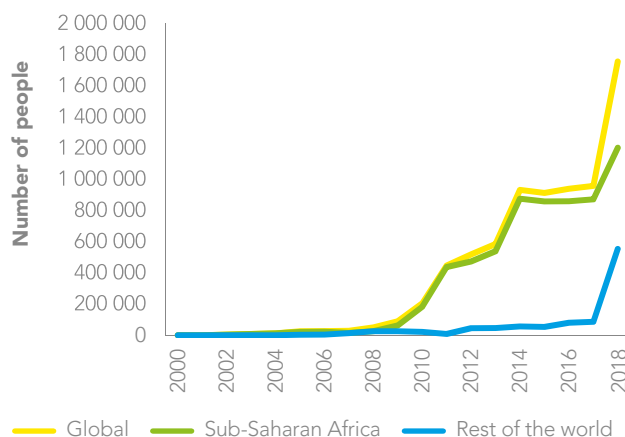
Ultimately, people are at the centre of efforts to end the spread of disease and uphold the right to health—and a people-centred approach is needed to achieve global health goals. ■

**FIGURE 8.1** Number of tuberculosis-related deaths among people living with HIV, global, 2000–2017



Source: Global tuberculosis report. Geneva: World Health Organization; 2018.

**FIGURE 8.2** People living with HIV who received preventive treatment for tuberculosis, 2000–2018



Note: Data for 2018 are preliminary. Until 2016, countries reported the number of people living with HIV newly enrolled in HIV care who received preventive treatment for tuberculosis. As of 2017, countries could report the number of people living with HIV both newly and/or currently enrolled in HIV care who received preventive treatment for tuberculosis.

Source: 2019 Global AIDS Monitoring; Global tuberculosis report. Geneva: World Health Organization; 2018.

## Reductions in tuberculosis-related deaths among people living with HIV

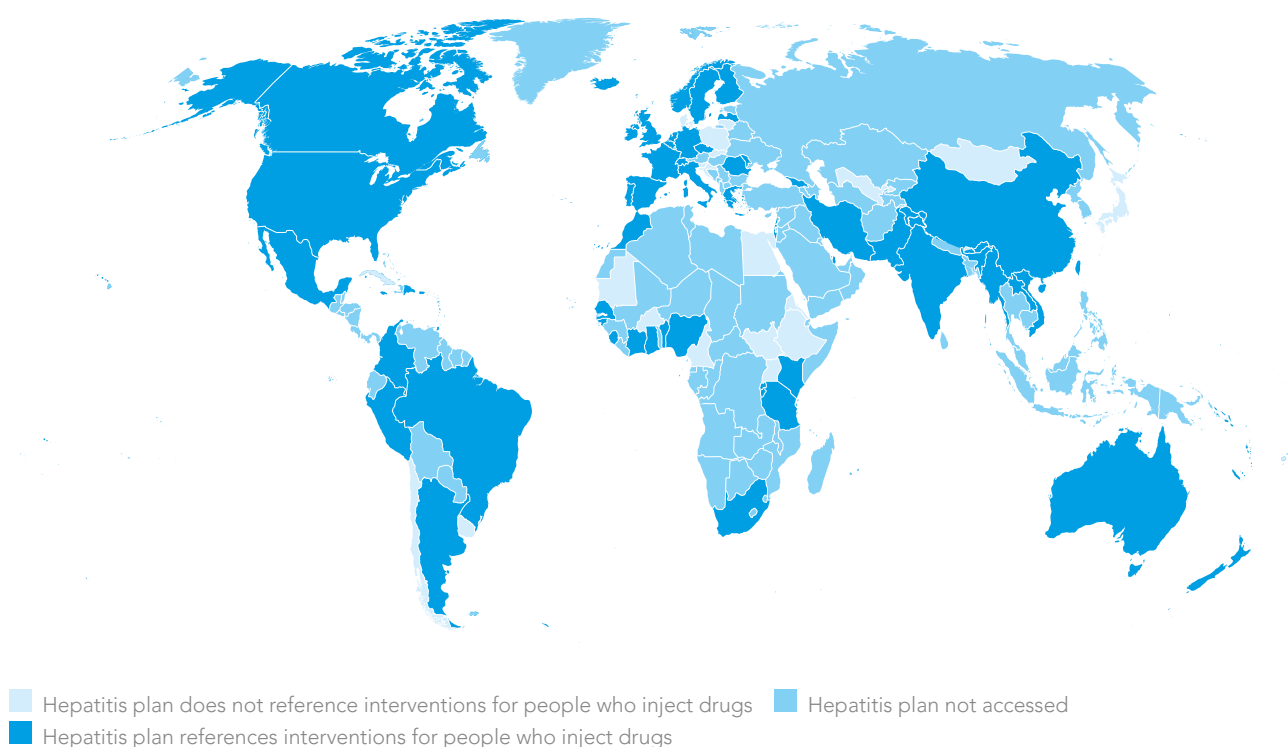
A person living with HIV is approximately 16 to 27 times more likely to develop active tuberculosis than an HIV-negative person (2). Scale-up of antiretroviral therapy and improvements in the delivery of HIV and tuberculosis services has greatly reduced tuberculosis-related deaths among people living with HIV (Figure 8.1). However, tuberculosis remains the single largest cause of premature death among people living with HIV globally.

The World Health Organization (WHO) has strongly recommended treatment for latent tuberculosis infection in people living with HIV. Among the 30 countries with a high HIV and tuberculosis burden, 21 reported having policies in place on isoniazid

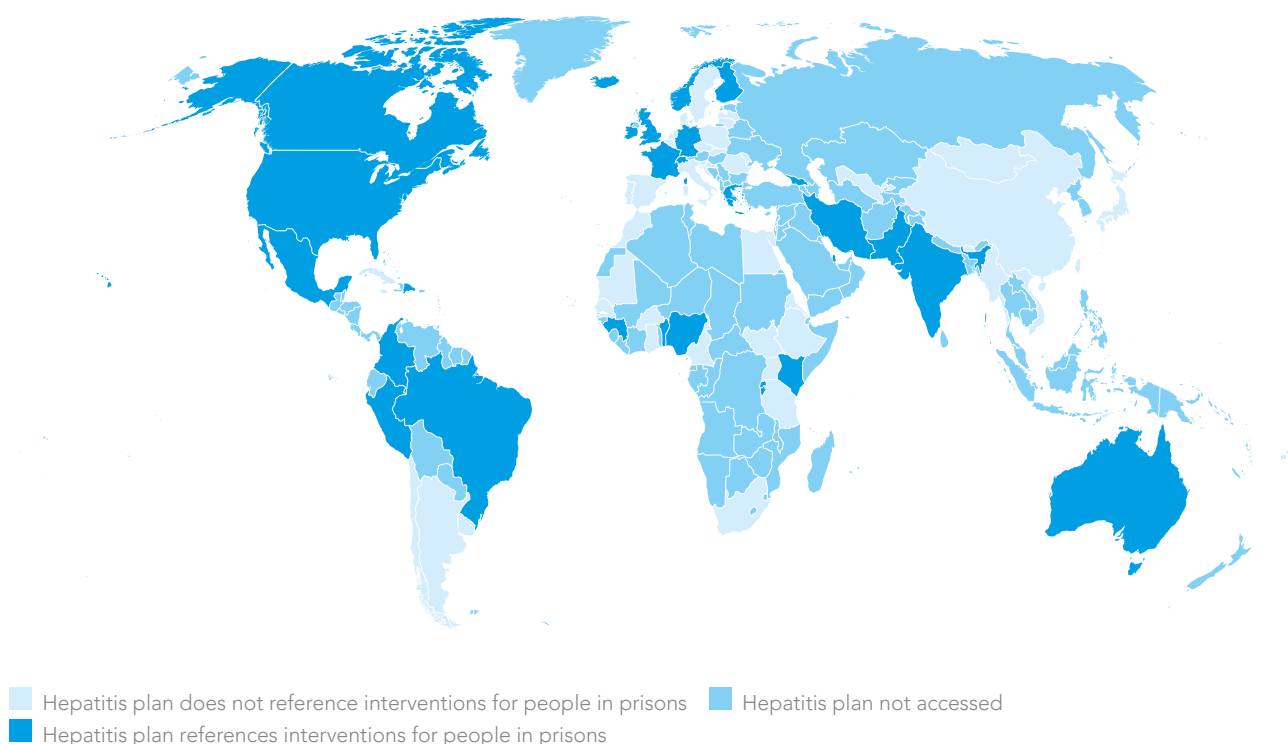
preventive therapy or latent tuberculosis infection prophylaxis for people living with HIV. Coverage of preventative treatment among people newly enrolled in HIV care in 2017 remained low among many of the 30 countries with a high burden of HIV and tuberculosis, ranging from 1% in Eswatini to 53% in South Africa (3).

Provision of preventive treatment to people living with HIV appears to have increased in 2018 (Figure 8.2), but this rise may be partially due to changes in reporting. Until 2016, countries reported the number of people living with HIV newly enrolled in HIV care who received preventive treatment for tuberculosis. As of 2017, however, countries could report the number of people living with HIV both newly and currently enrolled in HIV care who received preventive treatment for tuberculosis.



**FIGURE 8.3** National plans referencing interventions for hepatitis in people who inject drugs, 2019

Source: Access to hepatitis C testing and treatment for people who inject drugs and people in prisons—a global perspective. Geneva: World Health Organization; 2019 (<https://www.who.int/hepatitis/publications/idu-prison-access-hepatitis-c/en/>).

**FIGURE 8.4** National plans referencing interventions for hepatitis in people in prisons, 2019

Source: Access to hepatitis C testing and treatment for people who inject drugs and people in prisons—a global perspective. Geneva: World Health Organization; 2019 (<https://www.who.int/hepatitis/publications/idu-prison-access-hepatitis-c/en/>).

## Prisoners and people who inject drugs key to reaching targets on viral hepatitis and HIV

Viral hepatitis is easily spread through the sharing of non-sterile drug preparation and injecting equipment. As a result, coinfection of viral hepatitis and HIV is common when people who inject drugs do not have access to needle-syringe programmes and other harm reduction measures. Almost one quarter of new hepatitis C infections are attributable to injecting drug use, and more than half of people who inject drugs have chronic hepatitis C infection (4, 5). An estimated 7% of people living with HIV who inject drugs have hepatitis B (4). The prison populations of most countries have higher hepatitis B and C prevalence than the general population (4).

Strong progress has been made in delivering prevention interventions (such as the hepatitis B vaccine) together with early but expanding testing and treatment access for both hepatitis B and C (6). Direct-acting antiviral medicines—only available since 2013 and with cure rates of greater than 90% and few side-effects—have revolutionized the treatment and cure of hepatitis C infection (6).

The number of countries with national hepatitis plans and strategies has increased from 12 in 2012 to 124 in 2019. However, many of these plans do not reference people who inject drugs and prisoners (Figures 8.3 and 8.4). Efforts to reach universal access to testing, hepatitis B treatment and the hepatitis C cure must reach these key populations in order to achieve global targets for reducing mortality from viral hepatitis (7).

## Linkages and integration of HIV and cervical cancer prevention, screening and treatment

Cervical cancer is the fourth most common cancer among women globally, with an estimated 570 000 new cases and 311 000 deaths worldwide in 2018 (8). Women living with HIV face an up to fivefold greater risk of invasive cervical cancer than women who are not infected with HIV (9). This risk is linked to HPV, a common but preventable infection that women with compromised immune systems struggle to clear.

HPV immunization programmes for adolescent girls are a key strategy to preventing cervical cancer, and all women living with HIV should be screened for cervical cancer. Women found to have precancerous and cancerous lesions need to be treated for early or advanced stages of cervical cancer. Linking and integrating cervical cancer services and HIV services is cost-effective and can be done at scale. Among the 35 Fast-Track countries in the UNAIDS 2016–2021 Strategy, 17 reported in 2019 that cervical cancer screening and treatment for women living with HIV is recommended in the national strategic plan governing the AIDS response.<sup>1</sup> Twenty-one reported that cervical cancer screening and treatment for women living with HIV is recommended in national HIV treatment guidelines (Table 8.1). However, just four countries confirmed that cervical cancer screening is integrated with HIV services in all health facilities, and another 12 reported that these services are integrated in some health facilities. ■

## 2GETHER 4 SRHR IN EASTERN AND SOUTHERN AFRICA

**The 2gether 4 SRHR programme by the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), WHO and UNAIDS is linking efforts to strengthen sexual and reproductive health and rights (SRHR) and reduce the impact of HIV in eastern and southern Africa. The programme supports efforts of regional economic communities and governments, and it works in close partnership with civil society through networks of people living with HIV, adolescents and young people, and key populations.**

**All 10 participating countries have developed or are reviewing laws, policies, strategies and guidelines related to SRHR and HIV service provision, and they all have also strengthened the capacity of health facilities to provide rights-based, responsive, fair, efficient, quality and integrated SRHR and HIV services. The invaluable lessons learned from 2gether 4 SRHR are being used to strengthen and roll out further SRHR and HIV linkages across sub-Saharan Africa and beyond.**

<sup>1</sup> The 35 Fast-Track countries together account for more than 90% of people acquiring HIV infection and 90% of people dying from AIDS-related illness worldwide.



**TABLE 8.1** Cervical cancer screening policies and proportion of women living with HIV (aged 30–49 years) screened for cervical cancer, 35 Fast-Track countries

	Cervical cancer screening and treatment for women living with HIV recommended in the national strategic plan governing the AIDS response (2019)	Cervical cancer screening and treatment for women living with HIV recommended in national HIV treatment guidelines (2019)	Extent to which health facilities are delivering cervical cancer screening integrated in HIV services (2019)	Proportion of women living with HIV (aged 30–49 years) screened for cervical cancer (year)
Angola				
Botswana				30% (2018)
Brazil				
Cameroon				
Chad				
China				
Côte d'Ivoire				
Democratic Republic of the Congo				
Eswatini				
Ethiopia				
Ghana				
Haiti				
India				35% (2016)
Indonesia				
Iran (Islamic Republic of)				
Jamaica				
Kenya				
Lesotho				29% (2014)
Malawi				19% (2016)
Mali				
Mozambique				
Myanmar				
Namibia				
Nigeria				
Pakistan				
Russian Federation				
South Africa				
South Sudan				
Uganda				
Ukraine				
United Republic of Tanzania				18% (2017)
United States of America				
Viet Nam				
Zambia				27% (2016)
Zimbabwe				26% (2015)

Yes	Yes	Fully integrated in all health facilities	
No	No	Integrated in some health facilities	
No data	No data	Delivered separately	No recent data
		No data	

Source: 2019 National Commitments and Policy Instrument; population-based surveys, 2014–2017; 2019 Global AIDS Monitoring.

## AN INTEGRATED, PEOPLE-CENTRED APPROACH TO HIV, TUBERCULOSIS AND HEPATITIS IN MOLDOVA

Balti was one of the first cities in the Republic of Moldova to have outbreaks of HIV among people who inject drugs. That public health challenge quickly merged with the city's tuberculosis epidemic, and Balti soon had the highest burden of HIV–tuberculosis coinfection in the country (10).

A challenge in this city of about 140 000 residents has been reaching the most vulnerable people who inject drugs with comprehensive HIV, tuberculosis and harm reduction services. This is in part because the responsibility to manage those services was scattered across different sectors and departments: municipal HIV and tuberculosis interventions were not coordinated, had separate budgets and offered limited roles for nongovernmental organizations and affected communities. Efforts to engage communities were hindered by stigma and the attitudes of some officials towards affected communities (11).

The association Tineri pentru Dreptul la Viata (Youth for the Right to Live) stepped up to fill that gap. The national nongovernmental organization's subsidiary in Balti partnered with the city to implement a municipal drug strategy and HIV programme that uses a people-centred approach (10). Three quarters of its staff are peers from the communities it serves.

The focus is on early detection and treatment for people living with tuberculosis and HIV, and on preventive tuberculosis treatment for people living with HIV. Services have been integrated at various health-care facilities, and a community-based approach is used to provide tuberculosis and HIV services in ways that reduce stigma and discrimination and the harms associated with injecting drug use (Figure 8.5).

Sites providing antiretroviral therapy and opioid substitution therapy also offer tuberculosis screening, counselling and support for adhering to both tuberculosis and HIV treatment, and consultations with tuberculosis specialists and social workers. Tuberculosis facilities have added rapid HIV tests and adherence counselling for antiretroviral therapy to their services, and nongovernmental organizations provide a mix of services to address people's HIV- and tuberculosis-related needs (11). Tuberculosis screening, HIV testing, and tuberculosis and HIV treatment are provided free of charge, and a referral system has been set up between nongovernmental and municipal health facilities (10).

Youth for the Right to Live offers integrated harm reduction services, HIV–tuberculosis services and psychosocial support to sex workers and people who inject drugs in Balti (10). Services include: needle–syringe exchanges; overdose prevention with naloxone; condom distribution; testing and referral to treatment for HIV, tuberculosis, viral hepatitis and syphilis; awareness-raising and counselling; and various forms of peer support (11).

Dima, a 42-year-old man who injects drugs and who has been living with HIV for 12 years, says he owes his life to those services. "They saved me twice from an overdose and then from tuberculosis," he says. "After I had been discharged from the hospital, Yura [an outreach worker] brought me pills every day for almost a year, even though I lived in Vysranka, and you should know that it is far away and extremely difficult to get to."

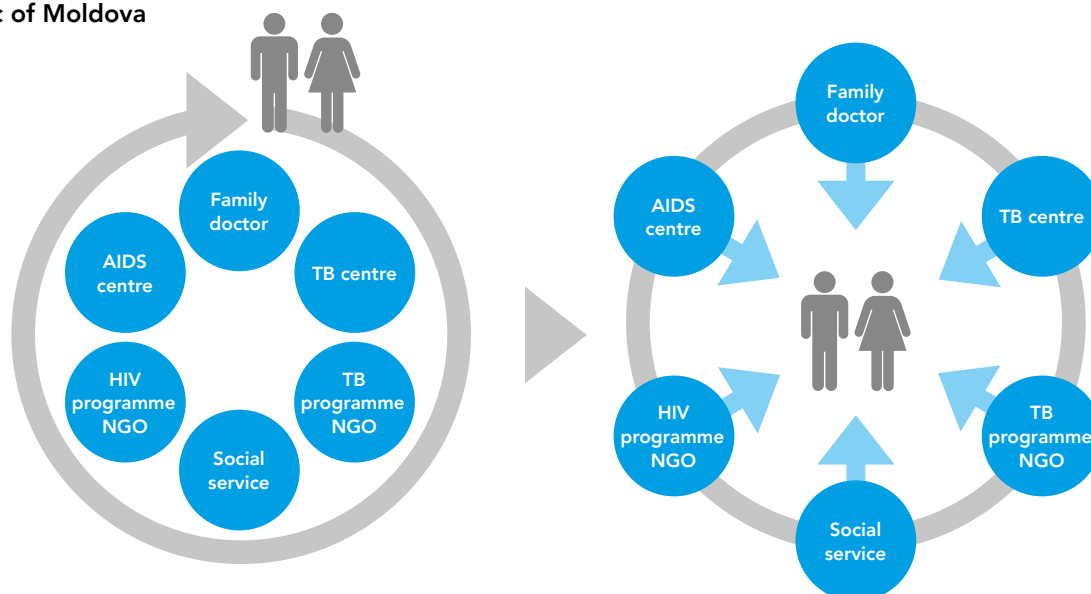
The uptake of services increased and results improved. During 2018, Youth for the Right to Live screened 1242 HIV-positive individuals for tuberculosis and tested 657 persons for HIV infection, 34 of whom (5.2%) tested HIV-positive (11). Antiretroviral therapy coverage among people diagnosed with HIV infection increased from 45% in 2016 to 56% in 2018. In the same period, the number of notified tuberculosis cases fell steeply, and the number of tuberculosis-related deaths declined by 42% (Figure 8.6).

Radiologist Boris Fiodorovich Puga, briefing a Moldovan patient on his tuberculosis diagnosis.

Credit: Oxana Buzovici, Youth Association for The Right to Live

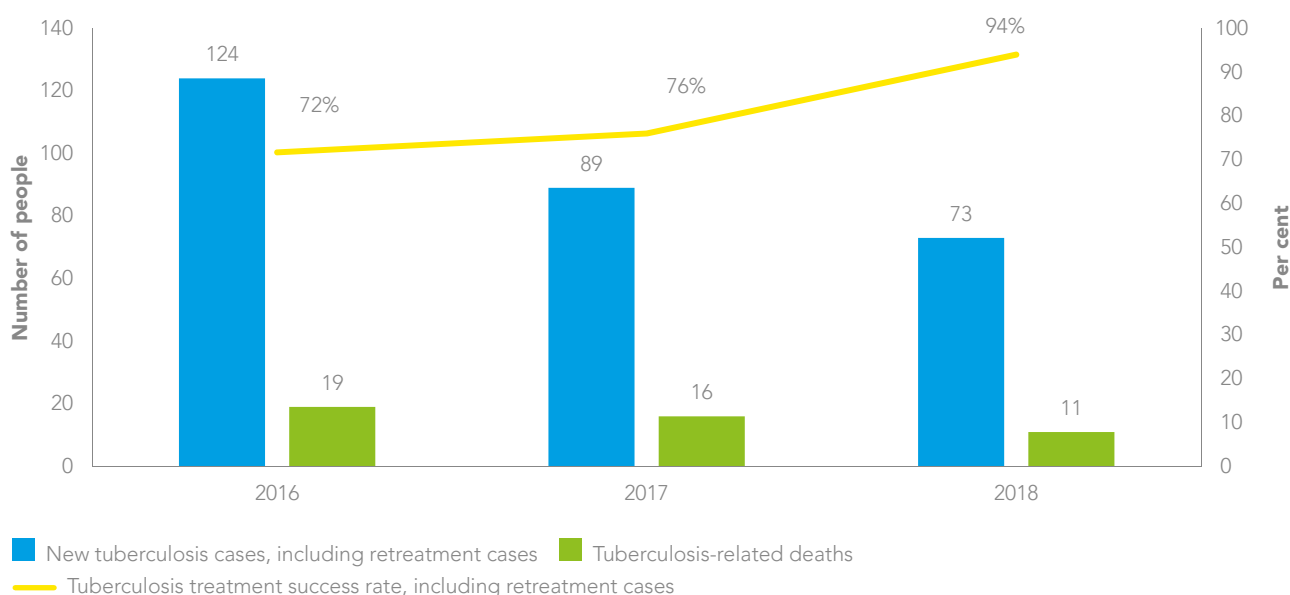


**FIGURE 8.5** The shift from a referral model to integrated tuberculosis–HIV services in Balti, Republic of Moldova



Source: Access to HIV and TB prevention, treatment and care: perspective of a civil society organization and patients. Alla Yatsko, Youth Association for the Right to Live. Slide presentation, 15 May 2019.

**FIGURE 8.6** Tuberculosis cases, treatment success and deaths, Balti, Republic of Moldova, 2016–2018



Source: Access to HIV and TB prevention, treatment and care: perspective of a civil society organization and patients. Alla Yatsko, Youth Association for the Right to Live. Slide presentation, 15 May 2019.

Stigma and discrimination remains a problem, though. “There is still a high level of discrimination,” said one resident who is living with HIV–tuberculosis coinfection. “People are afraid to come to the medical office for being tested. ... What if somebody sees them?” (10)

A 2017 assessment found that nongovernmental organizations such as Youth for the Right to Live were crucial for providing tuberculosis- and HIV-

related services to Balti residents (10). Strong political commitment among top city officials made this possible.

The Mayor of Balti signed an agreement with the STOP TB Partnership to implement evidence-informed tuberculosis and HIV interventions across the city, and the head of the city health department was well-versed in tuberculosis and HIV issues and determined to bring the joint epidemics under control (10). ■

## REMEMBERING DEAN LEWIS: A CHAMPION FOR THE RIGHTS OF PEOPLE AFFECTED BY TUBERCULOSIS

### COMMUNITY VOICES

"Poverty, homelessness and criminalized behaviour made me invisible to the Indian health system. For many, that reality remains," Dean recalled. "We must commit to reaching populations of people like me. Commit the money to overcome the barriers that people face to access basic services. In tuberculosis, we talk about 'missing millions.' We are not 'missing': we are standing right here."

Dean's life experiences shaped his actions as a champion for protecting and promoting human rights for people affected by tuberculosis and HIV and for people who use drugs, putting people at the centre of the response.

Seldom using or needing a microphone, he was outspoken and articulate in meetings, a leader and a mentor who inspired a generation of tuberculosis survivors to become fellow activists.

He volunteered his time as a tuberculosis activist, working with Touched by TB, ACT Asia-Pacific and the Global Coalition of TB Activists to make the voice of tuberculosis-affected communities heard at the highest level of decision-making. Following his selection as the co-chair of the Affected Communities and Civil Society Advisory Panel to the first-ever United Nations High-Level Meeting on Tuberculosis, he stated, "the last two years have seen human rights establish a permanent position in global tuberculosis discourse. This is important, but what comes next is more critical. We now must operationalize human rights at the grass-roots level. Right now, for many, they are distant. Human rights must not remain the luxury of the exclusive few."

He turned these words into action, and along with other tuberculosis leaders, he worked with the Stop TB Partnership and human rights lawyers to develop the Declaration of the Rights of People Affected by Tuberculosis. Sadly, Dean died before the Declaration was launched in Geneva in May 2019. His legacy will live on through the declaration, ensuring that human rights and the inclusion of affected communities are central to delivering effective services for tuberculosis, HIV and harm reduction. ■



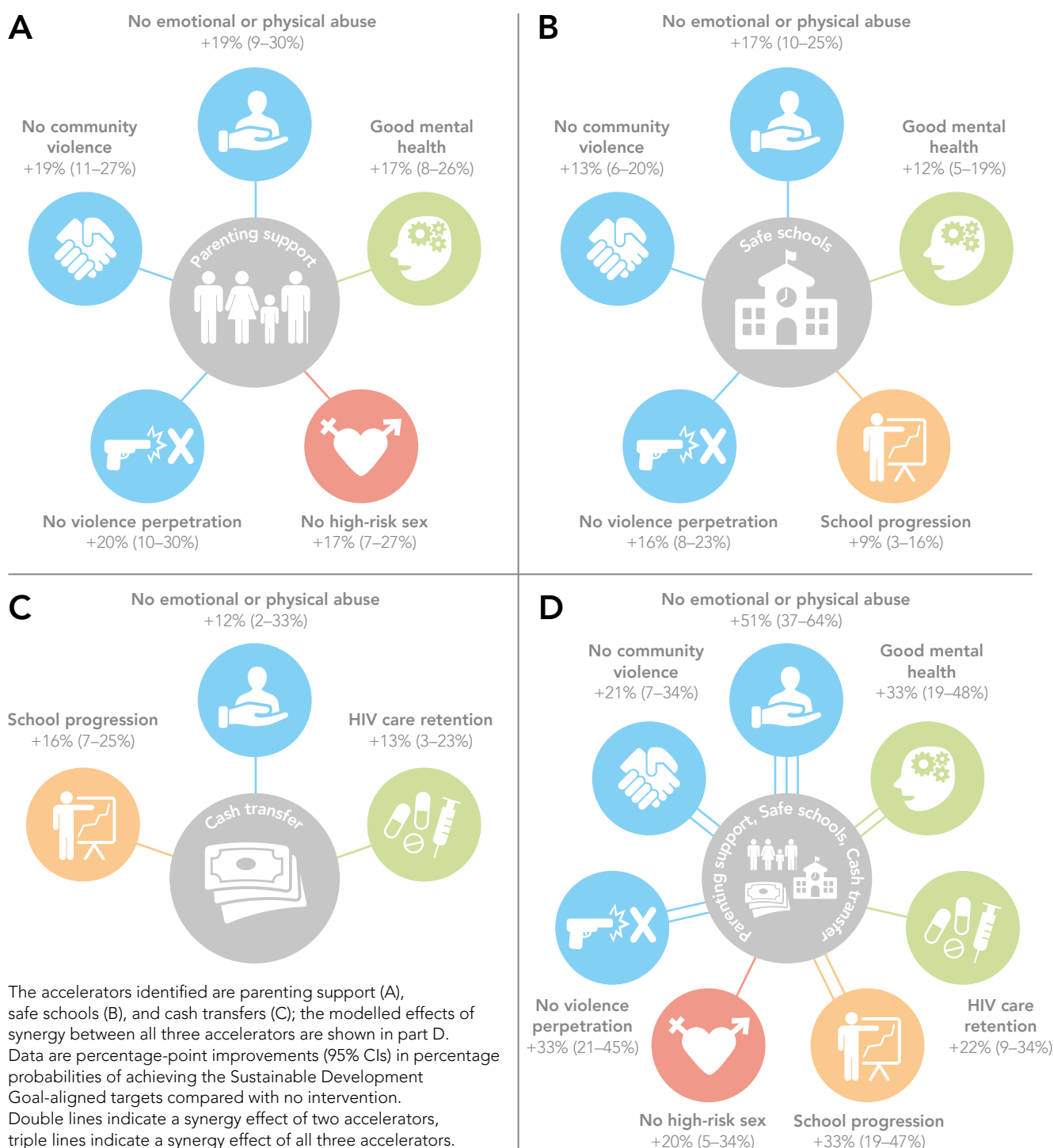
**DEAN LEWIS WAS FIRST DIAGNOSED WITH TUBERCULOSIS AS A YOUNG MAN WHILE LIVING WITH HIS PARENTS IN MUMBAI, INDIA. THE SECOND TIME HE DEVELOPED TUBERCULOSIS, HE WAS DEPENDENT ON DRUGS AND LIVING ON THE STREETS OF DELHI, WITH NO FOOD OR MONEY, WITHOUT IDENTITY PAPERS OR A FIXED ADDRESS. IT TOOK HIM MONTHS TO ACCESS TREATMENT THROUGH THE PUBLIC HEALTH SERVICE.**

## DEVELOPMENT ACCELERATORS FOR ADOLESCENTS LIVING WITH HIV

The United Nations Development Programme (UNDP) has led a United Nations-wide effort to identify development accelerators: actions that cut across the economic, social and environmental domains of sustainable development to make an impact across the Sustainable Development Goals (SDGs).

A recent study looked at the UNDP's proposed development integration approach to see how effective it was with a specific highly vulnerable group: South African adolescents (aged 10–19 years) who are living with HIV. Using standardized tools, researchers investigated the effects of six development accelerators

**FIGURE 8.8** Modelled effects of development accelerators and synergy effects of all three accelerators





on progress towards 11 SDG-aligned targets: the accelerators were government cash transfers to households, safe schools (i.e., schooling free of teacher or student violence), free schools, parenting support, free school meals and support groups.

The study interviewed 1063 adolescents at baseline in 2014–2015 and again at follow-up 18 months later (in 2016–2017, 94% retention). The researchers also accessed longitudinal data from the clinical records of the participants. It was the first large-scale community-traced cohort study of its kind in this population, tracking both clinical outcomes and the experiences of the adolescents themselves in social, educational, familial, sexual health and community domains.

Three potential development accelerators—parenting support, cash transfers and safe schools—were identified as particularly effective and worthy of further assessment for policy and development financing (Figure 8.8) (12). All three were associated with a higher likelihood of no emotional or physical abuse, and parenting support was also associated with good mental health and absences of high-risk sex, violence perpetration and community violence (12). Cash transfers were associated with HIV care retention and school progression, while safe schools were associated with good mental health, school progression, no violence perpetration and no community violence. For five of the SDG targets, the relevant interventions showed synergistic effects, whereby their impact was greater when combined (12). ■

## THE SYMBIOTIC RELATIONSHIP BETWEEN UNIVERSAL HEALTH COVERAGE AND THE HIV RESPONSE

**Efforts to end the AIDS epidemic, to achieve all the health commitments within the SDGs and to deliver on a decades-old declaration of the global, inalienable right to health will benefit greatly from progress towards one specific goal: universal health coverage.**

**The growing movement for universal health coverage aims to ensure that all people can access the high-quality health services they need, to safeguard all people from public health risks and to protect all people from impoverishment due to illness, whether from out-of-pocket payments for health care or loss of income when a household member falls sick.**

**The core principle of universal health coverage is to leave no one behind. This has been a mantra of the HIV response for more than a decade. Efforts to expand health coverage and create people-centred health systems can build on the experiences of the HIV response. Much momentum can be achieved when there is international solidarity, political leadership, evidence-informed action and adequate funding (13, 14). Multisectoral collaboration and attention to structural barriers have highlighted how addressing the fundamental social determinants of health and health equity through social protection mechanisms, such as cash transfers and food and nutrition support, can alleviate poverty, reduce risk-taking**

**behaviours, and improve access and adherence to treatment. Across the HIV response, there is a strong focus on human rights and the needs of the marginalized and vulnerable, including key populations at higher risk of HIV infection. Strong engagement with civil society has been another hallmark of the HIV response. The outcome-based approach of the HIV response and its inclusive accountability framework hold a useful lesson for monitoring progress towards both universal health coverage.**

**At the same time, universal health coverage approaches provide opportunities to better meet the multiple health needs of people living with HIV and key populations. The HIV prevention, treatment, care and support services that people need during each stage of their lives must be included in packages of essential health benefits. Ensuring universal access to affordable, high-quality health services will also be an important contribution to ending extreme poverty by 2030.**

**Moving forward, the HIV community will be a key player in universal health coverage processes at the local, national and global levels, and efforts to achieve universal health coverage are critical to reducing the gaps in HIV services, improving their quality and ensuring improved financial protection for people living with and affected by HIV.**

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**AID\$**  
**WILL ONLY END**  
**WHEN...**

*the Global Fund  
is fully funded*



# INVESTING TO END AN EPIDEMIC

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## AT A GLANCE

Investment in the HIV responses of low- and middle-income countries decreased by nearly US\$ 1 billion between 2017 and 2018—a collective failure to make progress towards the 2020 global funding commitment.

Domestic resources accounted for more than half of the total financial resources for HIV responses in low- and middle-income countries in 2018, with wide variation among regions.

Where funding is available, results are more robust. In eastern and southern Africa, where expenditures are in line with global resource needs estimates, reductions in AIDS-related deaths are approaching the region's 2020 targets.

The replenishment of the Global Fund for its 2020–2022 funding cycle is a critical moment to increase international investment and advance efforts toward ending the AIDS epidemic by 2030.

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In 2016, the United Nations General Assembly agreed to a steady expansion of investment in the HIV responses of low- and middle-income countries, increasing to at least US\$ 26 billion by 2020—the amount required to scale up programmes and meet the targets agreed within the 2016 Political Declaration on Ending AIDS.

An increase in the availability of financial resources for HIV responses between 2016 and 2017 suggested that the world was making good on its commitment. However, data from 2018 tell a different story: investment in the HIV responses of low- and middle-income countries decreased by US\$ 900 million (to US\$ 19.0 billion in constant 2016 US dollars) in just one year.<sup>1</sup>

UNAIDS financial estimates indicate a one-year decline in real terms (adjusting for inflation) across all sources of funding, including domestic resources

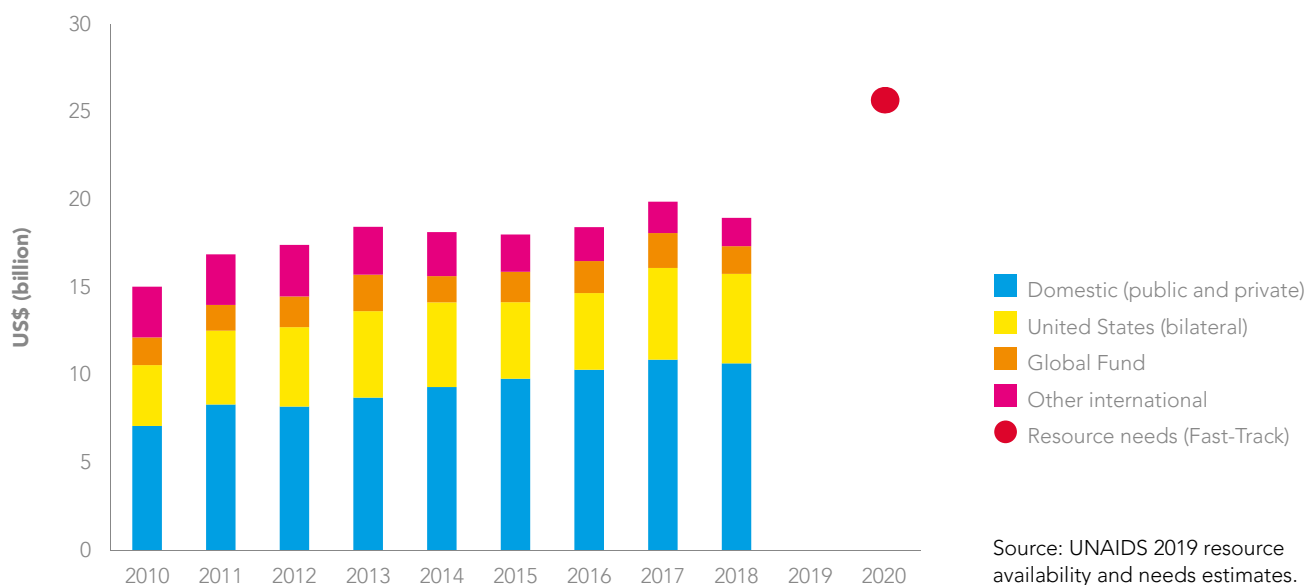
(a 2% decline), the Global Fund to Fight AIDS, Tuberculosis and Malaria (a 20% decline), other multilateral channels (a 2% decline), the Government of the United States of America's bilateral programmes (a 3% decline), the bilateral programmes of other donor countries (a 17% decline), philanthropic organizations (an 18% decline) and other international sources (a 4% decline). The annual reduction in Global Fund disbursements to countries is explained by fluctuations in its three-year grant cycle.

The four regions with the largest shares of the global gap between 2018 resource availability and the 2020 resource needs target are western and central Africa, Asia and the Pacific, eastern Europe and central Asia, and Latin America. However, the response against the relatively smaller epidemic in the Middle East and North Africa is by far the most under-resourced. ■

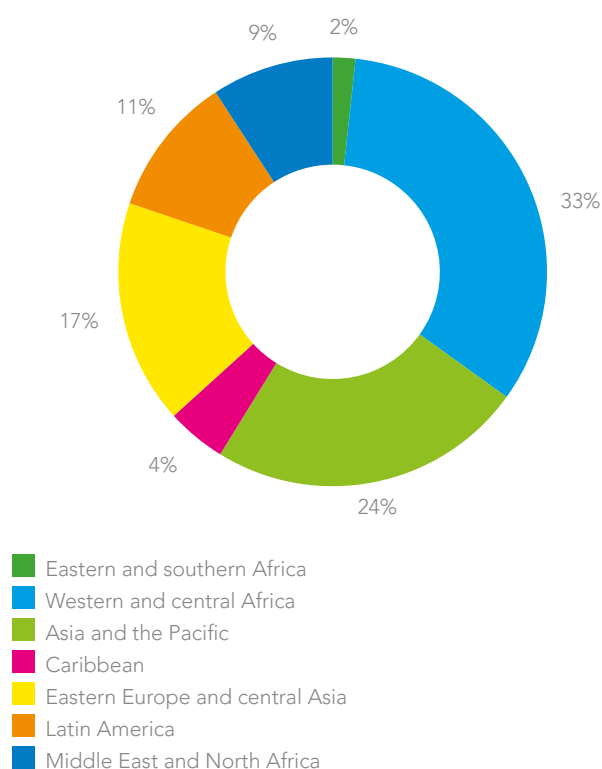
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<sup>1</sup> Unless stated otherwise, all financial amounts are expressed in constant 2016 US dollars to facilitate direct comparison with the United Nations General Assembly target.

**FIGURE 9.1** HIV resource availability for HIV in low- and middle-income countries, 2010–2018 and 2020 Fast-Track resource needs (in constant 2016 US dollars)



**FIGURE 9.2** Estimated funding gap comparing current availability of resources for HIV to estimated need in 2020



Source: UNAIDS 2019 resource availability and needs estimates.

## Fewer financial resources for HIV responses in 2018

UNAIDS received more than 70 new reports of domestic investment from countries within the last year, with some of these reports including data from previous years. These data (and previously reported data) were used to update UNAIDS estimates of resource availability in low- and middle-income countries since 2010. The new estimates show that resource availability (in constant 2016 US dollars) from all sources increased from US\$ 15 billion in 2010 to US\$ 19.9 billion in 2017. It then decreased to US\$ 19.0 billion in 2018 (Figure 9.1).

Between 2010 and 2018, domestic resources invested by low- and middle-income countries in their HIV responses increased by 50%, while international investment in these responses has increased by just 4% over the same period. The mixture of sources and channels of international funding has changed markedly since 2010. Bilateral funding from the Government of the United States increased by 48%, and annual disbursements from the Global Fund increased from US\$ 1.6 billion in 2010 to US\$ 2.2 billion in 2017 before declining to US\$ 1.6 billion in 2018, in part because of cyclical fluctuations in its three-year funding period. Annual resources made available by other international sources decreased by 44%, from US\$ 2.9 billion in 2010 to US\$ 1.6 billion in 2018.



On aggregate, the availability of financial resources for the HIV responses of low- and middle-income countries in 2018 was far short of the US\$ 26 billion target for 2020, and since 2017, that gap has grown. The four regions with the largest shares of the global

gap between 2018 resource availability and the 2020 resource needs target are western and central Africa (33%), Asia and the Pacific (24%), eastern Europe and central Asia (17%) and Latin America (11%) (Figure 9.2). ■

### Domestic investment varies by region and country

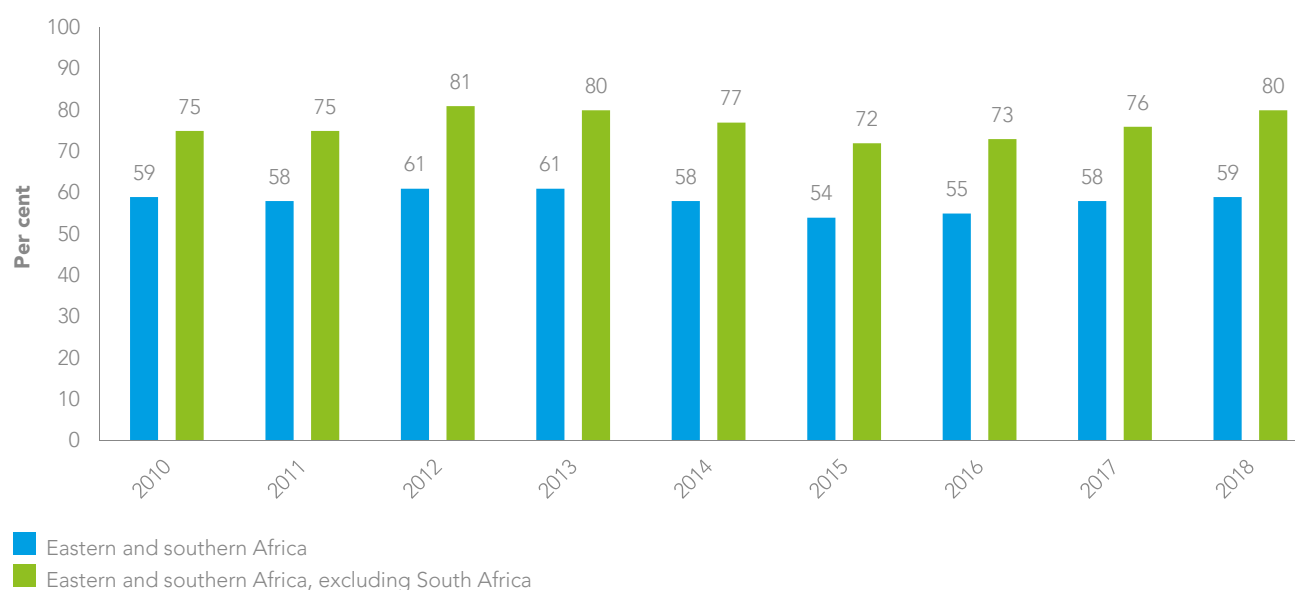
Domestic resources accounted for 56% of the total financial resources for HIV responses in low- and middle-income countries in 2018, with wide variation among regions. Domestic resources were 95% of total resources in Latin America, 81% in Asia and the Pacific, 77% in Middle East and North Africa, 69% in eastern Europe and central Asia, 41% in eastern and southern Africa, 38% in western and central Africa, and 27% in the Caribbean.

There was also variation within regions. For example, in eastern and southern Africa, donor resources accounted for 59% of the resources available. However, in South Africa, which is home to more

than one in three people living with HIV in the region, domestic resources accounted for 78% of the total resources available for its HIV response in 2018. When South Africa is excluded from the analysis, it can be seen that the remaining countries in the region relied on donors for 80% of their HIV response resources in 2018 (Figure 9.3).

Of the 70 low- and middle-income countries that reported 2016–2018 data on government spending for HIV, 45 countries reported an increase in spending since 2010, including 36 that reported an increase of more than 50%. China increased spending from about US\$ 400 million in 2010 to more than US\$ 1 billion in 2018, and South Africa has increased its domestic public spending by about US\$ 650 million over the last seven years. ■

**FIGURE 9.3** Donor dependency on HIV resources in eastern and southern Africa, with and without South Africa, 2010–2018



Source: UNAIDS 2019 resource availability and needs estimates.

**TABLE 9.1** Change in bilateral disbursements, percentage and absolute, nominal US dollars, major donor governments, 2010 versus 2018 and 2017 versus 2018

Donor	Bilateral overseas development assistance for HIV (millions)			
	2010–2018	Per cent change	2017–2018	Per cent change
Australia	-US\$ 63.4	-79%	US\$ 2.8	20%
Canada	-US\$ 44.1	-78%	US\$ 4.5	56%
Denmark	-US\$ 89.3	-58%	-US\$ 25.8	-29%
France	-US\$ 51.3	-78%	US\$ 0.6	5%
Germany	-US\$ 134.5	-86%	-US\$ 0.6	-3%
Ireland	-US\$ 56.2	-74%	-US\$ 4.0	-17%
Italy	-US\$ 10.0	-88%	-US\$ 4.5	-76%
Japan	-US\$ 12.3	-65%	-US\$ 0.3	-4%
Netherlands	-US\$ 105.0	-34%	US\$ 29.5	17%
Norway	-US\$ 49.0	-68%	US\$ 0.6	3%
Sweden	-US\$ 49.1	-49%	US\$ 9.1	22%
United Kingdom	-US\$ 230.7	-39%	-US\$ 157.7	-30%
United States	US\$ 2052.1	63%	-US\$ 12.4	0%
<b>Total</b>	<b>US\$ 1157.2</b>	<b>23%</b>	<b>-US\$ 158.0</b>	<b>-3%</b>

Source: UNAIDS estimates, based on Kaiser Family Fund–UNAIDS collaboration on donor disbursements for HIV, 2006–2019.

### Worrying trends in donor disbursements

Data on donor disbursements through bilateral and multilateral channels in support of the HIV responses in low- and middle-income countries show an aggregate 19% increase between 2010 and 2017, followed by a 1% decrease between 2017 and 2018. Between 2010 and 2018, all major donors except the United States reduced their bilateral direct contributions to the HIV responses of other countries (Table 9.1). The United Kingdom's bilateral disbursements declined by 30% in 2018, an annual decrease of almost US\$ 160 million. Reductions in bilateral disbursements from Denmark, Ireland and Italy also contributed to the one-year decline in resources available to HIV responses.

Donor countries also disburse financing through multilateral channels such as the Global Fund. Multilateral organizations may not completely disburse these donor contributions in the same calendar year they were received. A 20% decrease in HIV-related Global Fund disbursements to countries accounted for much of the 2017–2018 decline in resource availability for HIV responses in low- and middle-income countries. The annual reduction in the Global Fund disbursements to countries is explained by fluctuations in its three-year grant cycle; 70% of Global Fund grants ended in 2017, and disbursements were lower for the first year of grants that started in 2018. The United Kingdom announced in June 2019 that it would increase its contributions to the Global Fund in 2020–2022 to an average of 467 million Pounds sterling a year, a 16% increase over its contribution to the current three-year funding cycle (1). ■

## A CRITICAL MOMENT: INVESTING IN THE GLOBAL FUND

In global efforts against HIV, a key partner is the Global Fund to Fight AIDS, Tuberculosis and Malaria. The Global Fund faces a critical moment in 2019, with a replenishment that seeks funding for the coming three-year period. It is essential that partners work together to increase overall funding for HIV to continue to advance efforts toward ending the epidemic. The Global Fund acts as a catalyst and is a proven mechanism for maximizing impact. Programs supported by the Global Fund, and led by local experts in more than 100 countries, have saved more than 27 million lives since 2002.

In 2019, the Global Fund seeks at least US\$ 14 billion for the coming three-year period (2020–2022). The Global Fund projects that such a level of funding will spur domestic investment of US\$ 46 billion toward health programmes. It will also support efforts to tackle inequities in health, including gender- and human rights-related barriers to access, by working with partners, including civil society and affected communities, to build more inclusive health systems that leave no one behind. The Global Fund further projects that this amount of funding will save 16 million more lives over three years.

# HELP US SAVE

# 16 MILLION

# MORE LIVES.

## STEP UP THE FIGHT



An important factor for success is investing in health systems that build capacities, such as diagnostic tools, surveillance systems, supply chain management and training for health-care workers, which will accelerate the shift toward patient-centred, differentiated models of care. These investments also reinforce health security by helping to build stronger surveillance, diagnostic and emergency response capabilities.

The Global Fund's Investment Case asserts that stepping up the fight should not be seen as a choice, but as the fulfilment of a promise. Every Member State of the United Nations committed to the Sustainable Development Goals in 2015, pledging to deliver health and well-being for all, to achieve universal health coverage, and to build a more prosperous, equitable and sustainable world. Success or failure in achieving the target of ending epidemics by 2030 will be one of the clearest tests of that commitment.

While governments and communities must take the lead in tackling HIV and in building inclusive health systems, those suffering the greatest disease burdens and lacking financial resources and capacities need external support. With the support of all partners, the Global Fund can make a significant contribution to progress against HIV. Adolescent girls and young women are a high priority. If teenagers, particularly girls, are not supported to avoid getting infected with HIV, the massive increase in the youth population in Africa could cause a rise in HIV infections after many years of decline. If the stigma and discrimination faced by marginalized key populations is not addressed, targeted reductions in new infections cannot be met.

HIV incidence, while declining overall, is relatively high and, in some places, on the rise among key and vulnerable populations, such as gay men and other men who have sex with men, sex workers, prisoners, transgender people and people who inject drugs. Facing significant human rights-related barriers to accessing health services, including discrimination, criminalization and stigma,

such communities are more than 20 times more likely to acquire HIV than the general population. If we do not tackle these barriers, and thus fail to reduce infection rates among key populations, we will not succeed in ending the HIV epidemic and risk a resurgence.

Getting back on track will require all actors involved—including multilateral and bilateral partners, governments, civil society and the private sector—to raise their game, accelerate innovation, coordinate and collaborate more efficiently, and execute programmes more effectively. More innovation is needed in diagnostics, prevention, treatment and delivery models. Only through innovation can we stretch every resource to maximize impact.

Greater collaboration is needed. The World Health Organization-led Global Action Plan's commitment for the key multilaterals to "align, accelerate and account" together must be translated into concrete actions. We must extend this drive for more coordinated action to encompass key bilateral partners, and to include governments, civil society, communities affected by the three diseases and the private sector. Only through intensive collaboration can we defeat the epidemics and deliver universal health coverage.

We need a relentless focus on improving execution, using more granular and timely data. Better data helps identify the most effective interventions and target programming more effectively, implementing stronger controls to manage costs and risks, adopting best practices in patient-centred care and community engagement, and leveraging economies of scale by scaling-up proven interventions rapidly. By pooling resources and engaging a diverse set of actors, the Global Fund has scale, flexibility and leverage. The advantages of scale are demonstrated by the hundreds of millions of dollars of savings the Global Fund achieves through pooled procurement.

More investment will save millions more lives, accelerating the end of the HIV epidemic, and reinforcing the trajectory toward universal health coverage. We must step up the fight. ■

## Stronger investment, stronger results

UNAIDS has combined its estimates of total HIV expenditures per capita, the prevalence of HIV and the population size of people living with HIV to produce estimates of annual HIV expenditures per person living with HIV. The full range of services described in UNAIDS resource needs estimates for a Fast-Track response—including HIV testing, combination prevention, programme enablers, social enablers and development synergies—are considered in this measure (2).

Trends in annual HIV expenditures (in constant 2016 US dollars) per person living with HIV in all low- and middle-income countries compared with progress towards global impact targets suggests that recent trends in expenditures may be on track to reach the 2020 target for reductions in AIDS-related mortality, while reductions in the incidence of HIV infections are clearly off-track (Figure 9.4). These trends are consistent with previous UNAIDS analyses that show insufficient global investment in programmes that provide a combination of HIV prevention services to the people and places in greatest need (3).

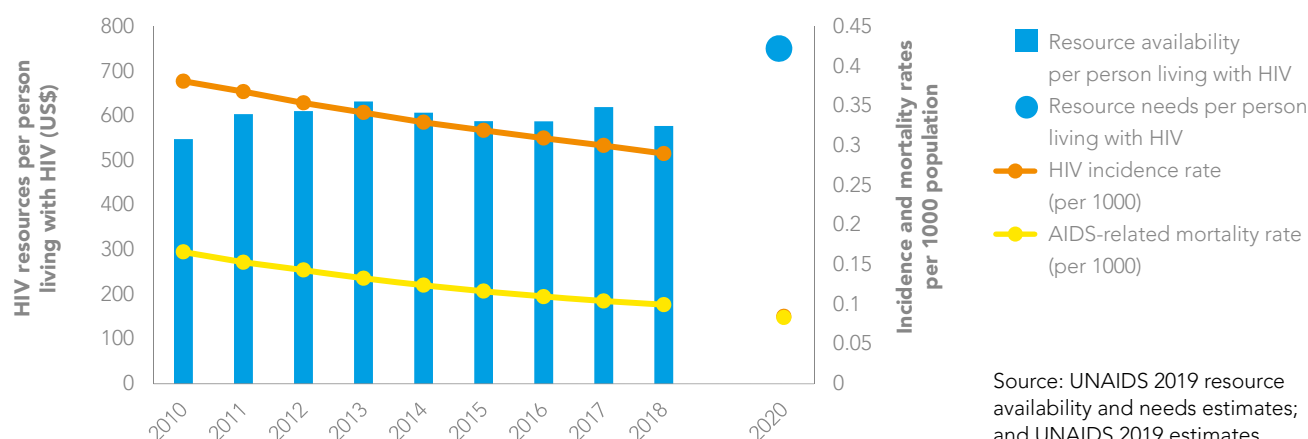
Comparison of these data by region reinforces this analysis. In eastern and southern Africa, where expenditures per person living with HIV are close to

the region's resource needs estimate, strong progress towards the region's 2020 targets is apparent, although reductions in new infections remain too gradual. More efficient resource allocation—particularly towards a more enabling environment for HIV services that are focused on key populations, adolescent girls and young women—could accelerate efforts to reach the targets.

Until recently, per capita investment in Latin America's HIV responses was on track to reach the 2020 resource needs estimates, but the recent global decline in investment has been particularly large in this region. Efforts to reach targeted reductions in AIDS-related mortality appear on course, but a consistently stable trend in HIV incidence suggests that efforts to improve prevention programme effectiveness, including through technical and financial efficiencies, are needed. Trends in the Caribbean are similar, although per capita investment is far lower than the region's 2020 resource needs estimate.

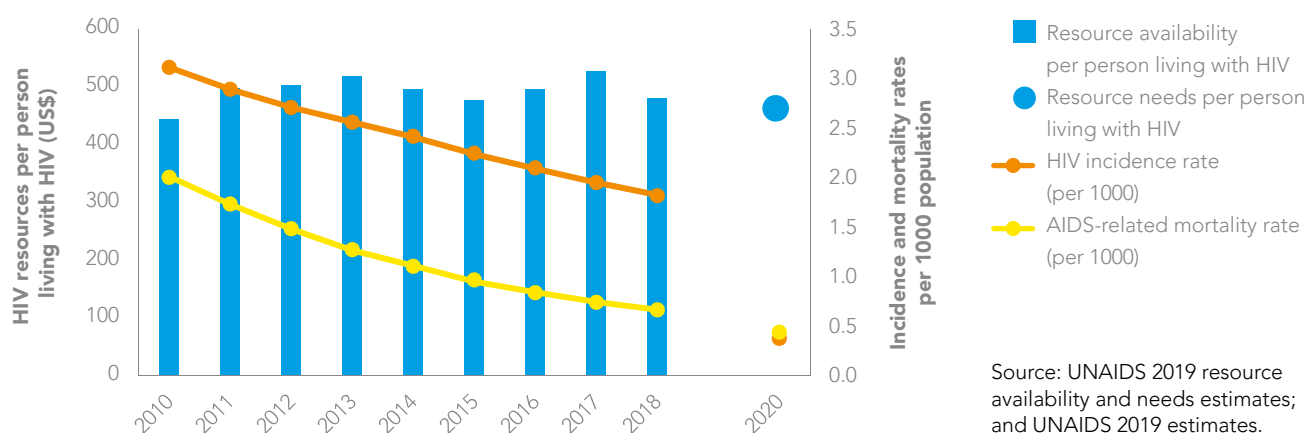
HIV expenditures per person living with HIV in other regions are not approaching the 2020 resource needs estimates, and efforts to achieve HIV incidence and AIDS-related mortality targets are similarly off-track. Levels of investment and HIV programme achievement are particularly low in western and central Africa, eastern Europe and central Asia, and the Middle East and North Africa. ■

**FIGURE 9.4** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries, 2010–2018 and 2020 targets

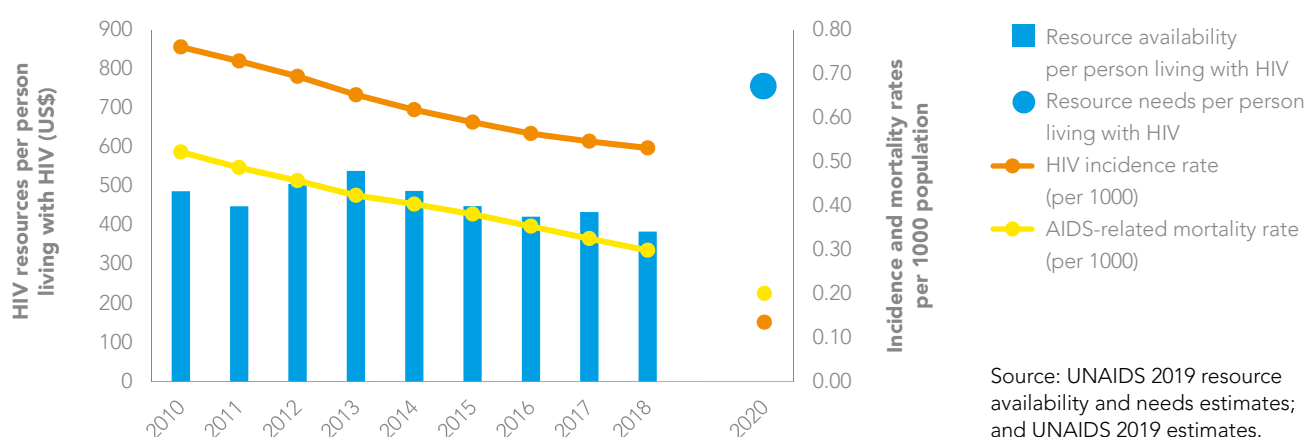




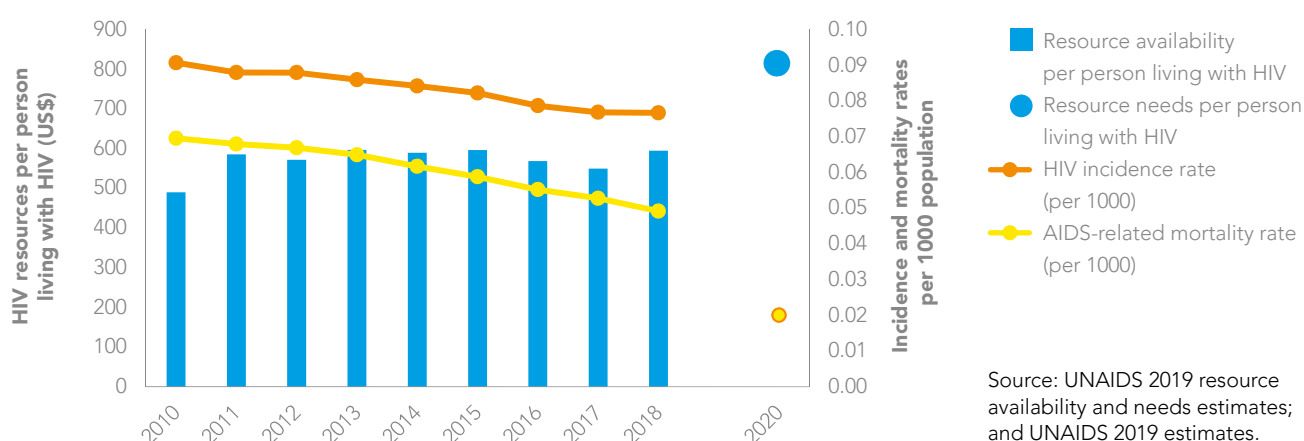
**FIGURE 9.5** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in eastern and southern Africa, 2010–2018 and 2020 targets



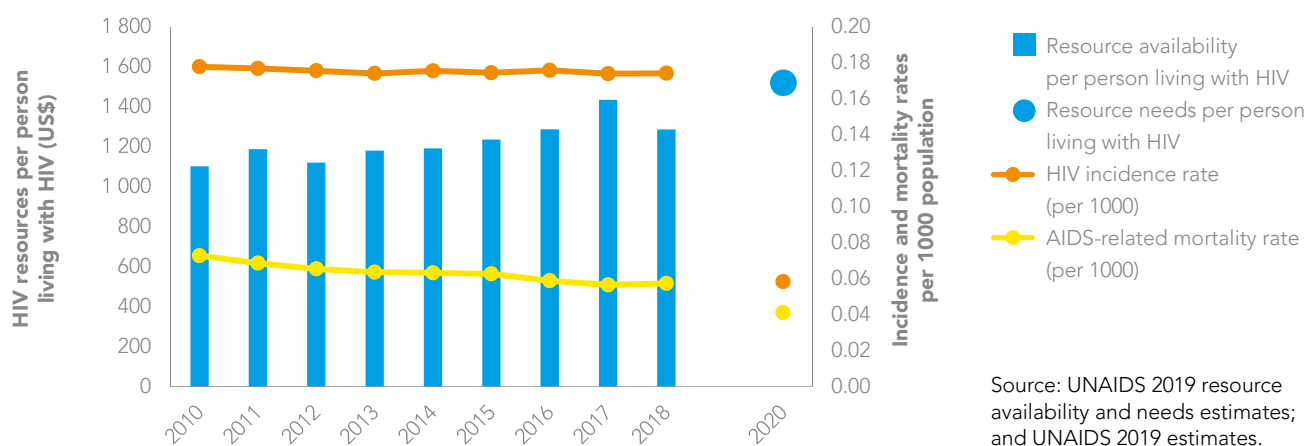
**FIGURE 9.6** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in western and central Africa, 2010–2018 and 2020 targets



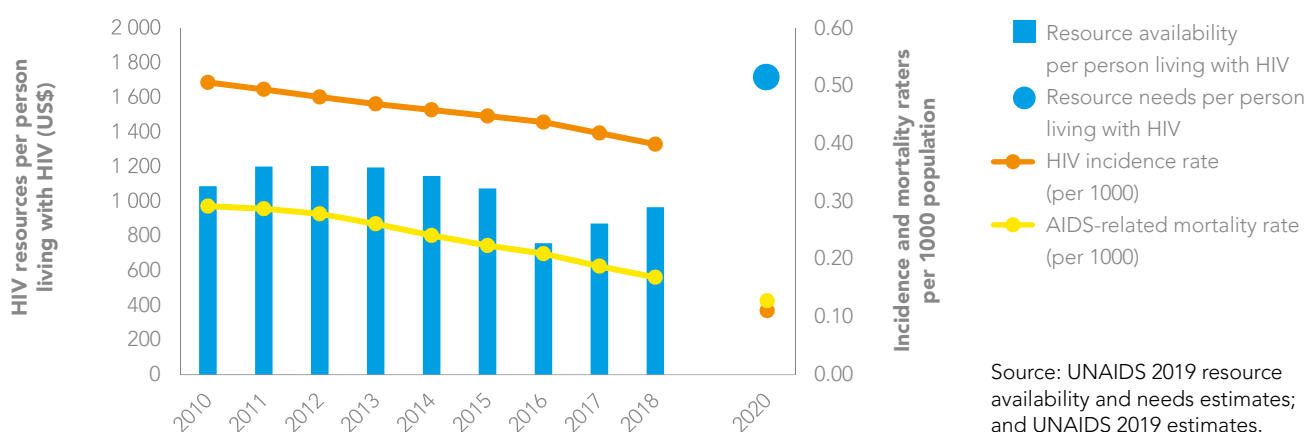
**FIGURE 9.7** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in Asia and the Pacific, 2010–2018 and 2020 targets



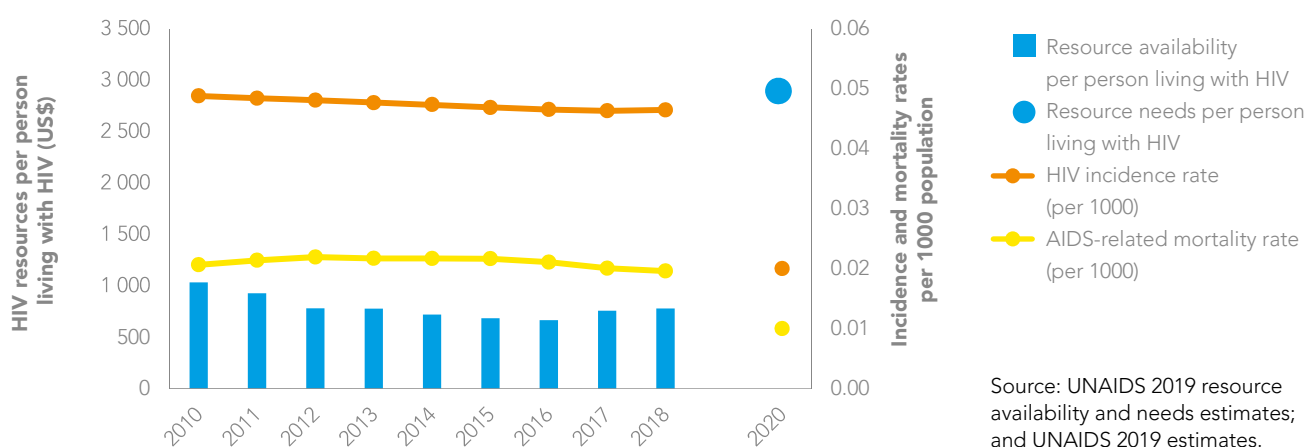
**FIGURE 9.8** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in Latin America, 2010–2018 and 2020 targets



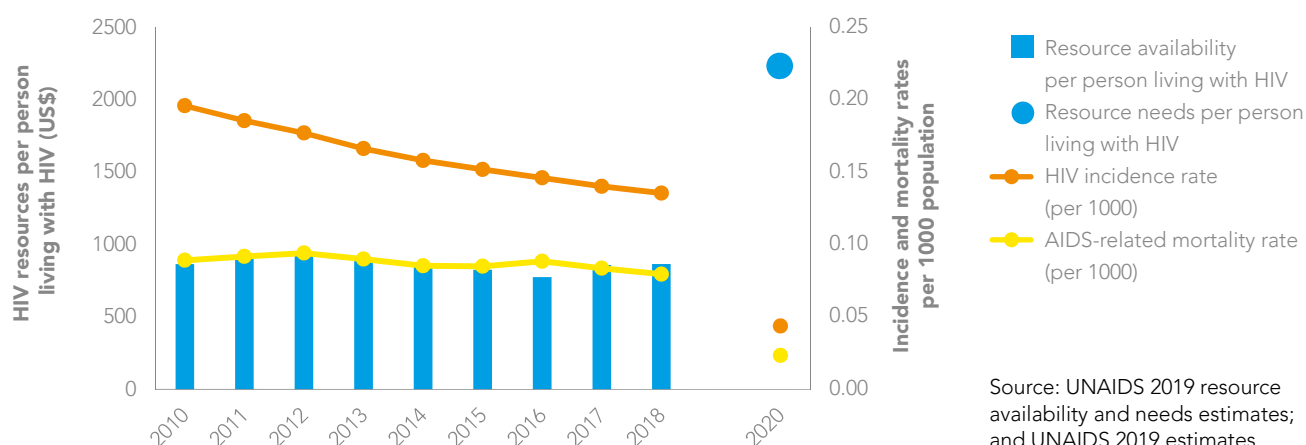
**FIGURE 9.9** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in the Caribbean, 2010–2018 and 2020 targets



**FIGURE 9.10** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in the Middle East and North Africa, 2010–2018 and 2020 targets



**FIGURE 9.11** Total HIV resource availability per person living with HIV in constant 2016 US dollars, HIV incidence and AIDS-related mortality rates (per 1000), low- and middle-income countries in eastern Europe and central Asia, 2010–2018 and 2020 targets



Note: Data from the Russian Federation is not included in this analysis.

## EFFICIENCY, SUSTAINABILITY, INTEGRATION AND INNOVATION: MAXIMIZING PEOPLE-CENTERED HEALTH OUTCOMES THROUGH SMARTER PLANNING

**Big data and artificial intelligence are creating opportunities to help countries better focus their AIDS resources on the people and places in greatest need. The World Bank and other UNAIDS Cosponsors are leveraging these tools in order to help stakeholders gain critical insights based on rigorous, data-based assessments and to determine optimal resource allocations.**

**In 2018, the World Bank conducted three regionally held training courses on using artificial intelligence and other disruptive technologies for health. With over 350 participants from 53 countries, the**

**courses were designed to strengthen in-country health responses—specifically HIV, tuberculosis and universal health care—by building local capacity to better use big data and cognitive analytical approaches to make decisions on complex problems.**

**Adding to an already significant body of data-driven assessments tailored to country-specific needs, recently published World Bank reports add insights from numerous assessments, including analyses of the effectiveness of a smart-link application for HIV care in South Africa and a synthesis report covering efficiency studies in 23 countries.**



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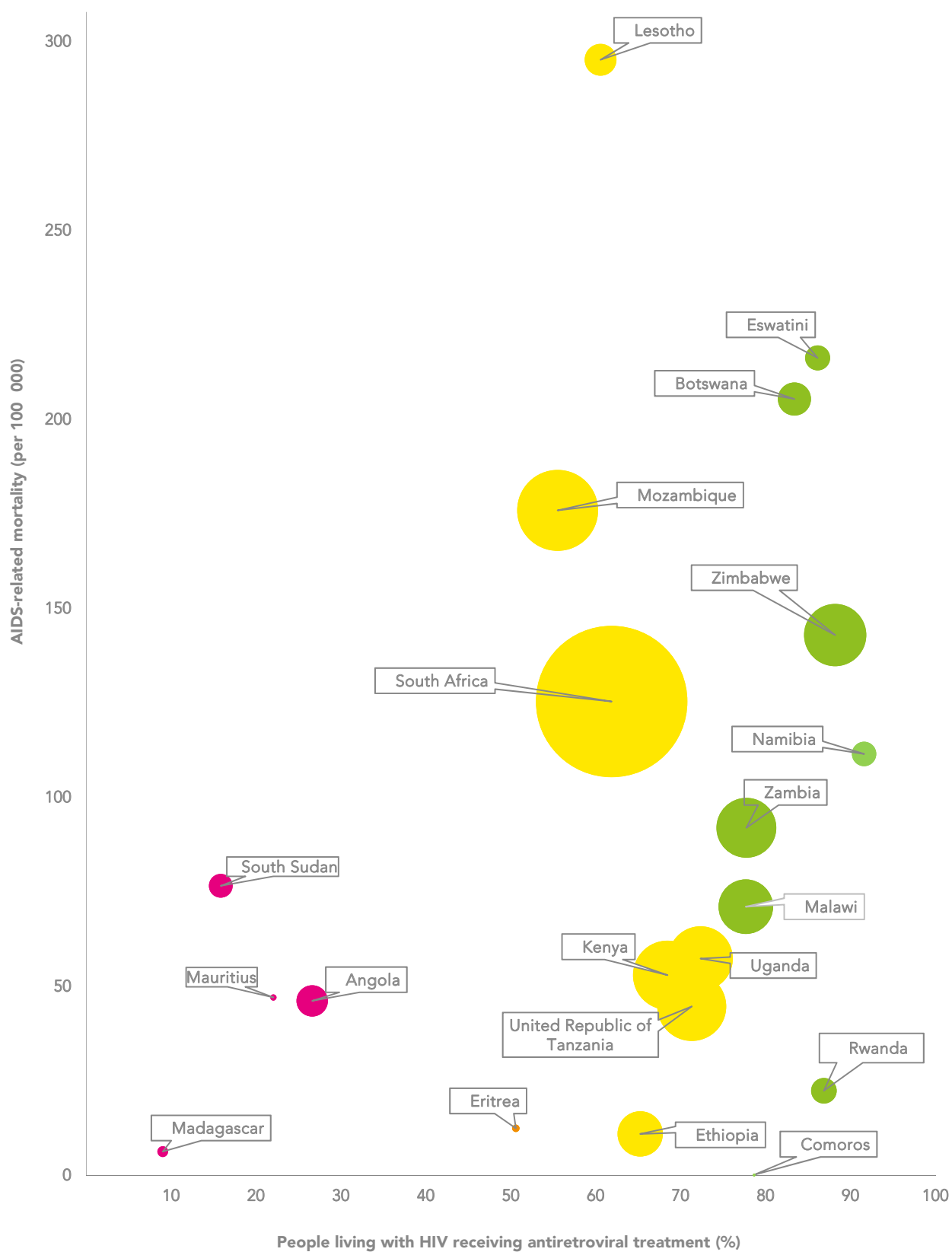
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2. Stover J, Bollinger L, Izazola JA, Loures L, DeLay P, Ghys PD et al. What is required to end the AIDS epidemic as a public health threat by 2030? The cost and impact of the Fast-Track approach. PLoS ONE. 2016;11(5):e0154893.
3. Izazola-Licea JA, Mattur D. Better targeting of existing investments in prevention is needed to focus on interventions with proven impact: Prevention resources need to double by 2020 to reach Fast Track targets. 22nd International AIDS Conference, 23–27 July 2018, Amsterdam. THPED582.





# REGION PROFILES

**FIGURE 10.1** Antiretroviral therapy coverage and AIDS-related mortality among people living with HIV, eastern and southern Africa



Antiretroviral therapy coverage: ■ 75% and above ■ 55–74% ■ 30–54% ■ Less than 30%

Note: Size of bubble is proportional to size of population of people living with HIV.

Source: UNAIDS 2019 estimates.

# EASTERN AND SOUTHERN AFRICA

## AT A GLANCE

The region has seen rapid declines in new HIV infections and AIDS-related deaths in recent years. However, progress is fragile, and it varies considerably within the region.

Linkage to care is the biggest gap to achieving the 90–90–90 targets, but retention on treatment of people living with HIV is an increasing challenge.

Gender inequalities, gender-based violence and other harmful sociocultural practices continue to make adolescent girls and young women more vulnerable to HIV.

In addition to a persistent lack of data on key populations, punitive laws that target those populations are hampering efforts to leave no one behind.

Innovations in service delivery—and efforts to address structural factors that impede access to services—are needed for health and HIV services to reach more men and boys.

While eastern and southern Africa as a whole has made strong progress in the expansion of antiretroviral therapy, coverage varies dramatically among countries, from 9% in Madagascar to 92% in Namibia. The impact of treatment on AIDS-related mortality has been strongest in the countries with higher coverage (Figure 10.1). Countries with comparatively low coverage—including Angola, Madagascar, Mauritius and the South Sudan—need to accelerate their HIV testing and treatment programmes.

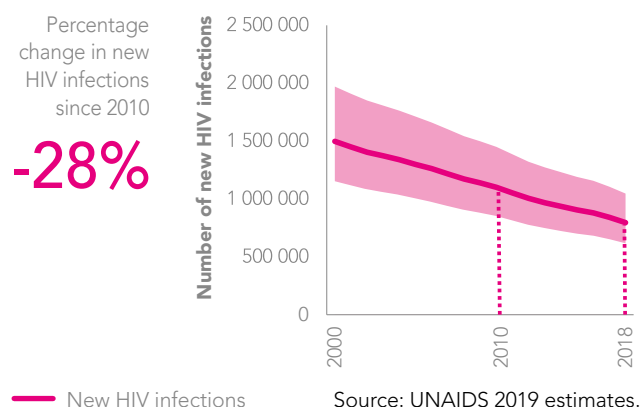
There are challenges to retaining people living with HIV in treatment adherence, with an unacceptable

number lost to follow-up after initiating treatment. Investments are being made into strengthening health systems and delivering universal health coverage. In order to achieve success in the delivery of HIV services and broader health care to achieve the health-related Sustainable Development Goals, these efforts must be well-coordinated.

While the region has had some success in reducing new HIV infections among adolescent girls and young women, large disparities still exist between young women and men of the same age. HIV prevalence remains extremely high among all key populations. ■

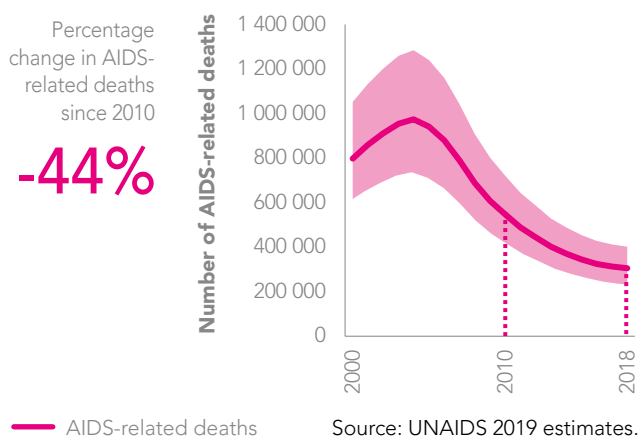
## STATE OF THE EPIDEMIC

**FIGURE 10.2** Number of new HIV infections, eastern and southern Africa, 2000–2018



An estimated 800 000 [620 000–1 000 000] people acquired HIV in eastern and southern Africa in 2018, a decrease of 28% from the number of new HIV infections in 2010 (Figure 10.2). Young women (aged 15–24 years) accounted for 26% of new HIV infections in the region, and an estimated one quarter (25%) of new infections were among key populations and their sexual partners (Figure 10.7). A number of countries showed strong declines in new infections between 2010 and 2018, such as Comoros, Rwanda, South Africa and Uganda, but new infections increased in other countries, such as Angola, Madagascar and the South Sudan (Figure 10.5).

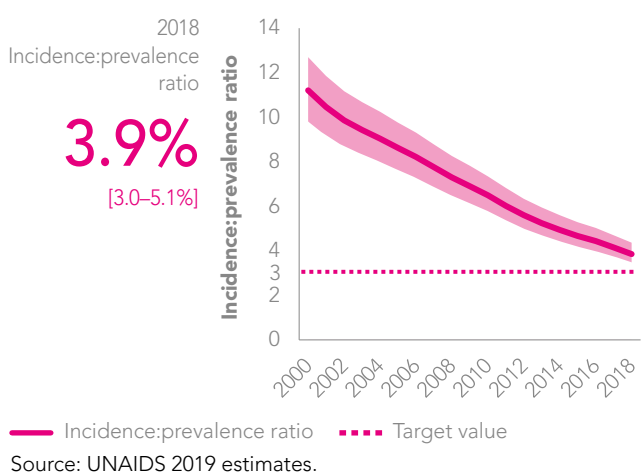
**FIGURE 10.3** Number of AIDS-related deaths, eastern and southern Africa, 2000–2018

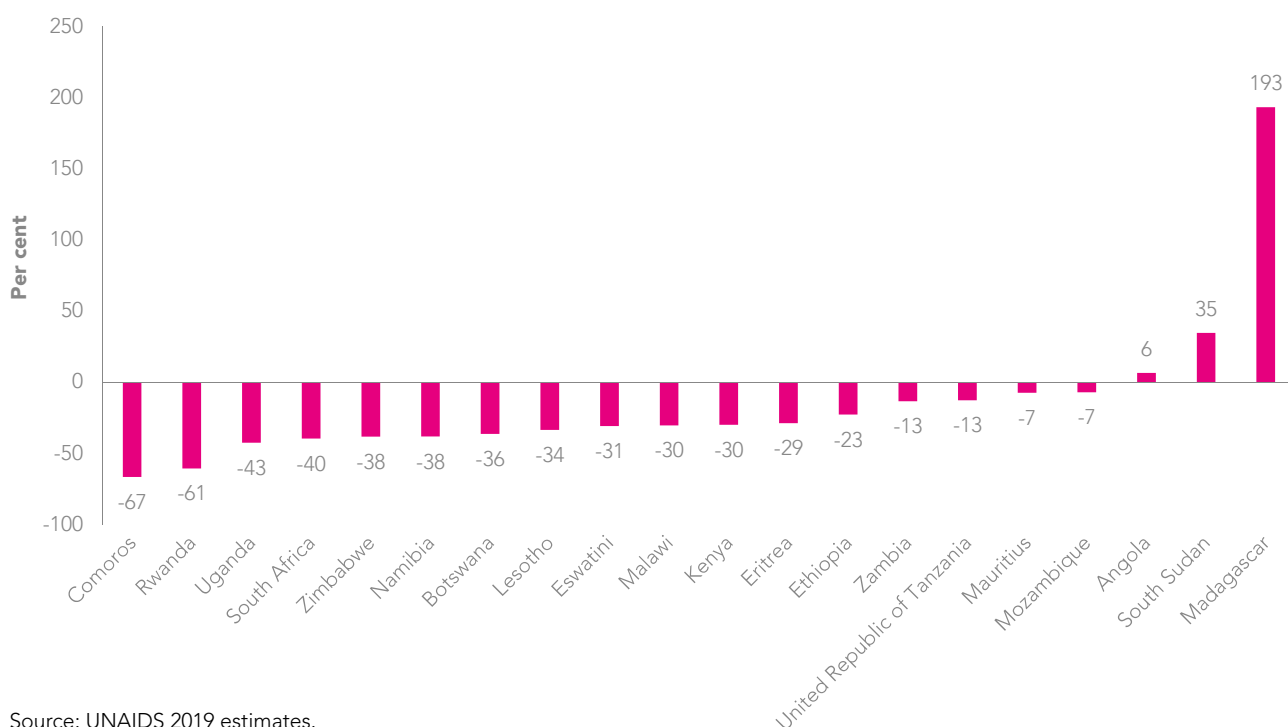


In 2018, there were 310 000 [230 000–400 000] AIDS related deaths in the region, a 44% decrease since 2010 (Figure 10.3). Five countries had a decline in AIDS-related deaths of greater than 50% during the eight-year period: Kenya, Malawi, South Africa, Uganda and Zimbabwe. The region's incidence-prevalence ratio was 3.9% [3.0–5.1%] in 2018, a considerable decline from 6.5% [5.0–8.5%] in 2010 (Figure 10.4).

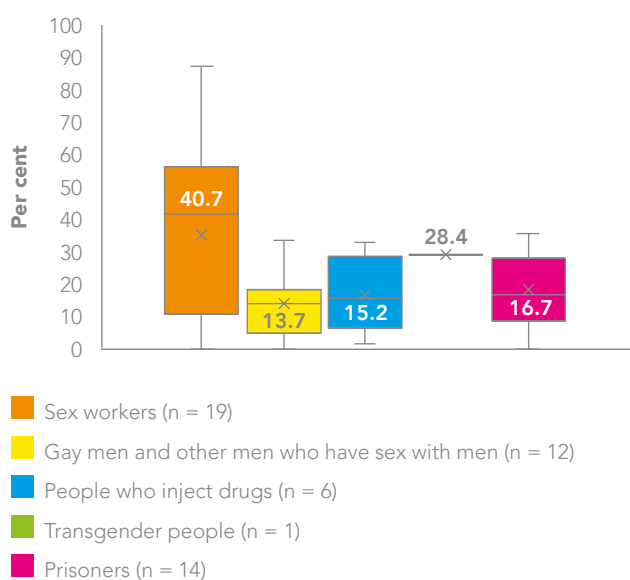
Ten of the 19 countries with data reported since 2014 had an HIV prevalence in excess of 40% among sex workers, including an alarming 85% prevalence in Uganda. The most recent data on HIV prevalence among people who inject drugs exceeded 20% in half of the six reporting countries. Among gay men and other men who have sex with men, HIV prevalence was more than 30% in two of 12 countries with data since 2014, and more than 12% in another five countries. Among 14 countries that reported data, median HIV prevalence among prisoners was 16.7%, and among transgender people in Mauritius—the only country in the region to report epidemiological data on this key population—HIV prevalence was 28.4% in 2017. ■

**FIGURE 10.4** Incidence:prevalence ratio, eastern and southern Africa, 2000–2018

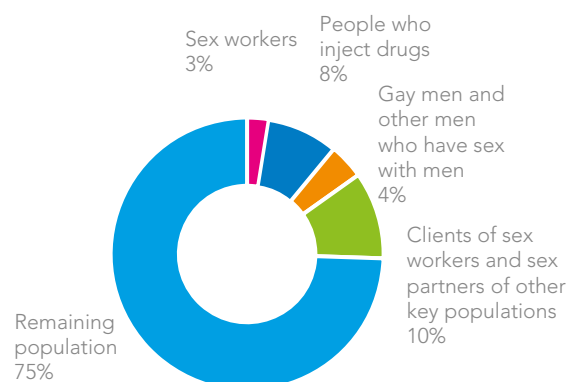


**FIGURE 10.5** Percentage change in new HIV infections, by country, eastern and southern Africa, 2010–2018

Source: UNAIDS 2019 estimates.

**FIGURE 10.6** HIV prevalence among key populations, eastern and southern Africa, 2014–2018

Source: Global AIDS Monitoring, 2014–2018.

**FIGURE 10.7** Distribution of new HIV infections (aged 15–49 years), by population group, eastern and southern Africa, 2018

Source: UNAIDS special analysis, 2019.



**TABLE 10.1** Estimated size of key populations, eastern and southern Africa, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Kenya	30 540 000										
Lesotho	1 464 000										
Madagascar	15 584 000										
Malawi	10 782 000									15 000	0.14
Seychelles	75 000										
South Africa	40 879 000										
Uganda	23 286 000										

■ National population size estimate  
 ■ Local population size estimate  
 ■ Insufficient data  
 ■ No data

The regions for which the local population size estimate refers are as follows:

Lesotho: Butha Buthe, Mafeteng, Maseru and Leribe.

South Africa: Cape Town Metro, Durban Metro and Johannesburg Metro.

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).

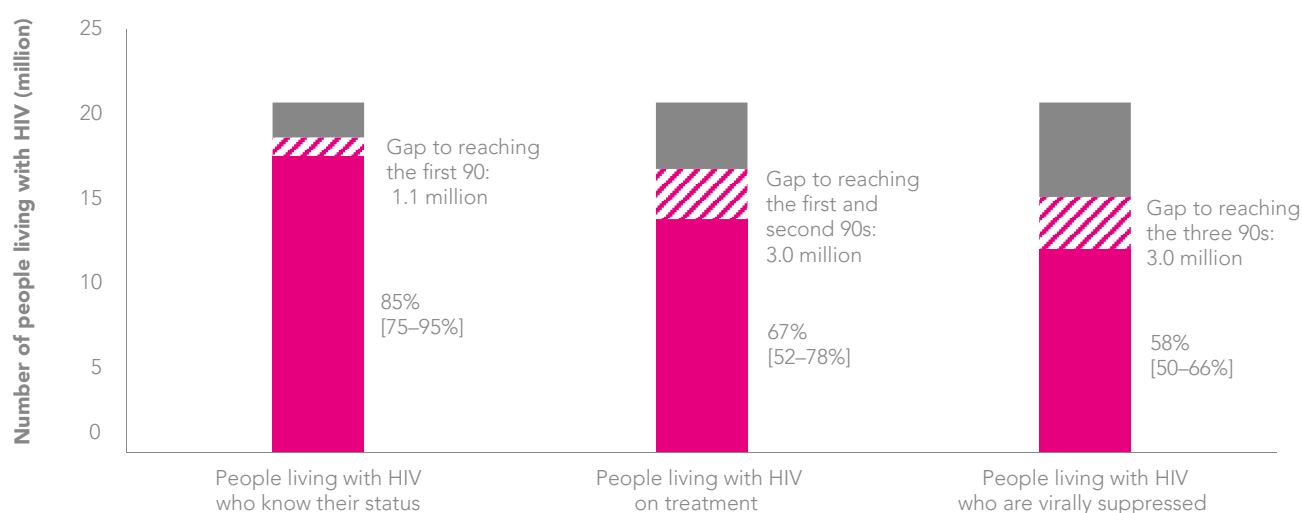


Babongile Luhlongwane, a community health agent, walks to deliver HIV information and services to rural residents in Eshowe, South Africa.

Credit: Gred Lomas/Médecins Sans Frontières

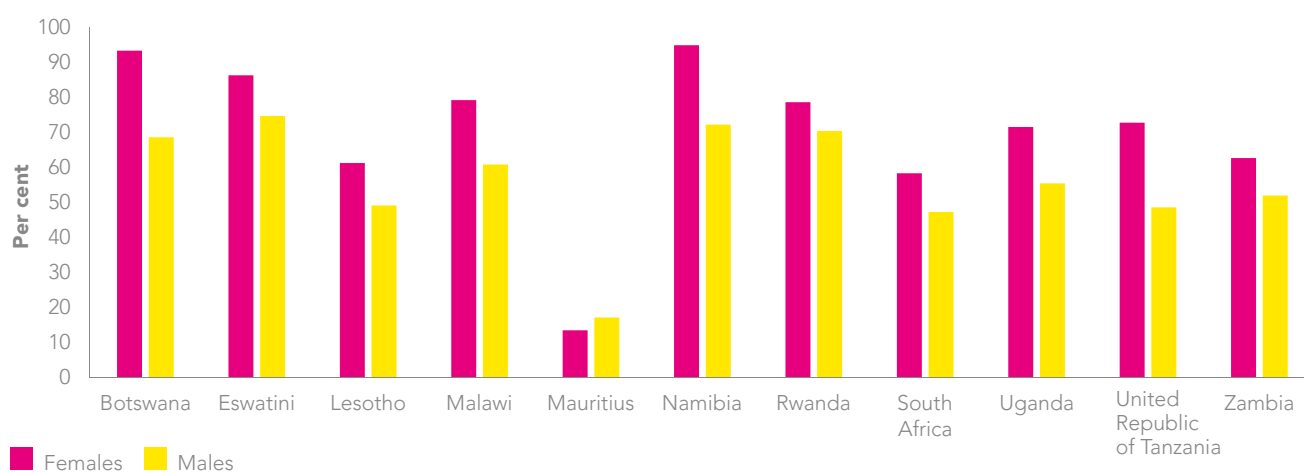
## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

**FIGURE 10.8** HIV testing and treatment cascade, eastern and southern Africa, 2018



Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**FIGURE 10.9** Viral load suppression among adults (15 years and older) living with HIV, by sex, eastern and southern Africa, 2018



Source: UNAIDS special analysis, 2019.

Of the region's estimated 20.6 million [18.2 million–23.2 million] people living with HIV, the proportion who knew their status increased from 77% [68–87%] in 2015 to 85% [75–95%] in 2018. An estimated 67% [52–78%] of people living with HIV were on treatment (up from 53% [41–61%] in 2015), while 58% [50–66%] were virally suppressed (up from 43% [37–50%] in 2015). The gap to reaching the first 90 stood at 1.1 million, while an

additional 3 million people needed to access treatment in order to reach the first and second 90s. An additional 3 million people living with HIV needed to achieve viral suppression to reach all three 90s (Figure 10.8). Linkage to care represents the single greatest challenge to achieving the 90–90–90 targets, but efforts to achieve viral suppression among people on treatment is growing in importance.

**TABLE 10.2 90–90–90 country scorecard: eastern and southern Africa, 2018**

	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Eastern and southern Africa</b>	<b>85</b>	<b>88</b>	<b>82</b>	<b>79</b>	<b>82</b>	<b>72</b>	<b>87</b>	<b>89</b>	<b>86</b>	<b>58</b>	<b>64</b>	<b>50</b>
Angola	42	47	44	63	59	69						
Botswana	91	>95	89	92	>95	80	>95	>95	>95	>95	93	69
Comoros	86	78	>95	91	80	>95	86			68		
Eritrea	82	85	87	62	62	57	77			39		
Eswatini	92	93	93	93	>95	85	94	95	94	81	86	75
Ethiopia	79	79	81	83	82	82						
Kenya	89	94	88	77	80	67						
Lesotho	86	89	82	71	73	66	93	95	91	57	61	49
Madagascar	11	21	7	84	75	>95						
Malawi	90	94	89	87	92	76	89	92	89	69	79	61
Mauritius	22	19	23	>95	>95	>95	73	70	74	16	13	17
Mozambique	72	80	61	77	79	69						
Namibia	91	95	87	>95	>95	88	95	>95	94	87	>95	72
Rwanda	94	>95	95	93	95	88	85	87	84	74	79	70
Seychelles				72			91					
South Africa	90	93	88	68	71	63	87	89	85	54	58	47
South Sudan	24	28	22	66	67	62						
Uganda	84	85	84	87	93	75	88	90	88	64	72	55
United Republic of Tanzania	78	82	73	92	>95	77	87	89	86	62	73	49
Zambia	87	88	87	89	95	79	75	75	75	59	63	52
Zimbabwe	90	94	86	>95	>95	>95						

**90–90–90:** ■ 90% and above ■ 85–89% ■ 70–84% ■ 50–69% ■ Less than 50%

**Viral load suppression:** ■ 73% and above ■ 65–72% ■ 40–64% ■ 25–39% ■ Less than 25%

Source: UNAIDS special analysis, 2019.

Progress varies significantly among countries in the region. Botswana, Eswatini and Namibia have achieved the three 90s, while Rwanda has achieved the first two 90s and is closing in on the third (Table 10.2). Despite this, progress is alarmingly slow. Knowledge

of status was below 25% in three countries, and in eight countries, no data were available on viral suppression. Viral load suppression varies across the countries in the region that have available data, and it was generally higher among women than among men (Figure 10.9). ■

## A COMBINATION APPROACH TO PREVENTION

Higher risk sex among adolescents and young people—alongside laws requiring parental consent for adolescents to access sexual and reproductive health services—continues to impact the region’s epidemic. Approximately eight in 10 sexually active adolescent boys and young men (and three in 10 sexually active adolescent girls and young women) reported having sex with a nonmarital, noncohabiting partner in the last year. In most countries, too few young people reported using condoms during such higher risk sex, and in all countries but Lesotho, a lower proportion of young women than young men reported doing so. A higher proportion of young men than young women reported having sex before the age of 15.

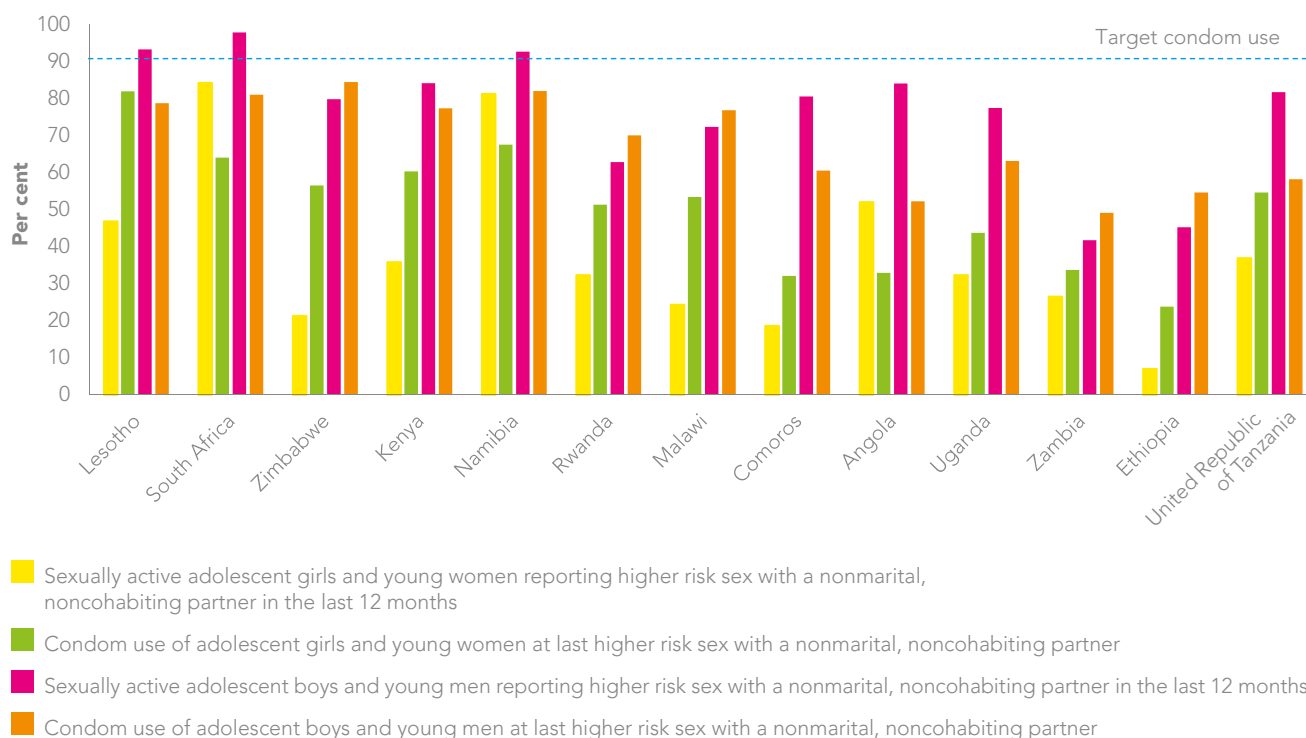
The prevalence of male circumcision is high in the countries and provinces prioritized for voluntary medical male circumcision (VMMC). Over 70% of adult men (aged 15–49 years) are circumcised in

the Gambela region of Ethiopia, Lesotho, the Nyanza province of Kenya and the United Republic of Tanzania (Figure 10.12). In Zimbabwe, fewer than one in four adult men (aged 15–49 years) was circumcised. In 2018, more than 4.1 million VMMCs were performed in the region.

An estimated 84 000 people in the region took pre-exposure prophylaxis (PrEP) at least once in 2018; 37% of them resided in Kenya.<sup>1</sup> Effective expansion of PrEP provision requires attracting people at high risk of HIV infection, supporting correct use and adherence, and strengthening other aspects of sexual and primary health care.

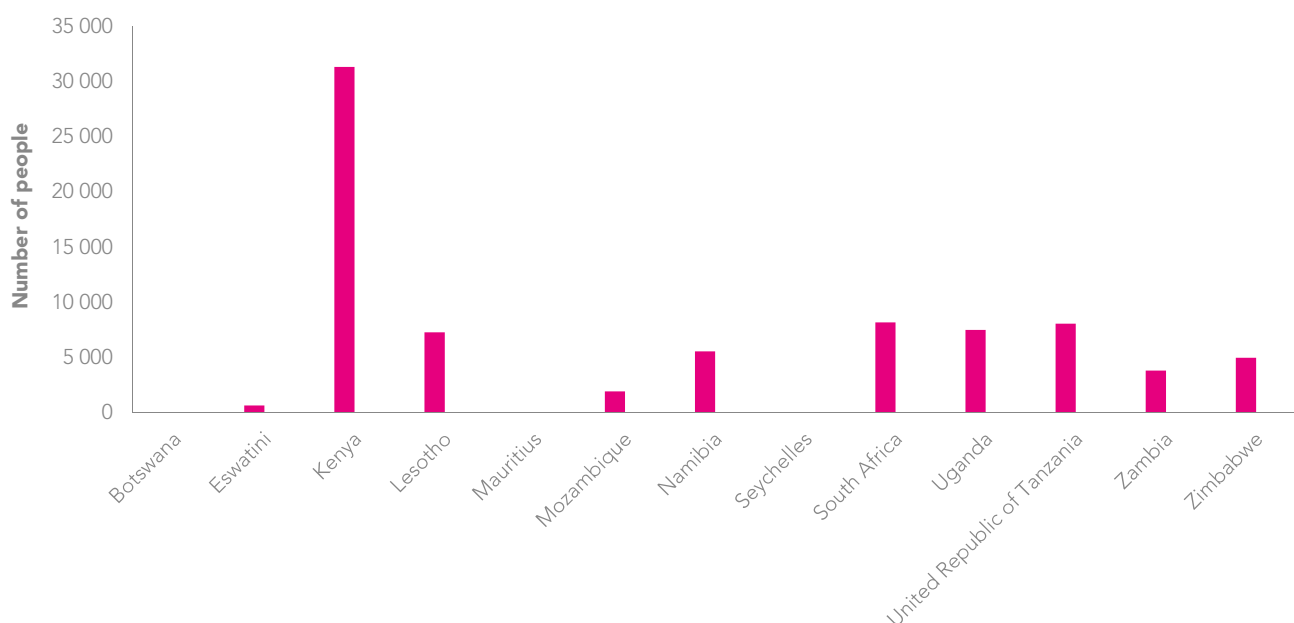
Very few data are available on the coverage of prevention services for members of key populations. ■

**FIGURE 10.10** Condom use at last higher risk sex with a nonmarital, noncohabiting partner by young people aged 15–24 years, 2012–2018

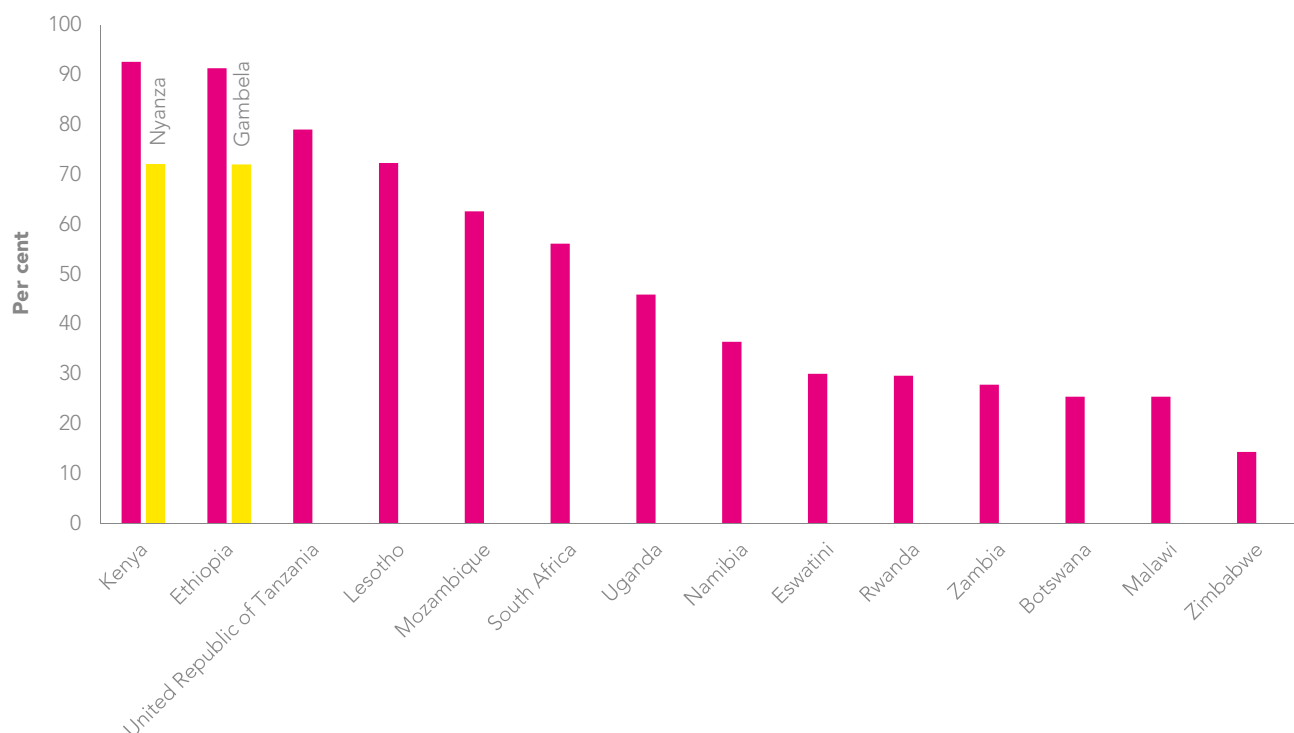


Source: Population-based surveys, 2012–2018.

<sup>1</sup> This figure does not include people who obtained PrEP by private means, including through online purchasing.

**FIGURE 10.11** Number of people taking PrEP at least once during 2018, eastern and southern Africa, 2018

Source: 2019 Global AIDS Monitoring; and PEPFAR Monitoring, Evaluation, and Reporting Database. In: amfAR.org [Internet]. amfAR; c2019 ([https://mer.amfar.org/?\\_ga=2.96796184.623148132.1561384951-1316132509.1561384951](https://mer.amfar.org/?_ga=2.96796184.623148132.1561384951-1316132509.1561384951), accessed 20 June 2019).

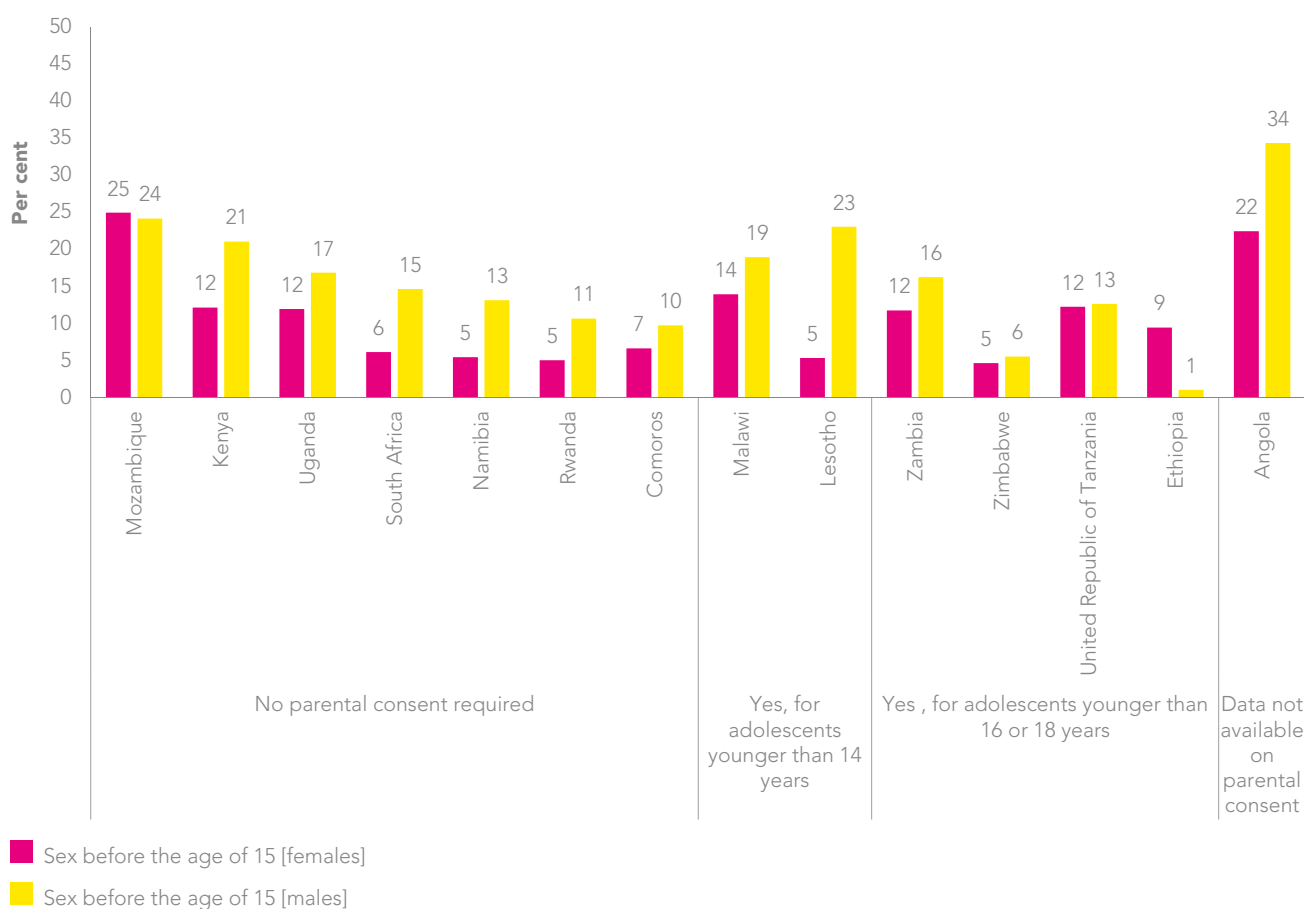
**FIGURE 10.12** Prevalence of male circumcision (aged 15–49 years), by country (province), eastern and southern Africa, 2013–2017

Note: Surveys included are: Kenya (2014), Nyanza (Kenya) (2014), Ethiopia (2016), Gambela (Ethiopia) (2016), the United Republic of Tanzania (2017), Lesotho (2014), Mozambique (2015), South Africa (2017), Uganda (2016), Namibia (2017), Eswatini (2016), Rwanda (2014), Zambia (2016), Botswana (2013), Malawi (2016) and Zimbabwe (2016).

Source: Population-based surveys, 2013–2017.



**FIGURE 10.13** Proportion of young people reporting sex before the age of 15 years and corresponding parental consent policies regarding young people's access to sexual and reproductive health services, eastern and southern Africa, 2012–2016



Source: Population-based surveys, 2012–2016.

**FIGURE 10.14** Percentage of key populations who reported receiving at least two prevention services in the past three months, eastern and southern Africa, 2016–2018

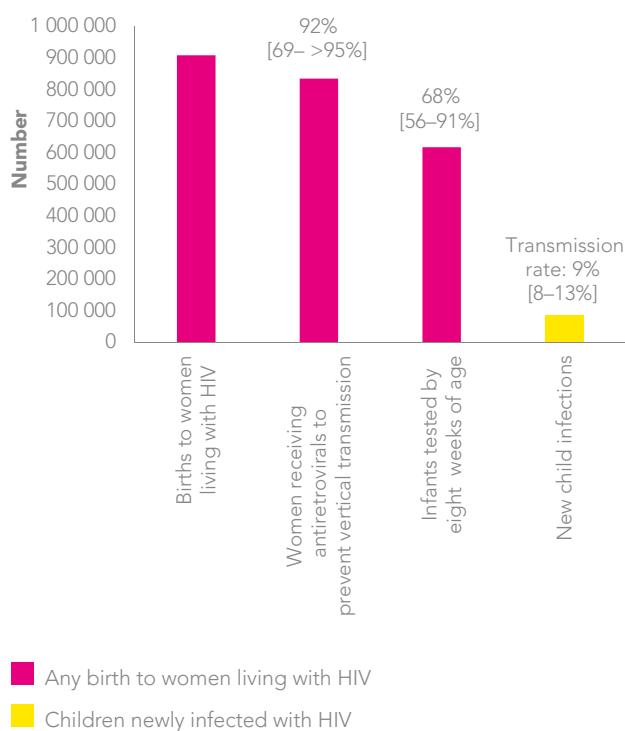


Source: Global AIDS Monitoring, 2016–2018.

## ELIMINATING MOTHER-TO-CHILD TRANSMISSION

A total of 92% [69–>95%] of pregnant women living with HIV received antiretroviral medicines to prevent mother-to-child transmission of HIV and to protect their own health in 2018 (Figure 10.15). This is compared to 49% [37–59%] in 2010. The rate of mother-to-child transmission decreased from 18% [15–25%] in 2010 to 9% [8–13%] in 2018. Coverage of early infant diagnosis was 68% [56–91%] in 2018. Progress could be bolstered by the further expansion of point-of-care early infant diagnostics. ■

**FIGURE 10.15** Cascade of services for preventing vertical transmission, numbers of new HIV infections and transmission rate, eastern and southern Africa, 2018



Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.

### WOMEN LIVING WITH HIV HAVING THEIR SAY ON DUAL ELIMINATION

Community engagement is critical to ensuring that efforts to eliminate mother-to-child transmission of HIV and syphilis are achieved in a manner that protects and respects the human rights of women, particularly women living with HIV and/or syphilis. The International Community of Women Living with HIV and AIDS Eastern Africa (ICWEA) has been active in validation efforts in Uganda.

ICWEA held focus group discussions with 264 women living with HIV from six regions of Uganda to assess whether services to prevent vertical transmission were implemented in a manner consistent with international, regional and national human rights standards. The assessment determined that Uganda has progressive laws and policies that have facilitated reductions of mother-to-child transmission in the country (1). The Patients' Charter, the Constitution of the Republic of Uganda and the HIV Prevention and AIDS Control Act guarantee equality and nondiscrimination in health-care settings for all persons.

The ICWEA assessment also expressed serious concern about laws that criminalize HIV and syphilis transmission, and about health-care guidelines that aggressively promote HIV testing and disclosure of HIV status. Women living with HIV who participated in focus group discussions said that health workers do not always seek informed consent from pregnant women when offering an HIV test, nor do they always communicate the option to refuse such a test. Participants also suggested that some women living with HIV are taking contraceptives against their will (1). (Full story on page 108.)

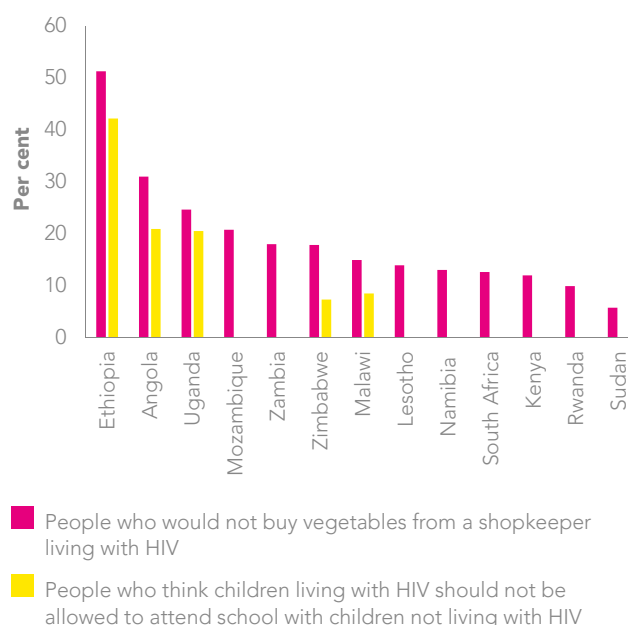
## CONFRONTING STIGMA AND DISCRIMINATION

Many people across the region still lack basic knowledge about HIV. Levels of stigma towards people living with HIV remain high: more than half of people surveyed in Ethiopia said they would avoid buying vegetables from a vendor living with HIV, and 42% believed that children living with HIV should not be allowed to attend school with other children. In other countries, such stigmatizing attitudes were reported by between 6% and 31% of survey participants (Figure 10.16).

Some progress has been made to strike down laws that criminalize and discriminate against key populations. In June 2019, Botswana joined the growing list of countries globally that have decriminalized same-sex sexual relations (2). However, there also have been setbacks, with Kenya recently deciding to uphold such a law (3).

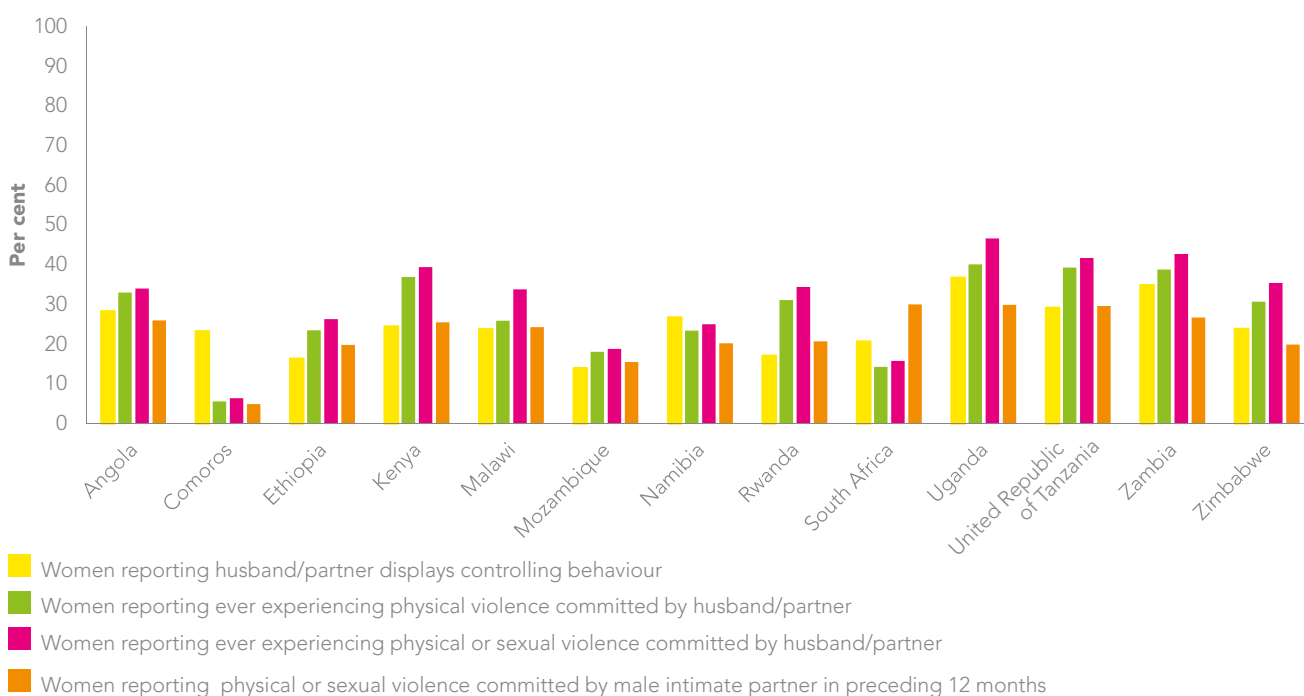
Unacceptable levels of intimate partner violence persist. According to surveys, physical and/or sexual violence by an intimate partner in the past 12 months was reported by around 30% of women in South Africa, Uganda and the United Republic of Tanzania; by more than 25% in Angola, Kenya and Zambia; and by 20% or more in Ethiopia, Malawi, Namibia, Rwanda and Zimbabwe. ■

**FIGURE 10.16** Percentage of men and women aged 15–49 years with discriminatory attitudes towards people living with HIV, eastern and southern Africa, 2013–2017



Source: Population-based surveys, 2013–2017, countries with available data.

**FIGURE 10.17** Proportion of women aged 15–49 years who reported ever experiencing physical and/or sexual violence committed by partner/husband or controlling behaviour, 2012–2016



Source: Population-based surveys, 2012–2016.

## INVESTING TO END AN EPIDEMIC

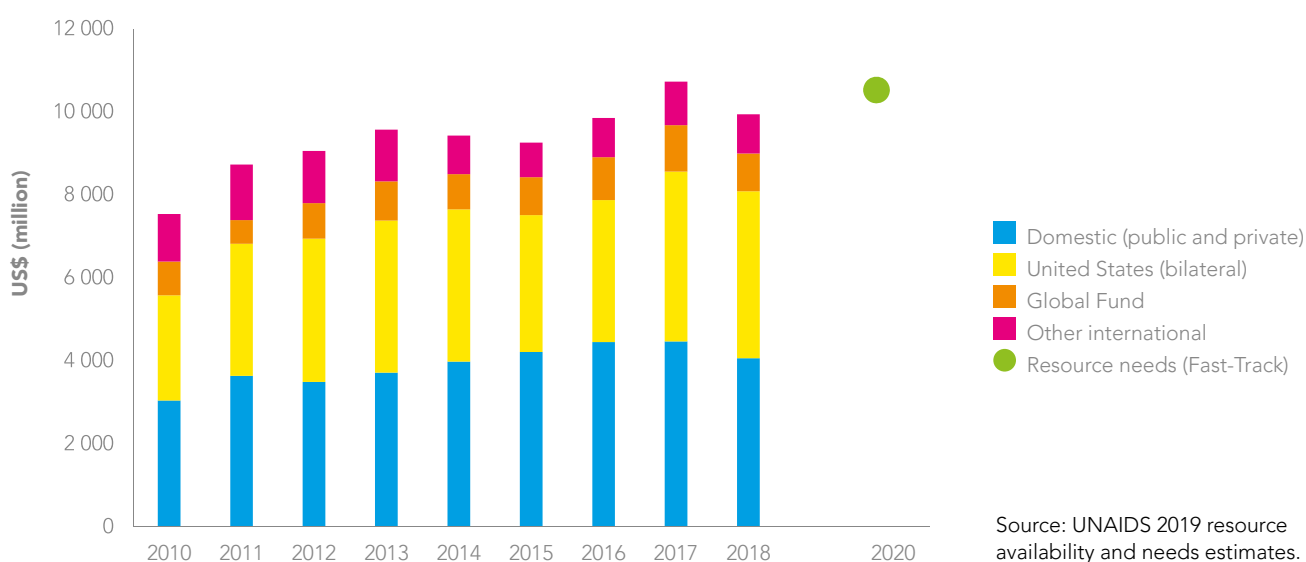
Domestic and international resources for HIV responses in the region increased steadily from 2010 to 2018, growing by 34% and 31%, respectively (in constant 2016 US dollars).<sup>2</sup> Available resources in 2018 approach the 2020 Fast-Track Targets, with 59% of these resources still provided by donors. The Government of the United States increased its bilateral funding by 59% and the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) increased its funding by 12% between 2010 and 2018, while financial resources provided through all other international donor channels decreased by 18%.

Compared to the previous year, the total amount of resources for HIV responses in the region in 2018 decreased by 7% (after adjusting for inflation): domestic funds decreased by 9%, United States bilateral funding decreased by 2%, Global Fund funding decreased by 29% and funding from all other international channels decreased by 10%.<sup>3</sup>

South Africa increased its domestic public spending for HIV by about US\$ 650 million between 2010 and 2018, and now 78% of the total HIV resources in the country are domestic. Other countries in the region with a high burden of disease have also increased their domestic resources since 2010: they have increased by more than 70% in Zambia and Zimbabwe and by more than 30% in Kenya and Malawi.

Excluding South Africa, countries in eastern and southern Africa had a 10% annual decline in resource availability in 2018, mainly due to domestic resources decreasing by 27% and all international resources decreasing by 4%. These countries finance only 20% of their responses domestically, and they will need to mobilize almost US\$ 800 million in additional resources by 2020 to achieve their resource needs estimates, while also improving their efficiency in using both existing and future resources. ■

**FIGURE 10.18** HIV resource availability, by source, eastern and southern Africa, 2010–2018, and projected resource needs by 2020



<sup>2</sup> Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the Investing to End an Epidemic chapter.

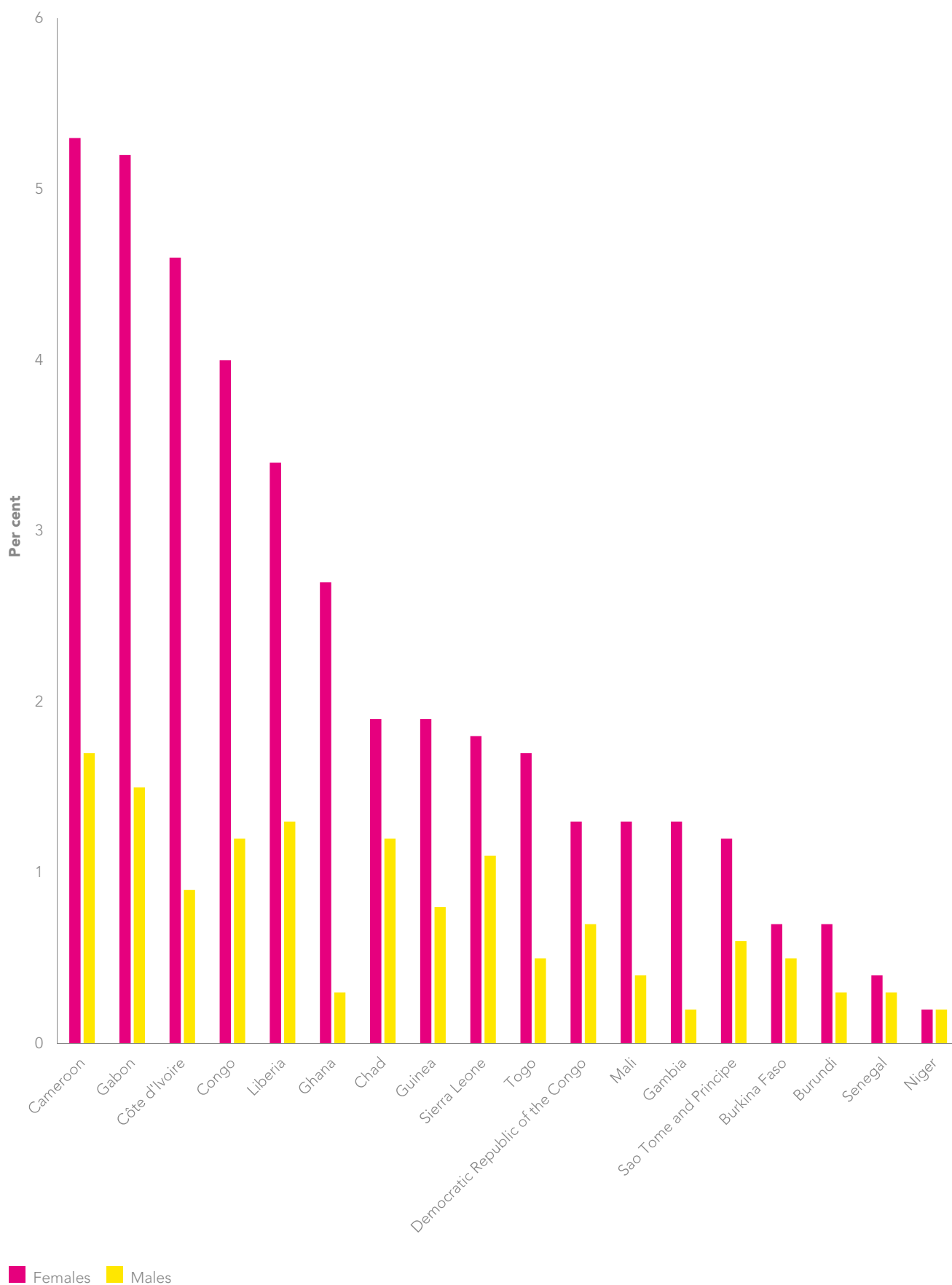
<sup>3</sup> The Global Fund disbursements to countries decreased by 20% in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

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**FIGURE 11.1** HIV prevalence among young women and men aged 20–29 years, western and central Africa, 2012–2017



Source: Population-based surveys, 2012–2017.

# WESTERN AND CENTRAL AFRICA

## AT A GLANCE

Some national HIV responses show improvement, but insufficient political will, frail health systems and weak support for community organizations hold back progress.

Systemic barriers, including HIV-related criminalization and user fees, continue to deter large numbers of people from accessing HIV testing and treatment services.

Many countries and communities in the region are fragile, affected by conflict, insecurity and humanitarian crises that create additional barriers to HIV responses.

Although HIV prevalence across the region is higher than 1% and therefore considered to be a generalized epidemic, key populations and their sexual partners accounted for 64% of all new infections within the region.

A priority issue facing the region is the extremely low coverage of antiretroviral therapy among children (28%).

Despite some progress and successes, the catch-up plans developed and implemented by western and central African countries have not sufficiently accelerated the HIV response in the region. Comprehensive programmes for the prevention of HIV infections among key populations and young women are especially lacking. HIV prevalence among young women (aged 20–29 years) exceeds 3% in five countries (Cameroon, the Congo, Côte d'Ivoire, Gabon and Liberia), and it is consistently higher than it is among young men of the same age (Figure 11.0).

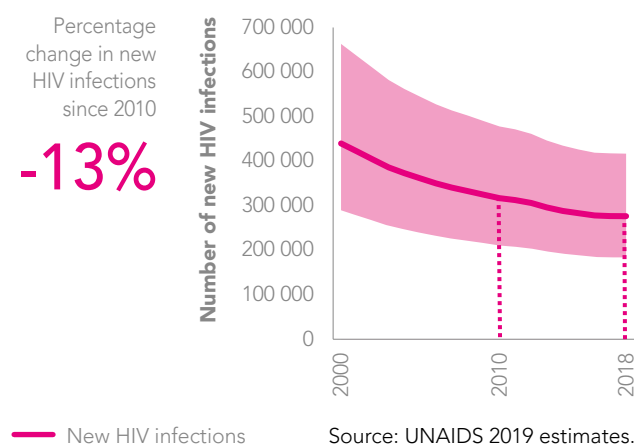
Every day, approximately 160 young women aged 15–24 years become infected with HIV in the region. This reflects a lack of gender-sensitive HIV services

and sexual and reproductive health services in many countries of the region, and the poor integration of what services do exist.

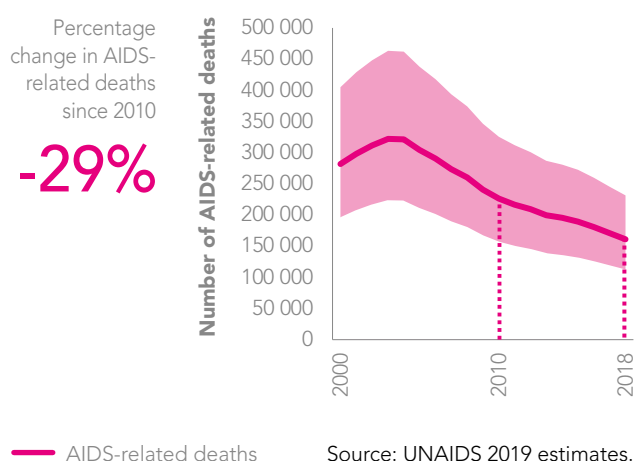
The adoption of differentiated models of care, including a greater role for communities, holds promise in a region where health systems are relatively weak. An encouraging development is the UNAIDS-supported establishment of the Civil Society Institute for Health in West and Central Africa, which aims to develop an effective and sustainable health response in western and central Africa through a regional mechanism for consultation, coordination and synergy of civil society organizations working in the health sector. ■

## STATE OF THE EPIDEMIC

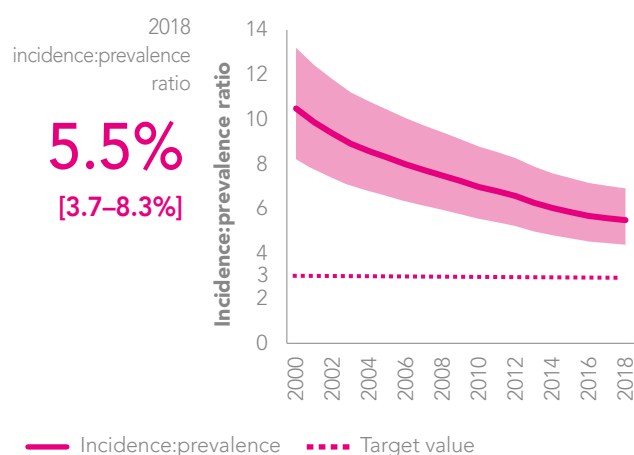
**FIGURE 11.2** Number of new HIV infections, western and central Africa, 2000–2018



**FIGURE 11.3** Number of AIDS-related deaths, western and central Africa, 2000–2018



**FIGURE 11.4** Incidence:prevalence ratio, western and central Africa, 2000–2018

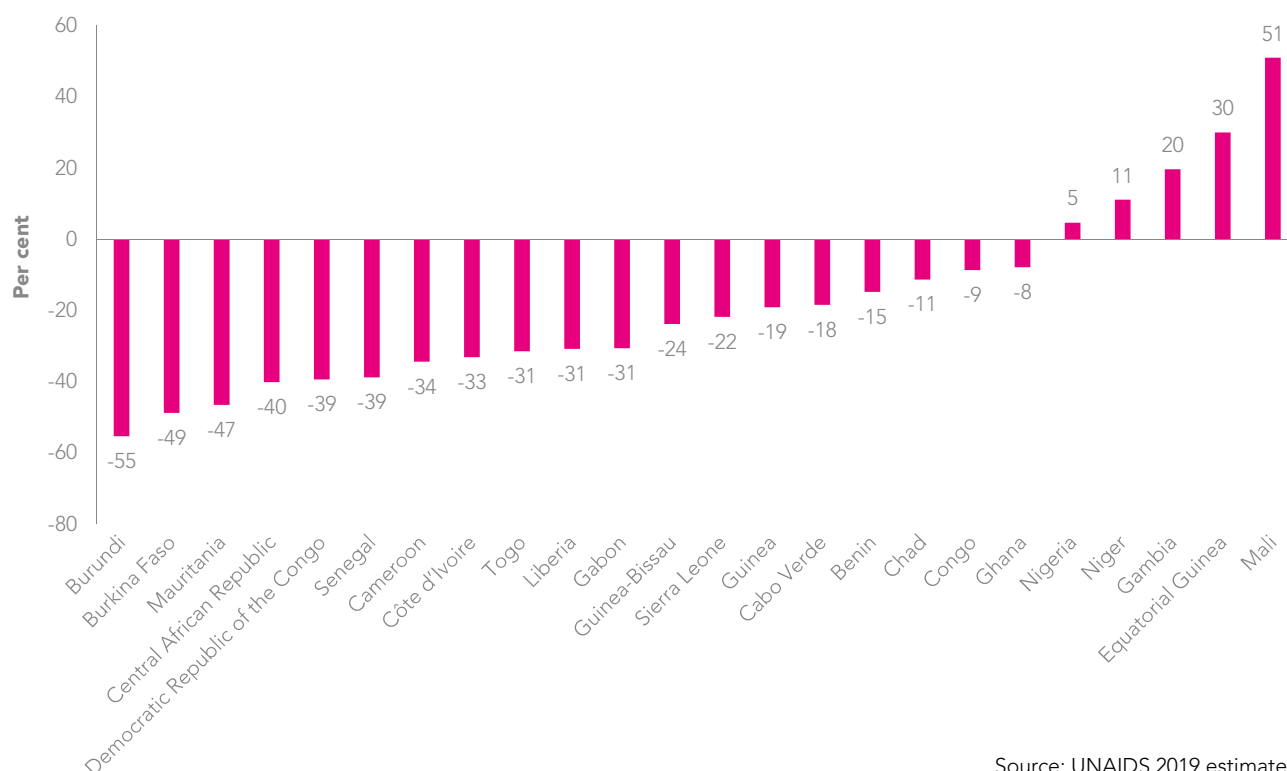


Combination HIV prevention and treatment programmes in western and central Africa are not having sufficient impact on the region's epidemic. Annual new HIV infections have declined by only 13% since 2010, from an estimated 320 000 [210 000–480 000] to 280 000 [180 000–420 000] (Figure 11.2). The annual number of AIDS-related deaths decreased by 29% between 2010 and 2018, from 230 000 [160 000–330 000] to 160 000 [110 000–230 000] (Figure 11.3). The region's incidence-prevalence ratio of 5.5% [3.7–8.3%] was almost double the epidemic transition benchmark of 3.0% (Figure 11.4).

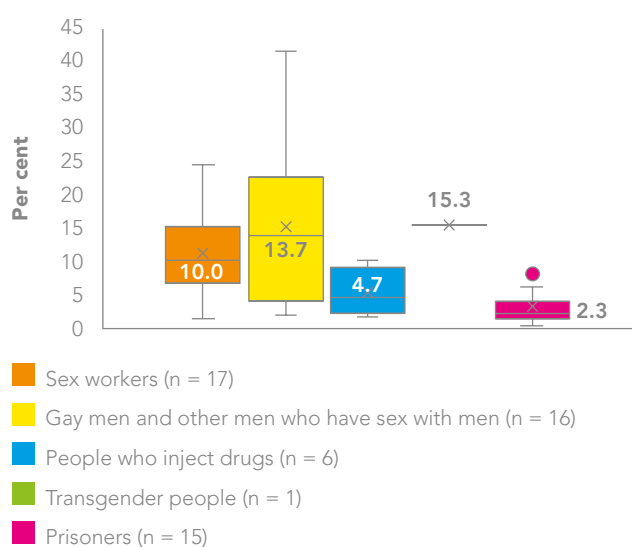
Three countries—Cameroon, Côte d'Ivoire and Nigeria—account for close to 60% of new HIV infections and 54% of AIDS-related deaths each year. Decisive improvements in their national HIV programmes would have a major impact on the region's overall HIV response. The recent Nigeria AIDS Indicator and Impact Survey (NAIS) found lower HIV prevalence than earlier surveys, which led to a revision of the country's HIV estimates. The latest regional estimates reflect this additional information, with lower estimates of people living with HIV, AIDS-related deaths and HIV infections than previous estimates.

Burkina Faso and Burundi have achieved impressive declines in new HIV infections between 2010 and 2018 (Figure 11.5). However, Equatorial Guinea, the Gambia, Mali and Niger are lagging behind in their prevention efforts, with increases in new HIV infections of greater than 10% between 2010 and 2018.

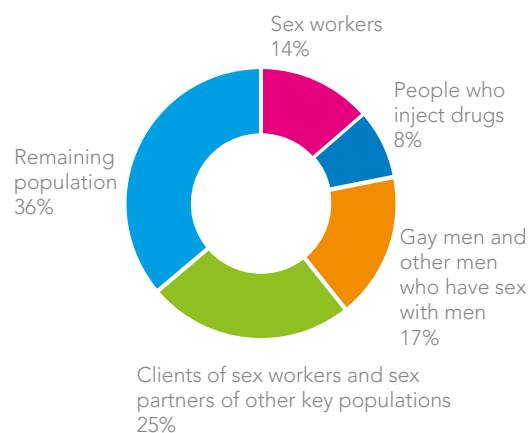
Key populations and their sexual partners accounted for 64% of all new HIV infections within the region in 2018 (Figure 11.7). HIV prevalence among sex workers in individual countries ranged from 4% to more than 30%, and it exceeded 10% in nine of the 17 countries reporting data (Figure 11.6). Among gay men and other men who have sex with men, median HIV prevalence was 13.7% in the 16 reporting countries, and it was more than 20% in six countries. The one study conducted among transgender persons found HIV prevalence of 15%, while HIV prevalence among people who inject drugs and prisoners is also far higher than HIV prevalence in the overall adult populations of most countries. ■

**FIGURE 11.5** Percentage change in new HIV infections, by country, western and central Africa, 2010–2018

Source: UNAIDS 2019 estimates.

**FIGURE 11.6** HIV prevalence among key populations, western and central Africa, 2014–2018

Source: Global AIDS Monitoring, 2014–2018.

**FIGURE 11.7** Distribution of new HIV infections (aged 15–49 years), by population group, western and central Africa, 2018

Source: UNAIDS special analysis, 2019.

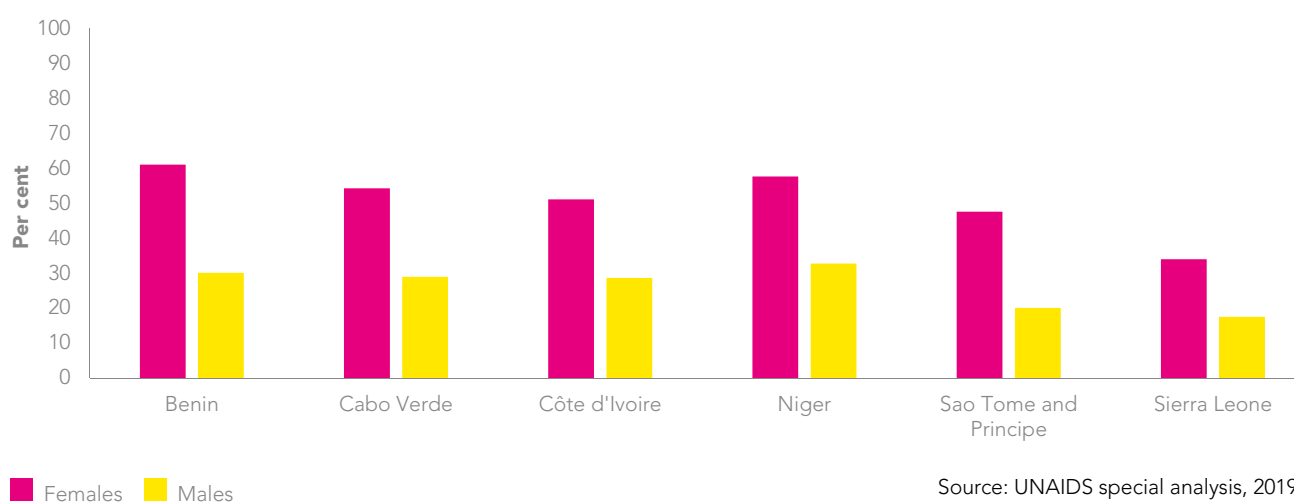
**TABLE 11.1** Estimated size of key populations, western and central Africa, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Cameroon	14 188 000										
Côte d'Ivoire	14 375 000									41 000	0.29
Democratic Republic of the Congo	45 227 000	350 000	0.77	190 000	0.43	160 000	0.34				
Gambia	1 188 000										
Mali	10 026 000										
Niger	11 130 000										
Senegal	9 332 000					3 100	0.03			9 500	0.10
Togo	4 691 000									5 200	0.11

■ National population size estimate 
 ■ Local population size estimate 
 ■ Insufficient data 
 ■ No data

The regions to which the local population size estimate refers:  
Gambia (Banjul)

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).

**FIGURE 11.8** Viral load suppression among adults (15 years and older) living with HIV, by sex, western and central Africa, 2018



## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

Among the estimated 5 million [4.0 million–6.3 million] people living with HIV in western and central Africa in 2018, the proportion who knew their HIV status increased from 51% [41–64%] in 2015 to 64% [51–80%] in 2018 (Figure 11.9). Access to HIV testing and treatment reached 51% [34–66%] of people living with HIV in 2018, up from 37% [26–48%] in 2015. The estimated percentage of people living with HIV in the region who had suppressed viral loads was 39% [25–53%] in 2018. Achieving all three 90s requires viral load suppression among an additional 1.7 million people living with HIV.

Progress toward the 90–90–90 targets in the region is slow, with 79% [70–83%] of people who know their HIV status receiving treatment. Viral suppression among those on treatment is 76% [56–87%]. This means that the gap in 2018 to achieving the first of the 90–90–90 targets was 1.3 million people who did not know they were living with HIV.

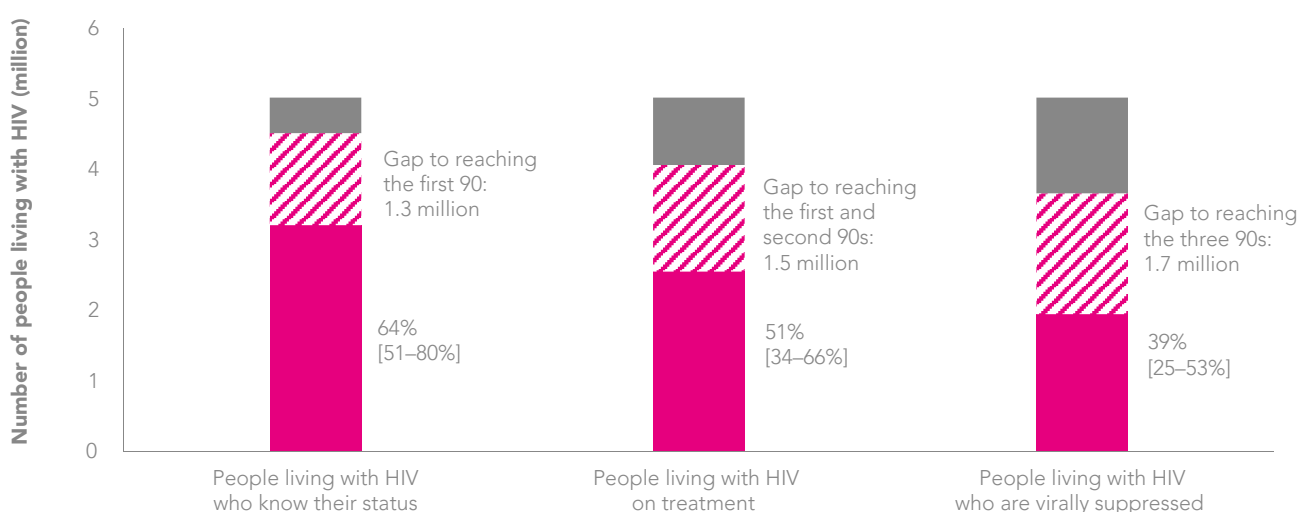
Although weaknesses exist along the entire continuum of testing and treatment services, the single biggest

challenge is the diagnosis of people living with HIV. Besides Cabo Verde, no country in the region has achieved the first 90. Cabo Verde, the Democratic Republic of the Congo, Mali and Senegal have reached the second 90, and several other countries are very close to doing the same (Table 11.2).

An important gap in the HIV response in the region is the provision of antiretroviral therapy to children living with HIV. Only 28% [18–39%] of children living with HIV accessed treatment in 2018, which is considerably lower than the 59% [47–71%] of pregnant women who received treatment in the region.

Due to hostile legal and social environments, people belonging to key populations are often apprehensive about (and distrustful of) standard testing and treatment services. A recent study from Burundi, Côte d'Ivoire and the Democratic Republic of the Congo found that enhanced peer outreach approaches led to higher proportions of new HIV diagnoses among both female sex workers and gay men and other men who have sex with men (1). ■

**FIGURE 11.9** HIV testing and treatment cascade, western and central Africa, 2018



Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**TABLE 11.2 90–90–90 country scorecard: western and central Africa, 2018**

	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Western and central Africa</b>	<b>64</b>	<b>71</b>	<b>61</b>	<b>79</b>	<b>86</b>	<b>66</b>	<b>76</b>	<b>78</b>	<b>75</b>	<b>39</b>	<b>48</b>	<b>30</b>
Benin							79	79	79	48	61	30
Burkina Faso	70	82	63	88	>95	73						
Burundi												
Cabo Verde	>95			92			47	58	36	42	54	29
Cameroon	74	80	75	71	74	63						
Central African Republic	55	62	53	65	71	53						
Chad												
Congo	39	43	36	89	84	>95						
Côte d'Ivoire	63	72	53	87	92	74	75	77	74	41	51	29
Democratic Republic of the Congo	62	64	79	92	91	93						
Equatorial Guinea	49	64	40	69	83	44						
Gabon												
Gambia	36	46	22	81	81	75						
Ghana	57	69	43	59	58	58						
Guinea												
Guinea-Bissau												
Liberia	68	85	54	52	53	46						
Mali	33	37	33	93	95	87						
Mauritania	62	77	53	88	>95	77						
Niger	72	85	62	75	81	63	83	84	84	45	58	33
Nigeria	67	74	63	80	92	60	80			42		
Sao Tome and Principe							41	45	38	31	48	20
Senegal	65	74	60	>95	>95	>95						
Sierra Leone	49	61	38	83	86	74	63	64	61	26	34	17
Togo	73	84	69	82	87	71						

**90–90–90:** ■ 90% and above ■ 85–89% ■ 70–84% ■ 50–69% ■ Less than 50%

**Viral load suppression:** ■ 73% and above ■ 65–72% ■ 40–64% ■ 25–39% ■ Less than 25%

Source: UNAIDS special analysis, 2019.

## A COMBINATION APPROACH TO PREVENTION

Condom promotion remains a mainstay of prevention programmes in the region. However, in 12 countries with recent data from a population-based survey, only six indicated that more than half of young men (aged 15–24 years) reported condom use at last high-risk sex. They also reported condom use among young women was consistently lower (Figure 11.11).

Few data are available on the coverage of combination prevention services for key populations in the region (Figure 11.10), with high HIV prevalence among these population suggesting that coverage is low in many countries. Senegal is a rare example of a country in the region providing both needle–syringe programmes and opioid substitution therapy to people who inject drugs (2).

Key populations rely chiefly on civil society organizations for prevention services, which often operate in unwelcoming environments. The reform of obstructive laws and legal policies—along with greater funding and other support for community-based organizations—would greatly enhance HIV prevention focused on key populations.

The latest World Health Organization (WHO) guidelines have highlighted pre-exposure prophylaxis (PrEP) as an important tool to prevent new infections among people at substantial risk of HIV infection, but the region has been slow in adopting these guidelines. Two regional projects are underway:

- A demonstration project in Burkina Faso, Côte d'Ivoire, Mali and Togo is evaluating the feasibility of rolling out PrEP nationally and regionally. The project is financed by the French National Agency for Research on AIDS and Expertise France, in partnership with Coalition PLUS and three European health institutes.
- An implementation project in Côte d'Ivoire, the Democratic Republic of the Congo and Nigeria is supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR). ■

**FIGURE 11.10** Percentage of key populations who reported receiving at least two prevention services in the past three months, western and central Africa, 2016–2018

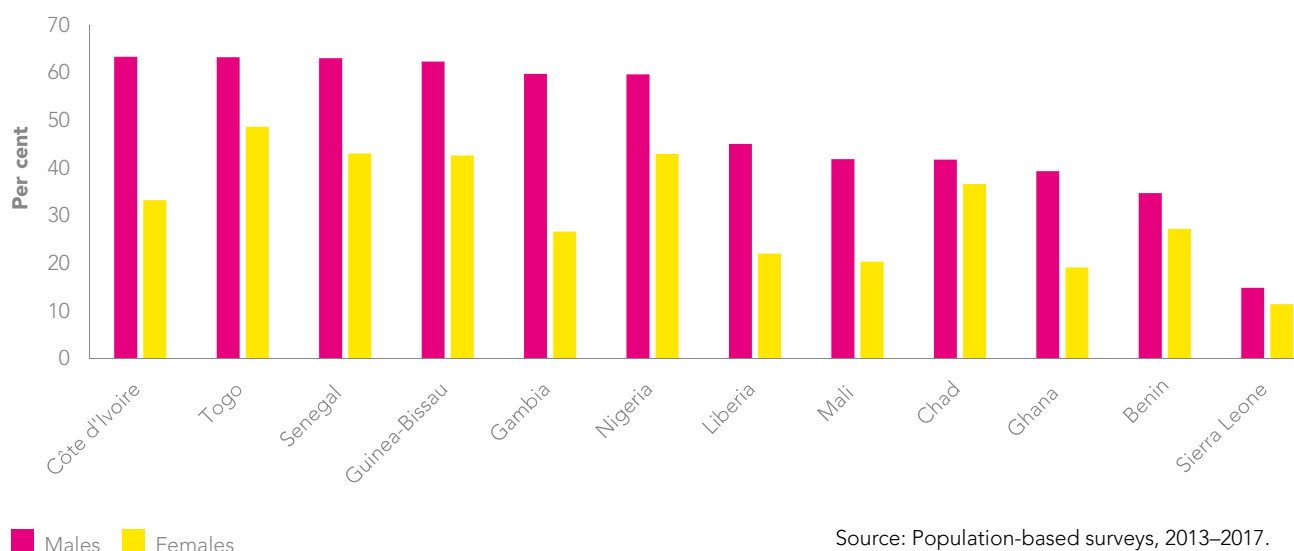


Note: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values due to the use as a denominator of the number of key population members that are linked to the programme) and not from a survey.

Possible prevention services received among sex workers, gay men and other men who have sex with men and transgender people: condoms and lubricant, counselling on condom use and safe sex, and testing for sexually transmitted infections. Possible prevention services received among people who inject drugs: condoms and lubricant, counselling on condom use and safe sex, and clean needles or syringes.

Source: Global AIDS Monitoring, 2016–2018.

**FIGURE 11.11** Percentage of men and women (aged 15–24 years) reporting use of a condom at last high-risk sex (with a nonmarital, noncohabiting partner) in the past 12 months, western and central Africa, 2013–2017



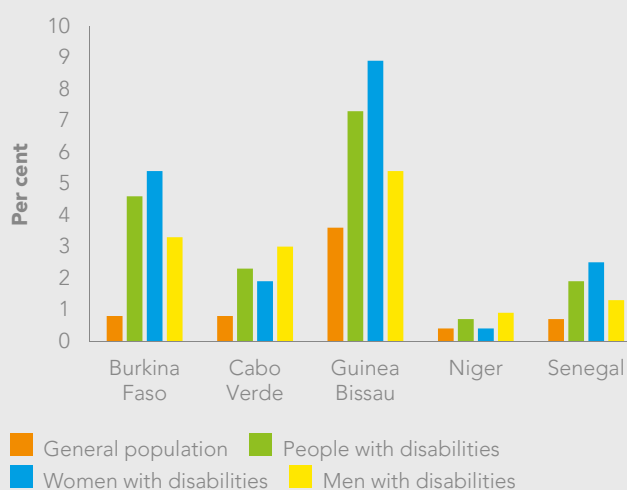
Source: Population-based surveys, 2013–2017.

## SUPPORTING PEOPLE WITH DISABILITIES

People with disabilities are often left behind by HIV responses. In western and central Africa, biobehavioural surveys of people with disabilities were undertaken between 2016 and 2018 in Burkina Faso, Cabo Verde, Guinea-Bissau and Niger, while a broader biobehavioural survey was conducted in Senegal. They found that HIV prevalence is on average three times higher among people with disabilities than it is among the general population (Figure 11.12) (5). In Burkina Faso, Guinea-Bissau and Senegal, women with disabilities were considerably more likely to be HIV-positive than men with disabilities (4–7).

The Regional HIV and Disability Project is working to make regional and national HIV laws, strategies and policies more inclusive of people with disabilities. The project—established by Humanity & Inclusion and the West Africa Federation of Associations of People with Disabilities, with support from the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund)—is collating information and good practices around HIV-related and health facility care for people with disabilities (3). It also seeks to increase capacity and knowledge among civil society organizations, policy-makers, and other HIV and human rights stakeholders (4).

**FIGURE 11.12** HIV prevalence among people with disabilities compared to the general population, selected countries, western and central Africa, 2016–2018



Source: Global Fund to Fight AIDS, Tuberculosis and Malaria, Humanity & Inclusion, West Africa Federation of Persons with Disabilities. Une population oubliée: résultats des études bio comportementales [A forgotten population: results from the biobehavioural studies]. Power Point presentation. 2019.

(Full story on page 137.)

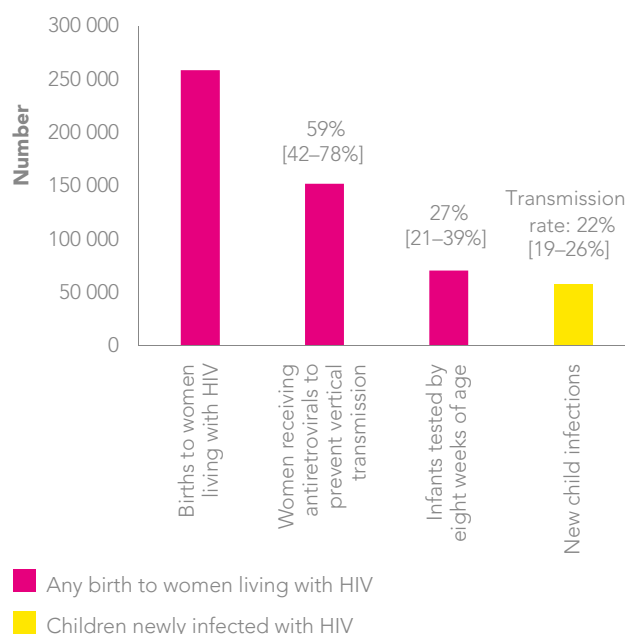
## ELIMINATING MOTHER-TO-CHILD TRANSMISSION

Western and central Africa's faltering HIV response is also reflected in the continuing high rate of mother-to-child transmission, which was an estimated 22% [19–26%] in 2018. Approximately 58 000 children (aged 0–14 years) acquired HIV in 2018; of those, 41% lived in Nigeria, the country with the highest HIV burden in the region.

Antiretroviral therapy coverage for pregnant women in the region has been declining since 2016, reaching 59% [42–78%] in 2018 (Figure 11.13). This means that only 153 000 of the estimated 260 000 pregnant women living with HIV were receiving antiretroviral medicine for preventing mother-to-child transmission. In Nigeria, the number of women receiving antiretroviral therapy during pregnancy decreased from 60 000 in 2014 to 44 000 between 2010 and 2018, with treatment coverage diminishing from 63% [41–89%] to 44% [28–62%] over the same period.<sup>1</sup>

Early infant diagnosis is another programming area awaiting substantial improvement. Only 27% [21–39%] of infants exposed to HIV were tested for HIV infection within eight weeks of birth. The expansion and closer integration of HIV, maternal and child health, and sexual and reproductive health services are urgently needed to curb new HIV infections in children and protect the health of mothers living with HIV. ■

**FIGURE 11.13** Cascade of services for preventing vertical transmission, numbers of new HIV infections and transmission rate, western and central Africa, 2018



Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.



**“STIGMATIZING ATTITUDES AND DISCRIMINATORY BEHAVIOUR— INCLUDING FROM HEALTH-CARE WORKERS—AND THE POLITICAL AND HUMANITARIAN CRISIS IN MY COUNTRY EXPLAIN THE LOW COVERAGE OF ANTIRETROVIRAL THERAPY.”**

Bienvenu Gazalima, Chief Administrator for the Network of People Living with HIV in the Central African Republic  
 (Full story on page 92.)

<sup>1</sup> The 2014 and 2018 coverage estimates reflect the results of the 2018 NAHS.

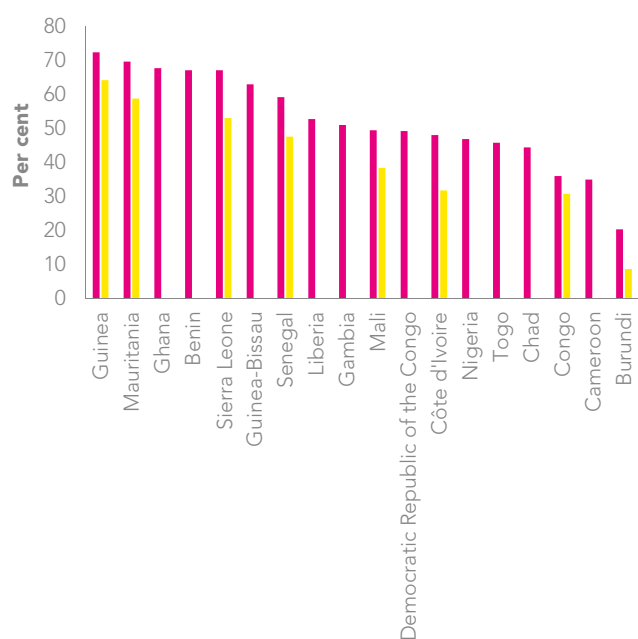


## CONFRONTING STIGMA AND DISCRIMINATION

Stigma and misconceptions about HIV continue to be widespread in the region. In 10 of the 18 countries with recent population-based survey data, 50% or more of adults said they would not buy vegetables from a shopkeeper living with HIV (Figure 11.14). Two thirds of respondents held that discriminatory attitude in Benin, Ghana, Guinea, Mauritania and Sierra Leone. In seven of the eight countries with recent data, more than 30% of people felt that children living with HIV should not be allowed to attend school with other children.

Some countries are training health-care workers and law enforcement agents on health and human rights, but these programmes are not at scale at the national level, with only 25% of the countries in the region implementing such nationwide programmes (compared to 44% in eastern and southern Africa). Violence against women also remains common in the region: in five of the 11 countries with recent data, at least 25% of adult women (aged 15–49 years) reported being physically and/or sexually assaulted by an intimate partner within the previous 12 months (Figure 11.15). ■

**FIGURE 11.14** Percentage of men and women aged 15–49 years with discriminatory attitudes towards people living with HIV, western and central Africa, 2013–2017

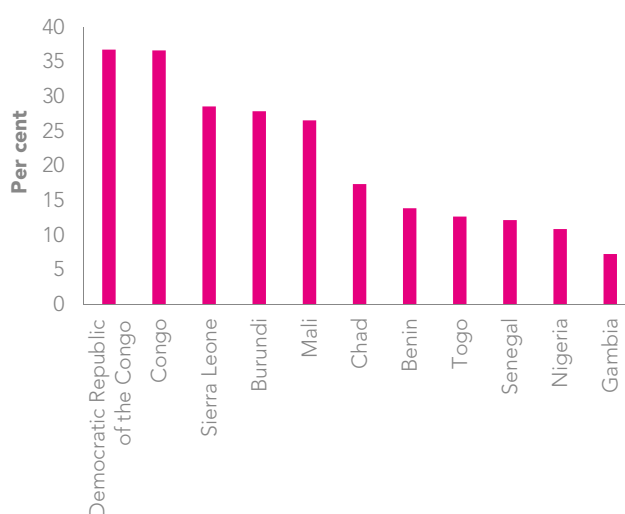


- People who would not buy vegetables from a shopkeeper living with HIV
- People who think children living with HIV should not be allowed to attend school with children not living with HIV

Note: Data for Guinea are for female respondents only.

Source: Population-based surveys, 2013–2017, countries with available data.

**FIGURE 11.15** Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, western and central Africa, most recent data, 2013–2018



Source: Population-based surveys, 2013–2018.

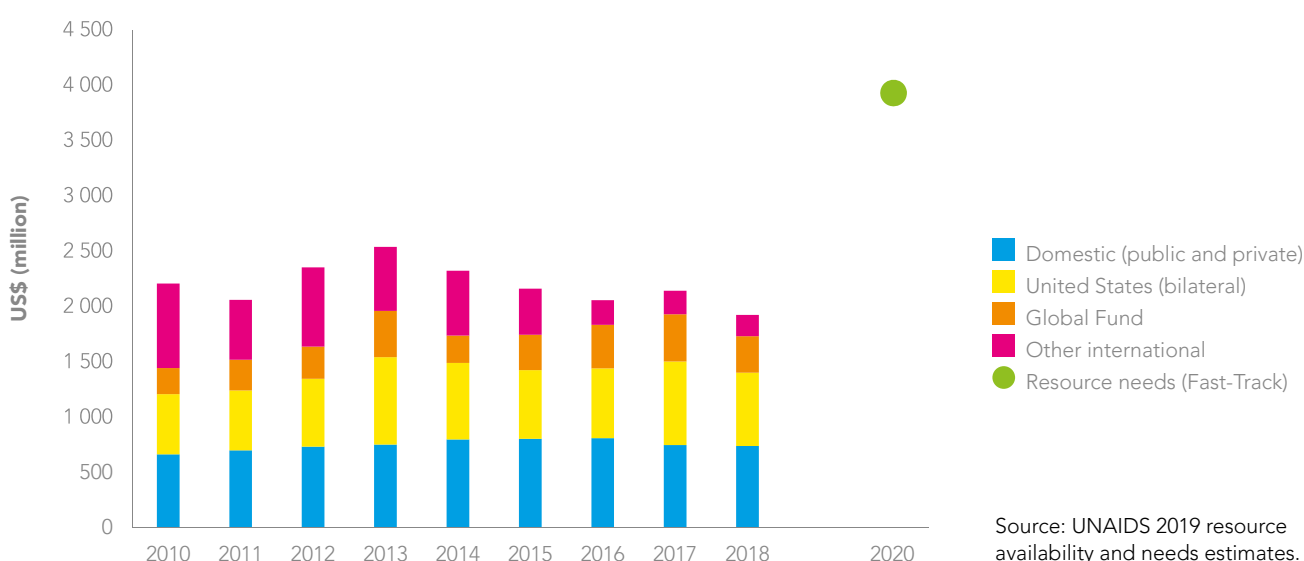
## INVESTING TO END AN EPIDEMIC

The US\$ 1.9 billion available for HIV responses in the region in 2018 was less than half the resources needed to reach the 2020 Fast-Track Targets (Figure 11.16).<sup>2</sup> Total resource availability for HIV responses in western and central Africa decreased by 13% (in constant 2016 US dollars) between 2010 and 2018. Internationally sourced funding accounted for approximately 62% of total HIV resources in the region in 2018, but it had declined from US\$ 1.5 billion in 2010 to US\$ 1.2 billion in 2018. The bulk of international support came from the Global Fund (a 40% increase since 2010) and the Government of the United States of America (a 22% increase since 2010), while other international resources decreased by 75% over the same period. Domestic

resources comprised 38% of total HIV resources in 2018, an increase from 30% in 2010. Nigeria has increased its domestic public investment in HIV by more than 30% since 2010.

The availability of financial resources in 2018 was 10% lower than 2017, including declines in all international sources of funding: bilateral resources from the Government of the United States decreased by 12%, Global Fund resources decreased by 23% and all other international resources decreased by 10%.<sup>3</sup> Domestic resources remained almost the same, with a marginal decrease of 1%. ■

**FIGURE 11.16.** HIV resource availability, by source, western and central Africa, 2010–2018, and projected resource needs by 2020



<sup>2</sup> Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the chapter Investing to End an Epidemic.

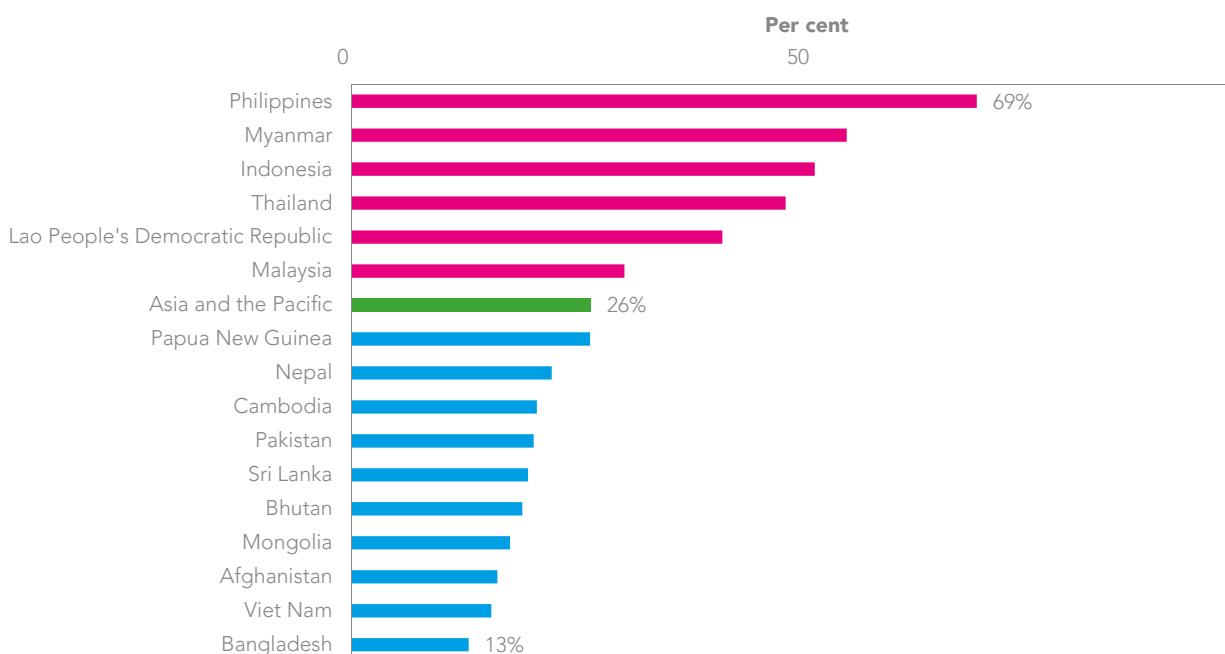
<sup>3</sup> The Global Fund disbursements to countries decreased by 20% globally in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

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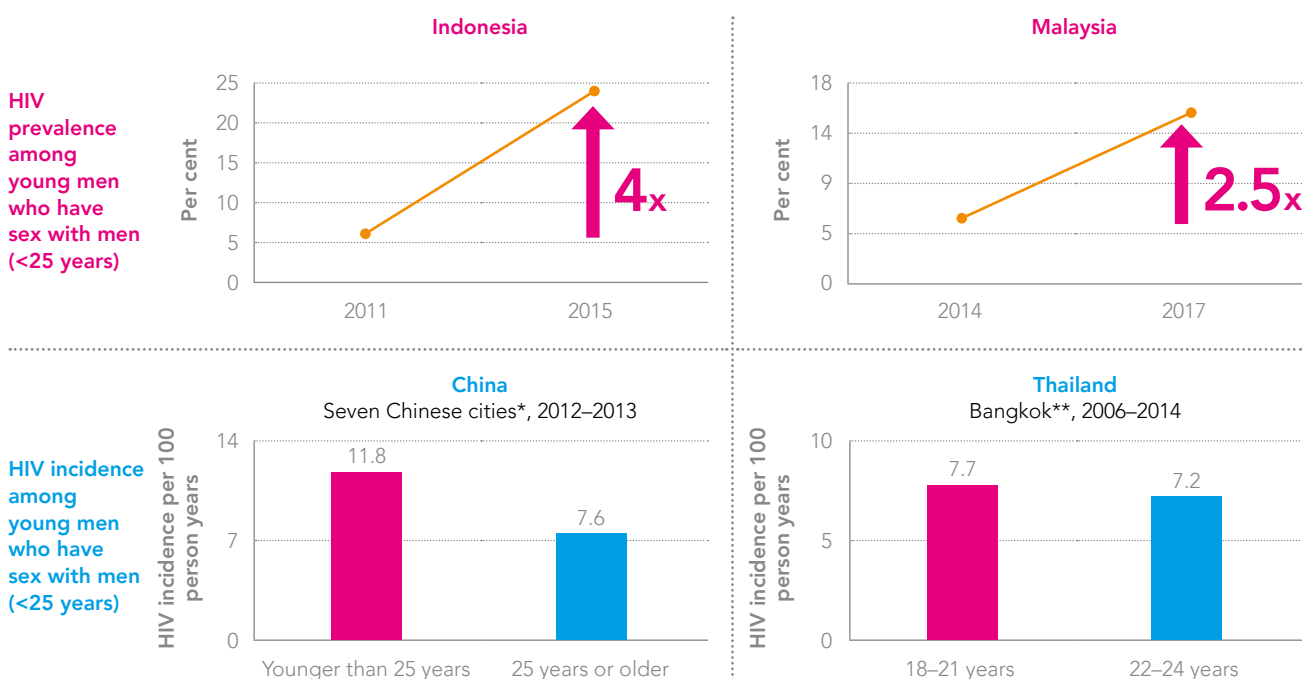
**FIGURE 12.1** Proportion of young people among total estimated new HIV infections, Asia and the Pacific, 2018



Note: Pink bars are above the regional average. Blue bars are below the regional average.

Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org), based on UNAIDS 2019 HIV estimates.

**FIGURE 12.2** Rising HIV prevalence and high HIV incidence among young men who have sex with men, selected countries, Asia and the Pacific, 2011–2017



\*Changsha, Ji'nan, Kunming, Nanjing, Shanghai, Shenyang and Zhengzhou. \*\*Bangkok Men Who have Sex with Men Cohort Study (BMCS).

Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org), based on integrated biological and behavioural surveys; Mao X, Wang Z, Hu Q, Huang C, Yan H, Wang Z et al. HIV incidence is rapidly increasing with age among young men who have sex with men in China: a multicentre cross-sectional survey. *HIV Med.* 2018;19(8):513-22; and Thienkrua W, van Griensven F, Mock PA, Dunne EF, Raengsakulrach B, Wimonstee W et al. Young men who have sex with men at high risk for HIV, Bangkok MSM Cohort Study, Thailand 2006-2014. *AIDS Behav.* 2018;22(7):2137-46.



# ASIA AND THE PACIFIC

## AT A GLANCE

While there has been strong progress in several countries, the HIV epidemic is outpacing the response in others. Annual new HIV infections are rising rapidly in Bangladesh, Pakistan and the Philippines.

Improved access to HIV treatment has reduced the annual number of AIDS-related deaths by 24% since 2010, but the epidemic is claiming a growing number of lives in Afghanistan, Bangladesh, Indonesia, Pakistan and the Philippines.

Gay men and other men who have sex with men are experiencing rapidly growing HIV epidemics in several countries, with young men especially at risk.

Amid an increase in the availability of heroin—and little improvement in the availability of harm reduction services—a resurgent epidemic is underway in some locations among people who inject drugs.

Despite legislative reforms and other progress, shrinking civic space and stigma and discrimination against people living with HIV and key populations stand in the way of more rapid progress against the epidemic.

Asia and the Pacific boasts some of the earliest successes in responding to the HIV epidemic. The region's response, however, is highly uneven, and several national HIV programmes are not keeping pace with their growing HIV epidemics. Creeping complacency in other countries risks squandering gains made thus far.

At least three quarters of new HIV infections in the region are among key populations and their sexual partners. This highlights the need for legal reforms and other initiatives to reduce the discrimination and marginalization faced by these populations, and for increased support for community-led activities.

Young people (aged 15–24 years) accounted for about one quarter of new HIV infections in the region in 2018; they represented an even larger proportion of new infections in Indonesia, Myanmar, the Philippines and Thailand (Figure 12.1). Trends in HIV acquisition among

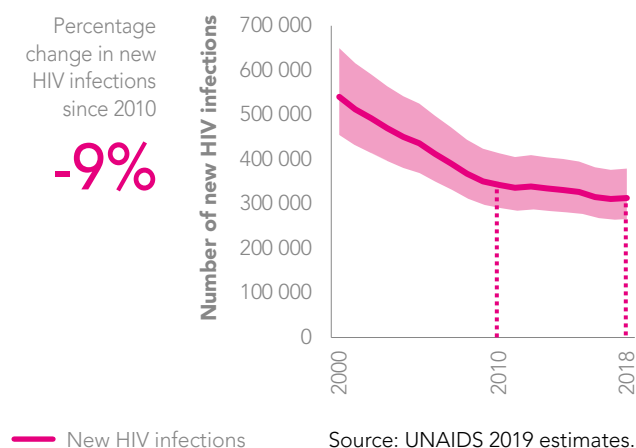
young gay men and other men who have sex with men in several countries are of particular concern: data from surveys show HIV prevalence rising among this group in Indonesia and Malaysia, and special studies conducted in China and Thailand show high incidence of HIV infection among them (Figure 12.2).<sup>1</sup>

Social media has emerged as a source of both risk and risk mitigation. An 18-month cohort study in Shenyang, China, showed that HIV incidence among gay men and other men who have sex with men who use mobile phone-based dating applications was more than four times higher than among non-users (1). In contrast, increasingly sophisticated social media platforms offer new ways to link people at high risk of HIV infection to prevention services. Countries need to make greater use of social media and community-led innovations to reach these and other key populations with the HIV services they need, including HIV self-testing and pre-exposure prophylaxis (PrEP). ■

<sup>1</sup> The cities in the China study were Changsha, Ji'nan, Kunming, Nanjing, Shanghai, Shenyang and Zhengzhou.

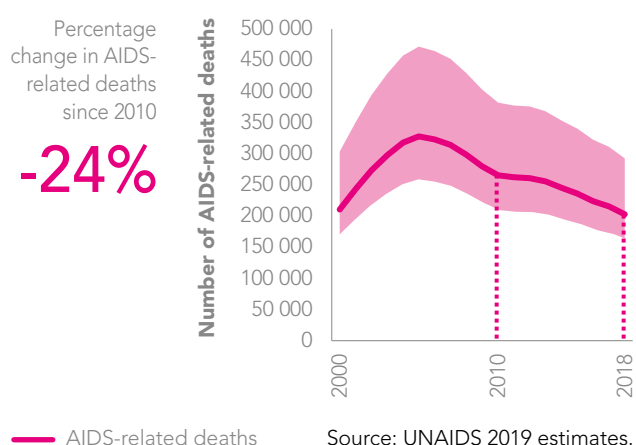
## STATE OF THE EPIDEMIC

**FIGURE 12.3** Number of new HIV infections, Asia and the Pacific, 2000–2018



There has been a modest 9% decline in the annual number of new HIV infections in Asia and the Pacific since 2010, from an estimated 340 000 [290 000–410 000] to 310 000 [270 000–380 000] in 2018 (Figure 12.3). Prevention programmes are faltering in some countries, notably Afghanistan, Bangladesh, Pakistan and the Philippines, where the annual number of new HIV infections has increased steeply since 2010. This regional trend is also driven to a substantial degree by the large countries in the region: without China and India, the decline in new HIV infections would be 18% between 2010 and 2018.

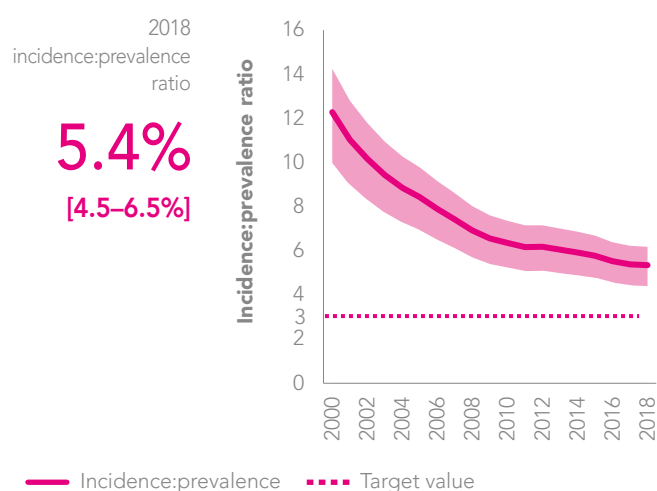
**FIGURE 12.4** Number of AIDS-related deaths, Asia and the Pacific, 2000–2018



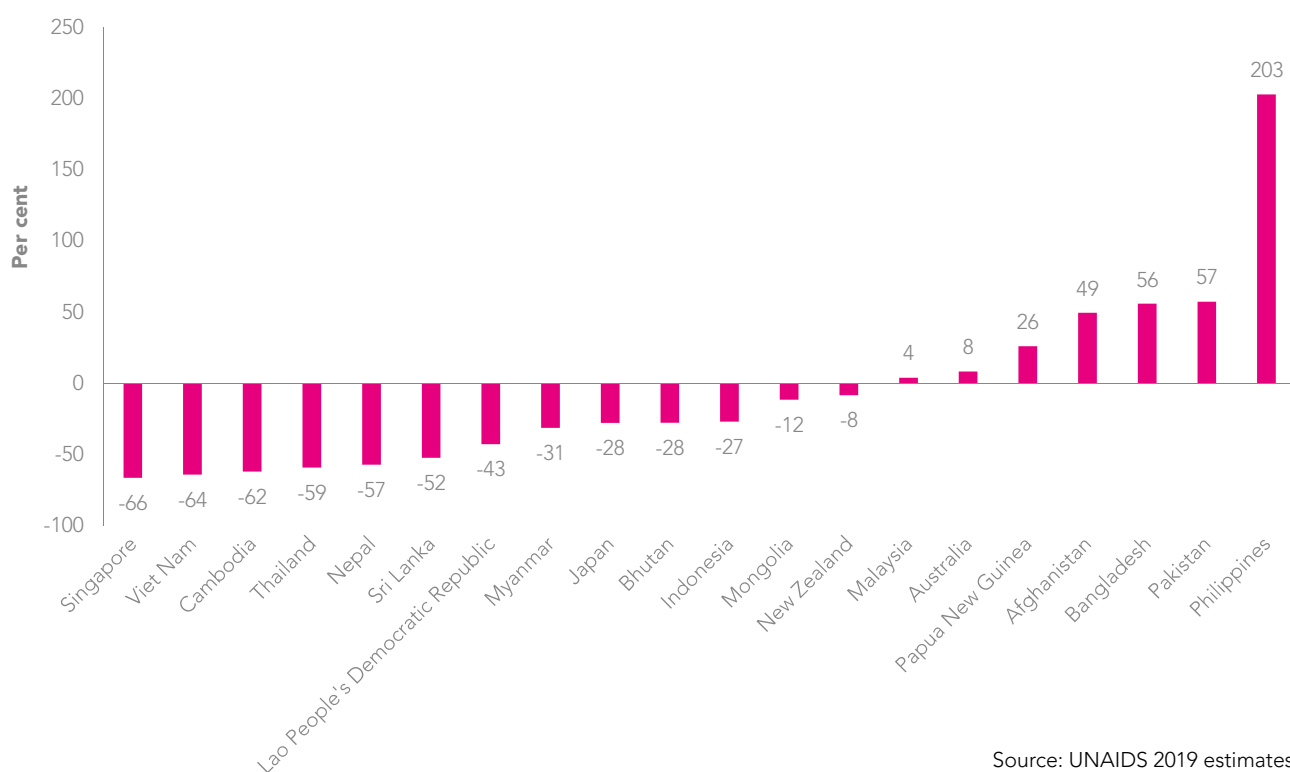
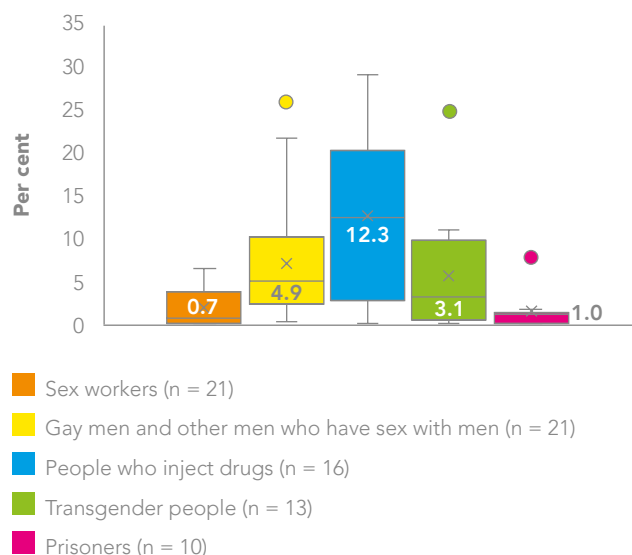
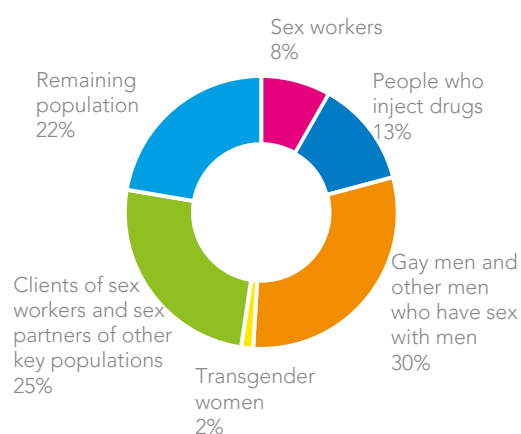
The estimated 200 000 [160 000–290 000] AIDS-related deaths that occurred in the region in 2018 were 24% fewer than the 270 000 [210 000–380 000] in 2010 (Figure 12.4). However, the HIV epidemics in Afghanistan, Bangladesh, Indonesia, Pakistan and the Philippines are claiming an increasing number of lives each year. The region's incidence-prevalence ratio was 5.4% [4.5–6.5%] in 2018 (Figure 12.5).

More than three quarters of new HIV infections in Asia and the Pacific are among key populations and their sexual partners, with about 30% of new infections occurring among gay men and other men who have sex with men (Figure 12.8).

**FIGURE 12.5** Incidence:prevalence ratio, Asia and the Pacific, 2000–2018



Surveys reveal high HIV prevalence among key populations (Figure 12.7). HIV prevalence among gay men and other men who have sex with men was between 5% and 20% in seven countries that reported data, and it exceeded 20% in two countries. Among people who inject drugs, HIV prevalence ranged between 5% and 20% in eight of the 16 countries that reported data, and it was more than 20% in four more. Among transgender people, median HIV prevalence among the 13 reporting countries was 3.1%. ■

**FIGURE 12.6** Percentage change in new HIV infections, by country, Asia and the Pacific, 2010–2018**FIGURE 12.7** HIV prevalence among key populations, Asia and the Pacific, 2014–2018**FIGURE 12.8** Distribution of new HIV infections (aged 15–49 years), by population group, Asia and the Pacific, 2018

**TABLE 12.1** Estimated size of key populations, Asia and the Pacific, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Lao People's Democratic Republic	4 695 000	14 000	0.30	17 000	0.36						
Malaysia	24 340 000	37 000	0.15			75 000	0.31				
Nepal	20 684 000									22 000	0.11
New Zealand	3 808 000					15 000	0.39			10 000	0.26
Singapore	4 938 000									11 000	0.23
Sri Lanka	15 980 000	30 000	0.19	74 000	0.46	2 700	0.02	2 200	0.01		
Thailand	57 425 000									370 000	0.64
Viet Nam	74 266 000					190 000	0.26				

■ National population size estimate ■ Local population size estimate ■ Insufficient data ■ No data

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).

## YOUTH-LED AND DATA-DRIVEN ADVOCACY IN THE PHILIPPINES

The Philippines has the third youngest population in Asia and the Pacific. Youth leadership, advocacy and involvement are key to the success of the HIV response in the country. With this in mind, the ACT!2030 alliance brought together youth-led and youth-serving organizations with knowledge and experience of sexual and reproductive health and rights and HIV. As one of 12 country alliances under the global ACT!2030 umbrella, the experience of the Philippines alliance is a useful case study in how to empower youth to work together to take the reins of information gathering and advocacy for their own sexual and reproductive health.

The alliance ensured that the voices of marginalized young people and key populations—including lesbian, gay, bisexual, transgender and intersex (LGBTI) young people—were included. Peer education groups and high school student government representatives served as the project's qualitative researchers. Sixty youth data reporters were tasked with collecting qualitative data on comprehensive sexuality education in the Philippines. They found that there was broad support for comprehensive sexuality education, but that delivery was not being effectively introduced (2). As well as collecting data, the ACT!2030 Philippines alliance was able to bring these data to the decision-making table as a member of the Technical Working Group of the National Adolescent Health and Development Programme. The alliance also worked with the Philippine National AIDS Council and the Committee on Children and HIV/AIDS during the development of the country's Sixth AIDS Medium Term Plan (2). (Full story on page 155.)

## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

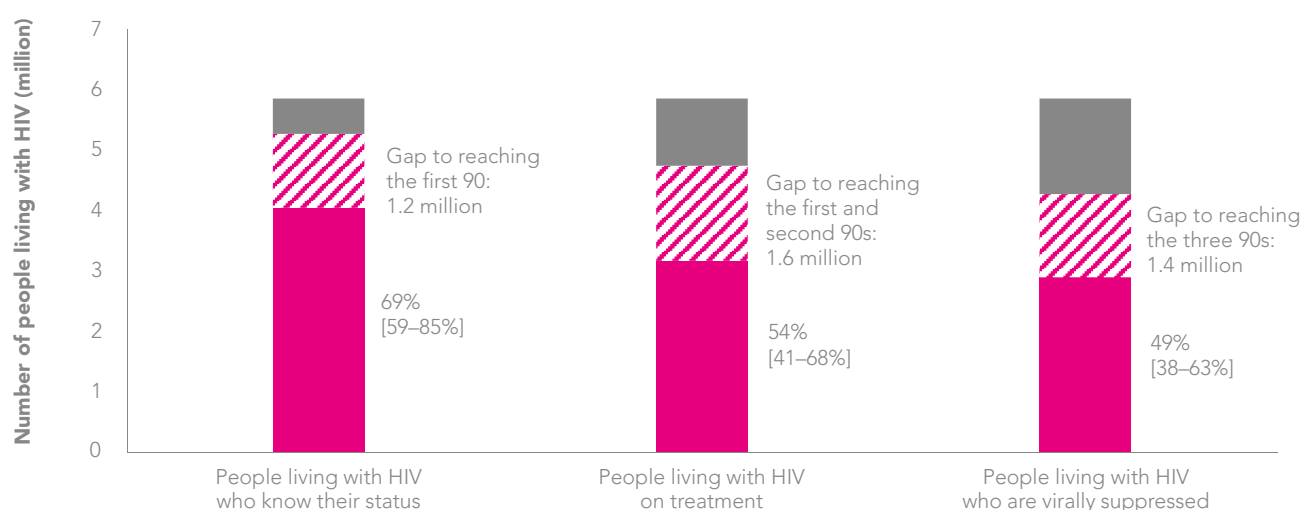
Among the estimated 5.9 million [5.1 million–7.1 million] people living with HIV in Asia and the Pacific in 2018, the proportion who knew their HIV status increased from 58% [45–76%] in 2015 to 69% [59–85%] in 2018. The estimated 3.2 million people who were receiving antiretroviral therapy in 2018 comprised about 54% [41–68%] of people living with HIV, compared with 37% [28–47%] in 2015. But gaps in diagnosing people living with HIV and linking them to treatment and care mean that the estimated 2.9 million people who were virally suppressed accounted for only about half (49% [38–63%]) of all people living with HIV in the region (Figure 12.9). This is a missed opportunity to prevent onward transmission of HIV and to reduce AIDS-related deaths.

Among people living with HIV who knew their HIV-positive status, 78% [68–83%] were accessing treatment in 2018, and viral load suppression among people accessing treatment was about 91% [72–>95%]. However, routine viral load testing is limited in many countries in the region. The gap to achieving the first of the 90–90–90 targets in 2018 was 1.2 million people who did not know they were living with HIV, while the gap to achieving the first two 90s was 1.6 million people living with HIV who were not on treatment. The gap to reaching all three 90s was 1.4 million people living with HIV with unsuppressed viral loads.

Linkage to HIV treatment and care services was poor in several countries, particularly Afghanistan and Indonesia, where more than half of the people who knew they were living with HIV were not accessing antiretroviral therapy in 2018 (Table 12.2). In Bangladesh, the Lao People's Democratic Republic, Malaysia, the Philippines, Sri Lanka and Viet Nam, at least one third of people who knew they were HIV-positive were not receiving HIV treatment. By contrast, almost all people living with HIV who knew their HIV status in Cambodia were receiving treatment in 2018, as were close to 80% or more in China, Myanmar, Nepal and Thailand.

Accessible, affordable and stigma-free care and treatment services, including access to viral load testing, should be available to all people living with HIV. High levels of viral load suppression were achieved in Australia, Cambodia, Myanmar (among women) and Thailand (Figure 12.10). Despite this, efforts to reach key populations with prevention, treatment and care services are uneven across the region: in Bangladesh, Malaysia, Pakistan, the Philippines and Sri Lanka, for example, survey data from 2016–2018 show that less than half of key populations living with HIV knew their HIV status (Figures 12.11). ■

**FIGURE 12.9 HIV testing and treatment cascade, Asia and the Pacific, 2018**



Source: UNAIDS special analysis, 2019; see annex on methods for more details.



**TABLE 12.2 90–90–90 country scorecard: Asia and the Pacific, 2018**

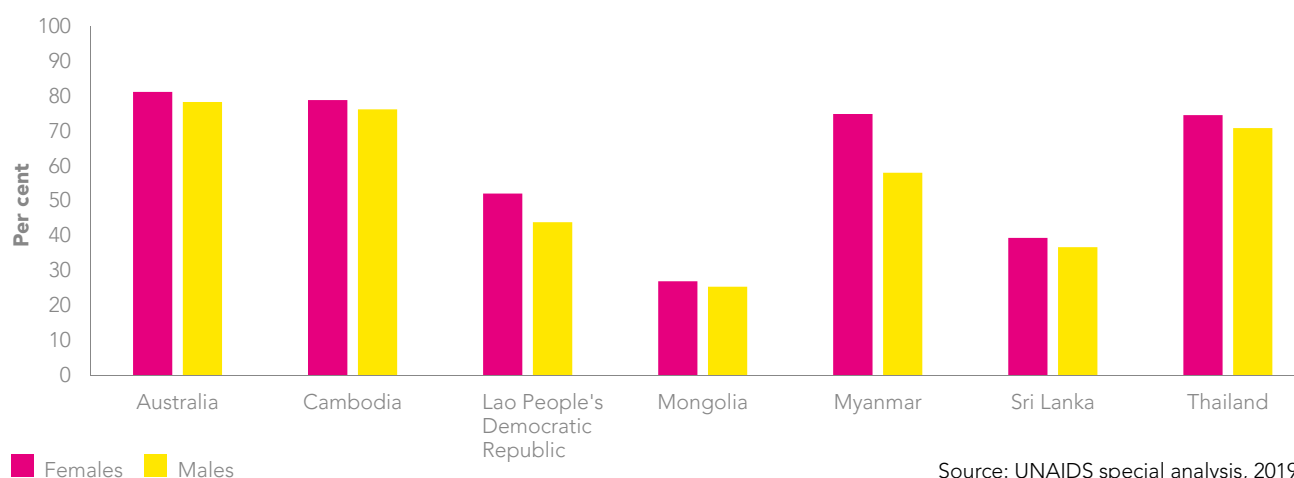
	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Asia and the Pacific</b>	<b>69</b>	<b>74</b>	<b>66</b>	<b>78</b>	<b>81</b>	<b>76</b>	<b>91</b>	<b>92</b>	<b>91</b>	<b>49</b>	<b>55</b>	<b>46</b>
Afghanistan	38	32	40	34	38	32						
Australia							95	>95	95	79	81	78
Bangladesh	37	35	37	60	60	61						
Bhutan	47	73	35	79	78	75						
Brunei Darussalam				93	>95	91	59	57	59			
Cambodia	82	82	80	>95	>95	>95	95	>95	>95	78	79	76
China				83	86	83	94	94	94			
Cook Islands												
Democratic People's Republic of Korea												
Fiji												
India												
Indonesia	51			33								
Japan												
Kiribati				>95	>95	>95						
Lao People's Democratic Republic	85			64			87	92	82	47	52	44
Malaysia	86	75	89	55	95	48						
Maldives												
Marshall Islands												
Micronesia (Federated States of)												
Mongolia	38	39	38	86	77	89	79	91	77	26	27	26
Myanmar							92	92	92	65	75	58
Nauru												
Nepal	71	71	70	79	93	68						
New Zealand												
Niue												
Pakistan	14	8	16	69	83	66						
Palau												
Papua New Guinea	87	91	87	75	77	70						
Philippines	76	78	77	57	28	59						
Republic of Korea												
Samoa				>95	>95	>95	31	33	38			
Singapore												
Solomon Islands				>95	>95	>95	77	78	75			
Sri Lanka							84	87	83	38	39	37
Thailand	94	94	94	80	82	78	>95	>95	>95	73	75	71
Timor-Leste												
Tonga												
Tuvalu												
Vanuatu												
Viet Nam												

**90–90–90:** 90% and above 85–89% 70–84% 50–69% Less than 50%

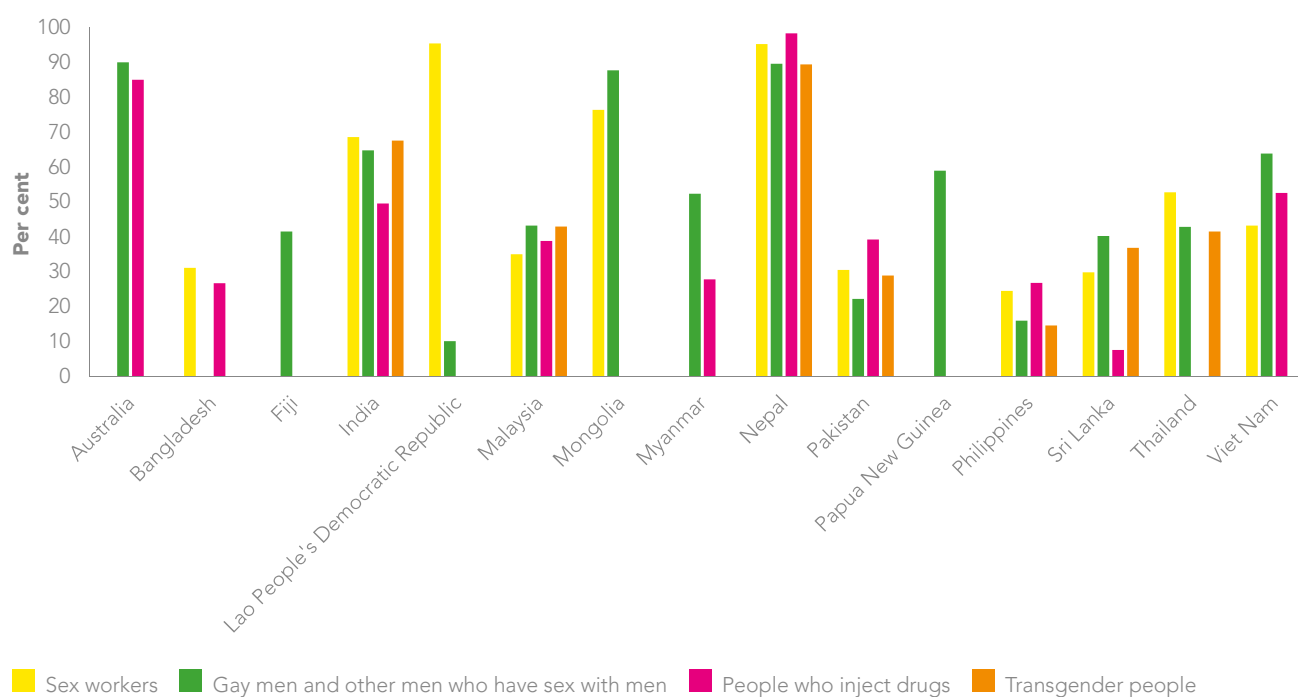
**Viral load suppression:** 73% and above 65–72% 40–64% 25–39% Less than 25%

Source: UNAIDS special analysis, 2019.

**FIGURE 12.10** Viral load suppression among adults (15 years and older) living with HIV, by sex, Asia and the Pacific, 2018



**FIGURE 12.11** Knowledge of status among key populations, Asia and the Pacific, 2016–2018



Note: Data shown come from surveys, which are typically conducted in areas with high prevalence and needs and may not be nationally representative.

Source: Global AIDS Monitoring, 2016–2018.

## A COMBINATION APPROACH TO PREVENTION

Given the strong evidence that people with an undetectable HIV viral load cannot transmit the virus to others, it is crucial that all people living with HIV have access to treatment as soon as they are diagnosed, and that they are able to achieve viral load suppression. In 2018, only about half of people living with HIV in Asia and the Pacific were virally suppressed.

Similarly, access to multiple HIV prevention services ranged from poor (less than 50%) to almost non-existent in eight of the 12 countries reporting these data for 2018 (Figure 12.12). Coverage of HIV prevention services for sex workers and transgender people were especially varied among countries in the region.

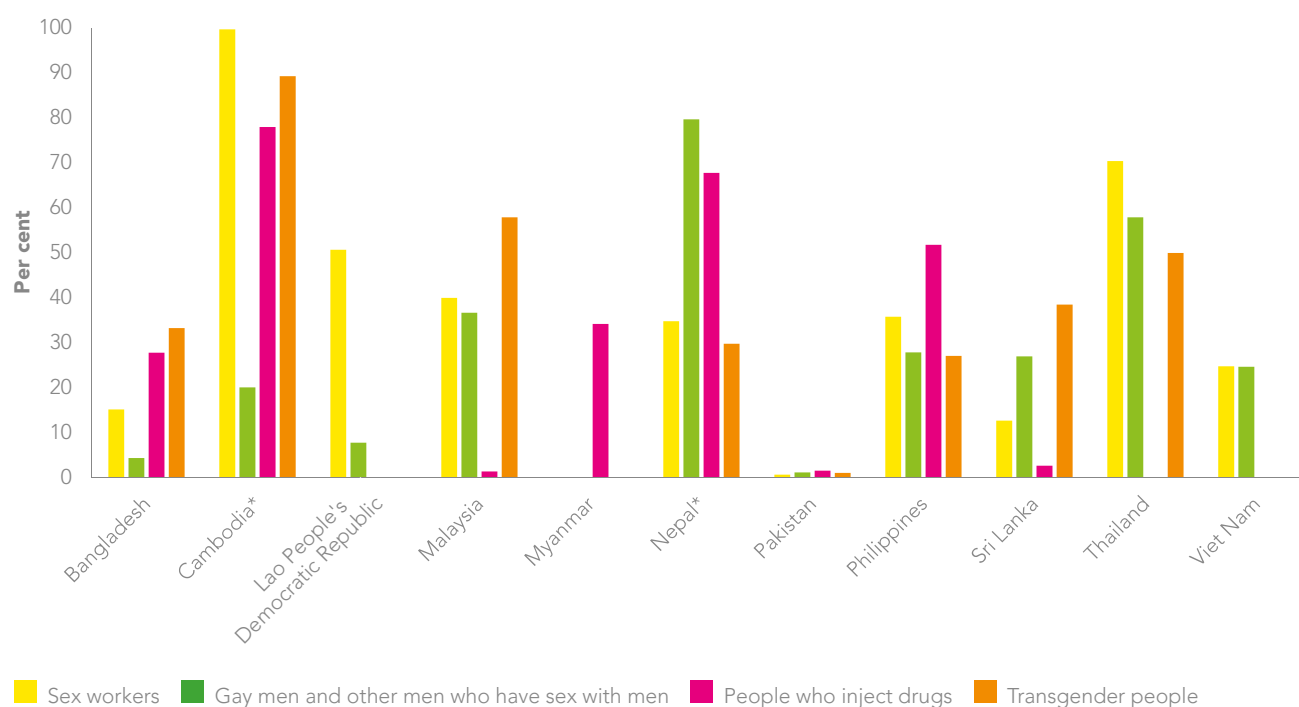
Although improving, HIV-related data for transgender people remain limited and provide only a sketchy picture of access to prevention coverage for this highly stigmatized and marginalized key population. Available

data from 2015 to 2018 contrast high coverage of HIV prevention services in Cambodia with almost non-existent coverage in Pakistan. Coverage of testing for sexually transmitted infections (STIs) was low in all countries that reported data (Figure 12.13).

PrEP is a highly effective additional prevention choice for people who are at substantial risk of HIV infection. It is becoming increasingly available to gay men and other men who have sex with men in Asia and the Pacific, albeit still on a very limited scale. This includes countries such as Malaysia and the Philippines, where a majority of new infections are within this key population (Figure 12.14).

Access to harm reduction services remains very uneven in a region marked by hostile and highly punitive approaches to drug use. In the Philippines, for example, extrajudicial killings of people who use drugs and

**FIGURE 12.12** Percentage of key populations who reported receiving at least two prevention services in the past three months, Asia and the Pacific, 2016–2018



Note 1: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values due to the use as a denominator of the number of key population members that are linked to the programme) and not from a survey.

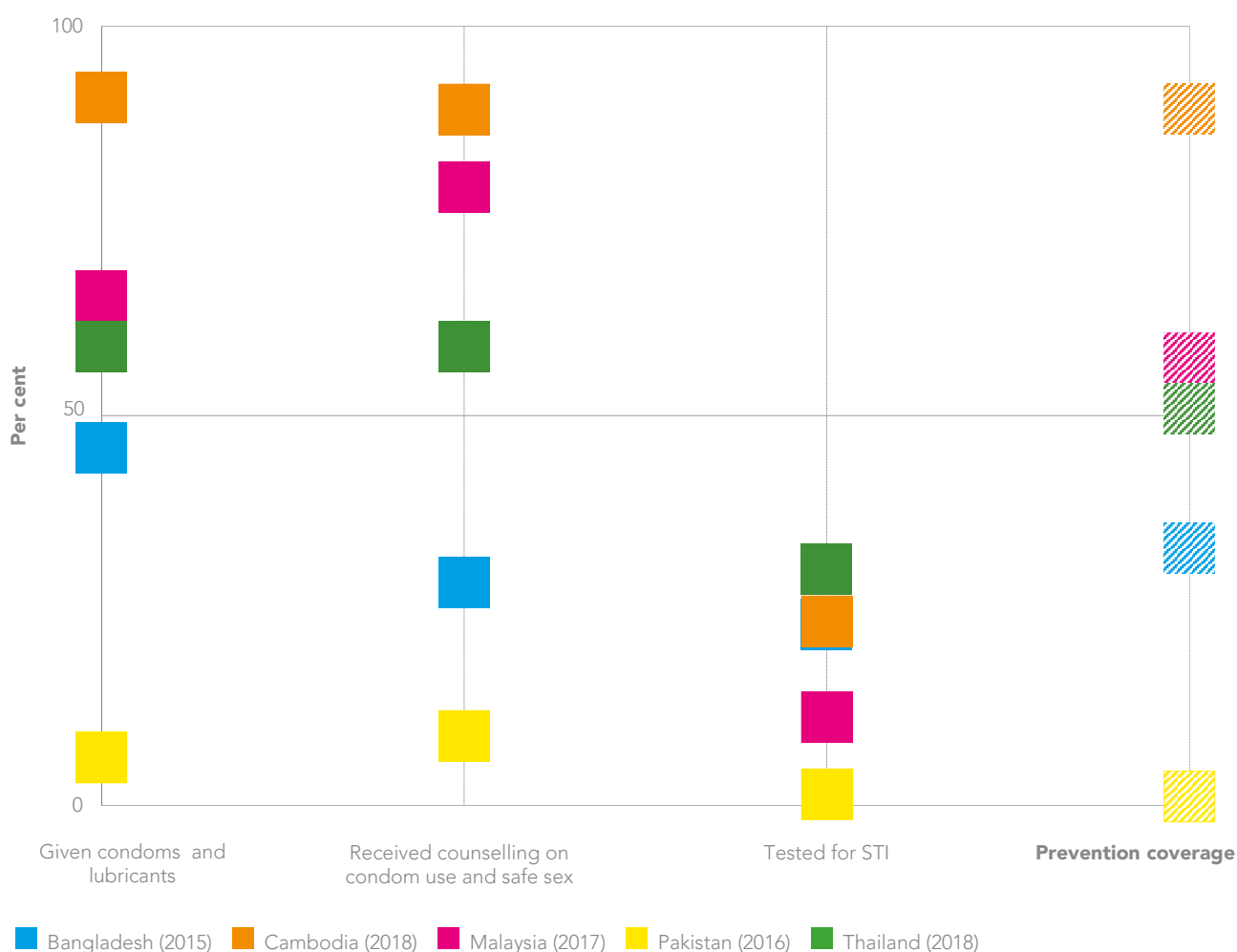
Note 2: Possible prevention services received among sex workers, gay men and other men who have sex with men and transgender people: condoms and lubricant, counselling on condom use and safe sex, and testing of STIs. Possible prevention services received among people who inject drugs: condoms and lubricant, counselling on condom use and safe sex, and clean needles or syringes.

Source: Global AIDS Monitoring, 2016–2018.

the closure of harm reduction programmes prevent people from accessing essential health services and impede progress toward reducing new HIV infections. In contrast, Cambodia and India have achieved high coverage of needle–syringe services (>200 needles and syringes per person who injects drugs per year) and moderate coverage of opioid substitution therapy services (coverage of 20–40%) (Figure 12.15). Despite this, needle–syringe programme coverage is extremely limited in Indonesia and Thailand, and opioid substitution therapy was either unavailable or rare in a number of countries, including Bangladesh, Pakistan, the Philippines and Thailand. ■

**ACCESS TO HARM REDUCTION SERVICES REMAINS VERY UNEVEN IN A REGION MARKED BY HOSTILE AND HIGHLY PUNITIVE APPROACHES TO DRUG USE.**

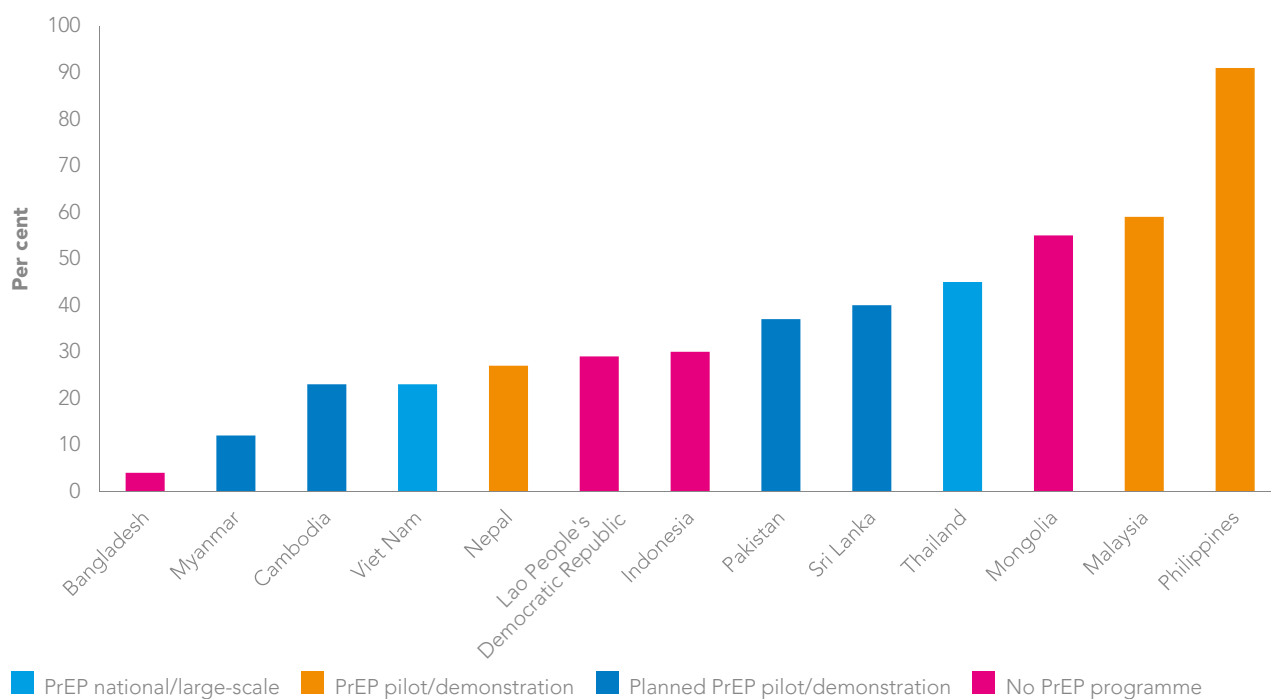
**FIGURE 12.13** Prevention coverage among transgender people, selected countries with available data, Asia and the Pacific, 2015–2018



Note: Prevention coverage is measured as a percentage of people in a key population reporting having received a combined set of HIV prevention interventions (at least two out of three services: given condoms and lubricants; received counselling on condom use and safe sex; and tested for STI) in the past three months.

Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org), based on 2018 and 2019 Global AIDS Monitoring.

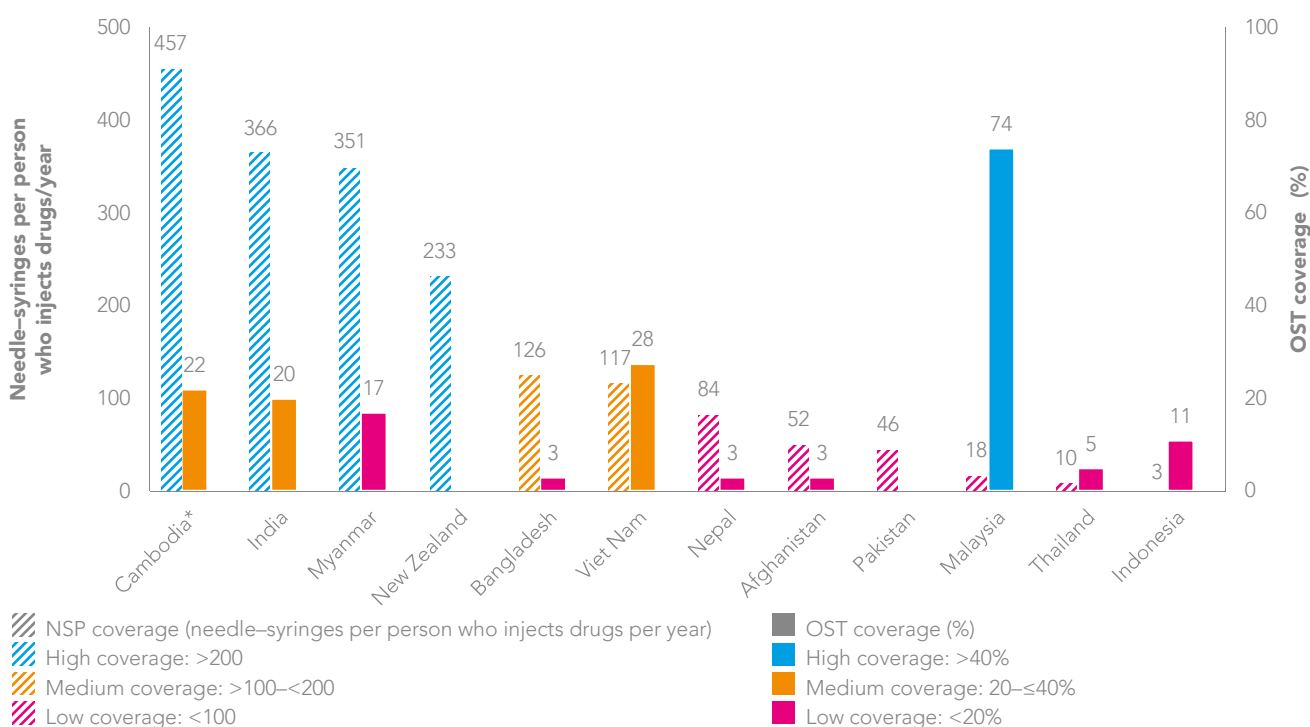
**FIGURE 12.14** Percentage of total adult HIV infections that are among gay men and other men who have sex with men, availability of PrEP, selected countries, Asia and the Pacific, 2018



Note: Data do not include drug registration and private sector availability. Antiretroviral medicines registered for use as PrEP are available in the private sector in several countries, including Malaysia, the Philippines, Thailand and Viet Nam. China and India are not included in the above graph since disaggregated new HIV infection data for gay men and other men who have sex with men are not available. India has completed a PrEP demonstration project, and China has a current demonstration project.

Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org) based on country-submitted AEM-Spectrum HIV estimates files and information from national programmes.

**FIGURE 12.15** Needle and syringe programme (NSP) and opioid substitution therapy (OST) coverage among people who inject drugs, selected countries with available data, Asia and the Pacific, 2018



\*2016 data for OST coverage

Source: Prepared by [www.aidsdatahub.org](http://www.aidsdatahub.org), based on 2019 Global AIDS Monitoring.



## CONFRONTING STIGMA AND DISCRIMINATION

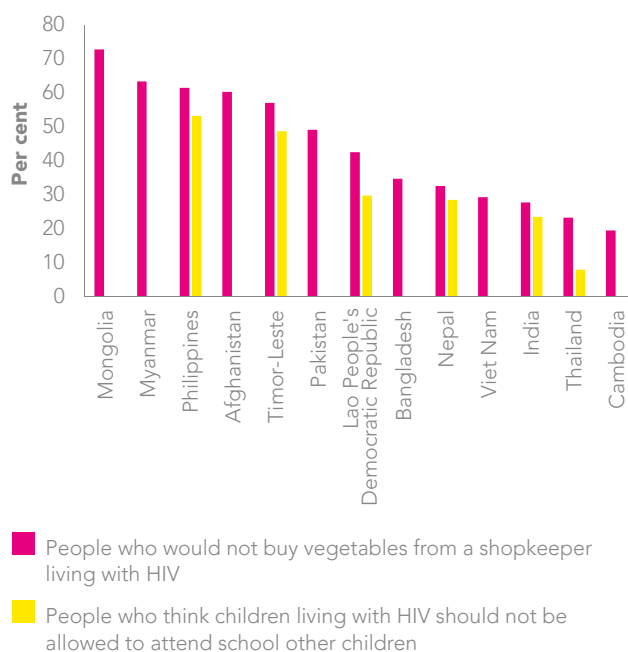
Stigma and discrimination continues to be a major impediment to HIV prevention, treatment and other health-related services in Asia and the Pacific. According to population-based surveys from 13 countries, at least 40% of people in seven of those countries said they would not buy vegetables from a vendor who was living with HIV. In five of six countries that reported data, more than 20% of people felt that children living with HIV should not be allowed to go to school with other children (Figure 12.16).

Thailand is one of the few countries in the region where concerted efforts, guided by strong national policies, are underway to reduce stigma and discrimination in the HIV response. Results from two rounds of surveys in Thailand (in 2014–2015 and 2017) indicate there has been progress made in reducing the HIV-related stigma and discrimination that is experienced by people living with HIV in health-care settings (Figure 12.18). Nonetheless, one out of 10 people living with HIV surveyed in 2017 reported experiencing stigma and discrimination in health-care settings, and one in three said they avoided attending a health facility due to internalized stigma (4).

Intimate partner violence, which can increase the risk of acquiring HIV among women and discourage their use of HIV and other health services, remains a challenge in Asia and the Pacific. In five of the 11 countries with relatively recent survey data, more than 20% of women said their husbands or male partners had physically and/or sexually assaulted them in the previous 12 months (Figure 12.17) (5). ■

**THAILAND IS ONE OF THE FEW COUNTRIES IN THE REGION WHERE CONCERTED EFFORTS, GUIDED BY STRONG NATIONAL POLICIES, ARE UNDERWAY TO REDUCE STIGMA AND DISCRIMINATION IN THE HIV RESPONSE.**

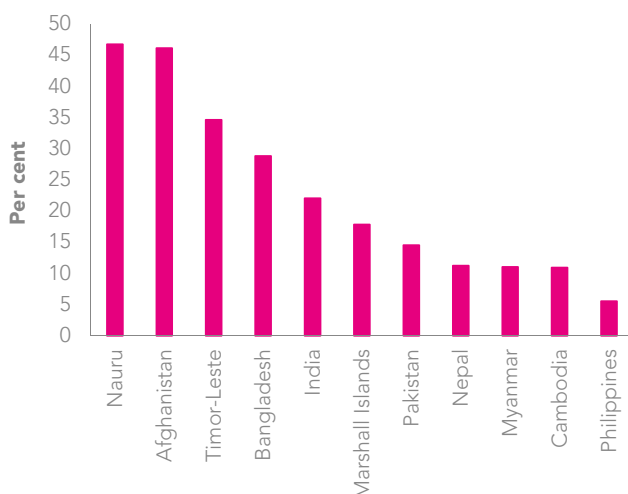
**FIGURE 12.16** Percentage of men and women aged 15–49 years with discriminatory attitudes towards people living with HIV, Asia and the Pacific, 2013–2017



Note: Data for Bangladesh, the Philippines and Viet Nam are for female respondents only.

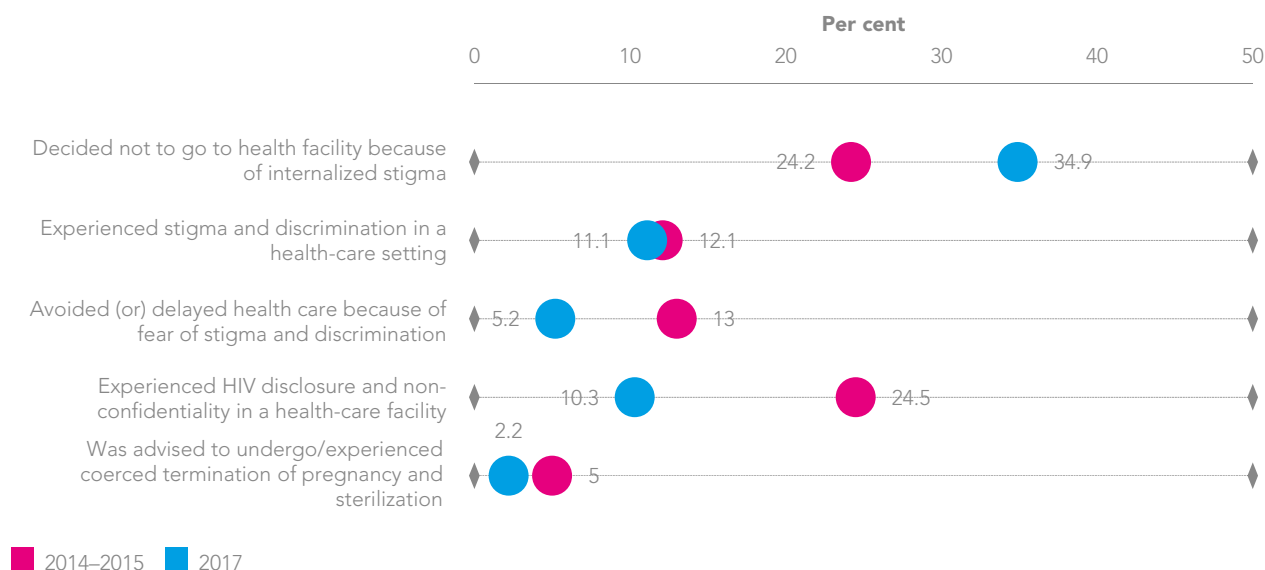
Source: Population-based surveys, 2013–2017, countries with available data.

**FIGURE 12.17** Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, Asia and the Pacific, most recent data, 2014–2018



Source: Population-based surveys, 2014–2018.

**FIGURE 12.18** Stigma and discrimination in health-care settings experienced by people living with HIV in the past 12 months, Thailand, 2014–2015 and 2017



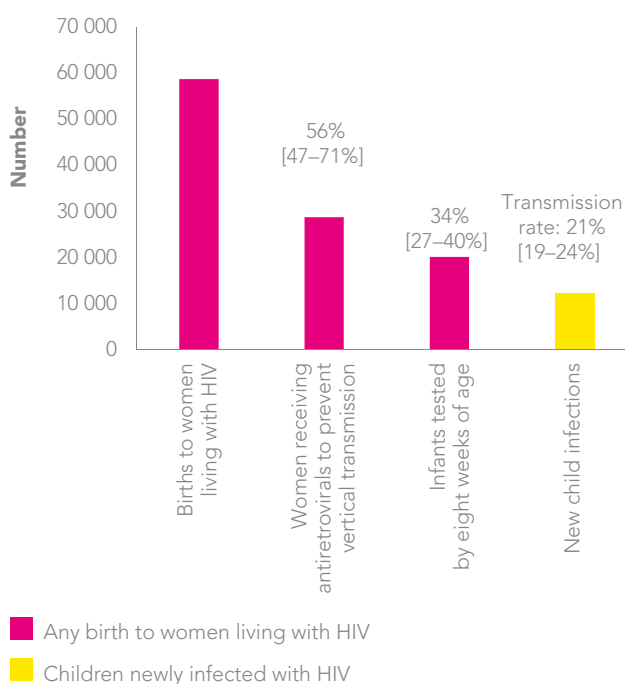
Source: Stigma and discrimination among health care providers and people living with HIV in health care settings in Thailand: comparison of findings from 2014–2015 and 2017. Bangkok: Ministry of Public Health [Thailand]; Oct 2018.

## ELIMINATING MOTHER-TO-CHILD TRANSMISSION

In October 2018, Malaysia became the second country in the region to be certified as having eliminated mother-to-child transmission of both HIV and syphilis (following Thailand's certification in 2016) (3). In the region as a whole, coverage of programmes to prevent mother-to-child transmission has more than doubled since 2010, but there is wide variation between countries. An estimated 56% [47–71%] of HIV-positive pregnant women were receiving effective antiretroviral regimens in 2018 (Figure 12.19). Consequently, the regional rate of mother-to-child transmission of HIV was 21% [19–24%], which means that approximately 12 000 [9 800–18 000] children (aged 0–14 years) acquired HIV in 2018.

Coverage of early infant diagnosis is similarly uneven, ranging from more than 90% in Malaysia, Singapore and Thailand to extremely low levels in Afghanistan, Indonesia, Pakistan and the Philippines. In the region as a whole, an estimated 34% [27–40%] of children exposed to HIV received early infant diagnosis. ■

**FIGURE 12.19** Cascade of services for preventing vertical transmission, numbers of new HIV infections and transmission rate, Asia and the Pacific, 2018



Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.

## INVESTING TO END AN EPIDEMIC

There has been a modest but steady increase in resources available for the HIV response in Asia and the Pacific since 2010.<sup>2</sup> A doubling of domestic resources for HIV programmes between 2010 and 2018, from US\$ 1.4 billion to US\$ 2.8 billion, was largely responsible for a 32% total increase in resources (to US\$ 3.5 billion) available for HIV responses (Figure 12.20).

The domestic share of HIV funding grew from 53% in 2010 to 81% in 2018. China, India, Malaysia and Thailand now fund their national HIV responses almost entirely from domestic resources. Indonesia more than doubled its domestic resources for HIV compared to 2010 levels, but the current investment in the country remains significantly below the funding needed.

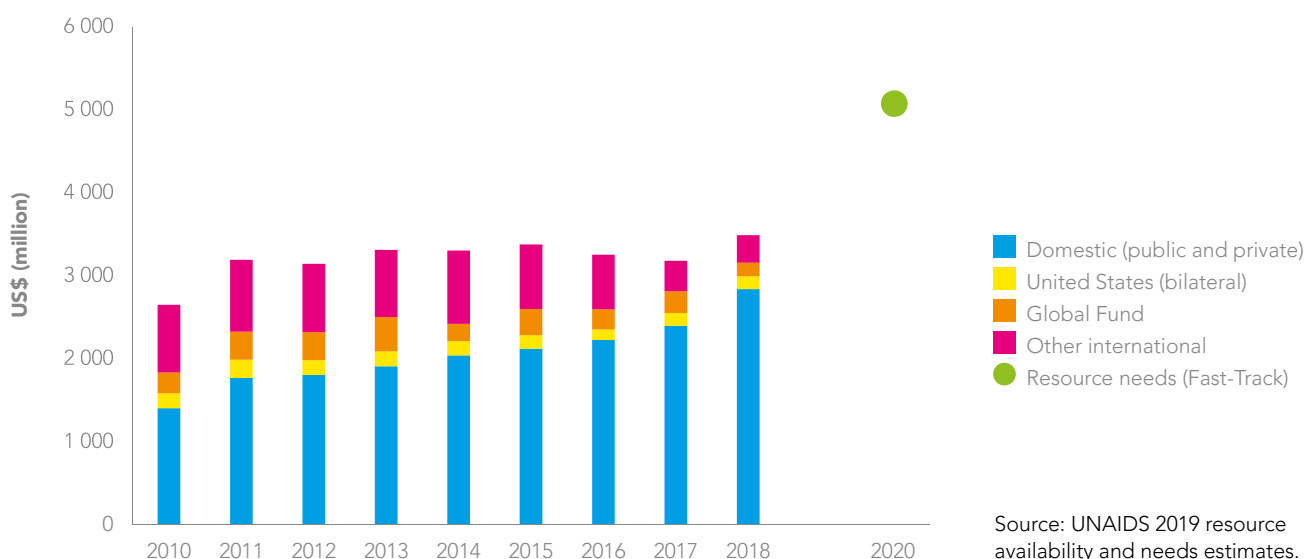
International contributions diminished by 48% between 2010 and 2018. Bilateral disbursements from the Government of the United States of America

decreased by 14%, resources from the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) declined by 35% and all other international resources were reduced by 59%.<sup>3</sup>

The change in resource availability between 2017 and 2018 showed an increase of 10% (in constant 2016 US dollars). Domestic resources increased by 18% and United States bilateral resources increased by 2%, while the Global Fund's resources in the region decreased by 38%. All other international channels decreased by 10%.

Total resource availability fell short of the estimated US\$ 5 billion needed to reach the 2020 Fast-Track Targets. Bridging that gap requires an increase of about 40% in HIV resources by 2020, and programme effectiveness and improved efficiencies are needed in several countries in the region. ■

**FIGURE 12.20.** HIV resource availability, by source, Asia and the Pacific, 2010–2018, and projected resource needs by 2020



<sup>2</sup> Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the Investing to End an Epidemic chapter.

<sup>3</sup> The Global Fund disbursements to countries decreased by 20% in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

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4. Stigma and discrimination among health-care providers and people living with HIV in health-care settings in Thailand: comparison of findings from 2014–2015 and 2017. Bangkok: Ministry of Public Health [Thailand]; October 2018.
5. Various population-based surveys, 2014–2018.





**FIGURE 13.1** Self-testing in national policies, Latin America, 2018



Source: 2019 Global AIDS Monitoring.

# LATIN AMERICA

## AT A GLANCE

Although several countries show impressive declines in HIV incidence, the number of new HIV infections in the region increased by 7% between 2010 and 2018.

Progress towards the 90–90–90 targets has been steady, but inconsistent access to health services and challenges to patient follow-up and adherence are impeding faster progress.

Monitoring stigma and discrimination remains a challenge. Mechanisms for reporting, litigating and tracking cases of human rights violations are required.

Humanitarian responses to the high levels of population mobility in the region that have arisen due to political instability must guarantee HIV services for migrants and asylum seekers.

Programmes for key populations in some countries remain highly dependent on donor funding that is rapidly decreasing.

The HIV response in Latin America is predominantly funded with domestic resources. However, there has been insufficient domestic investment in programming for key populations, including the expansion of prevention services for gay men and other men who have sex with men, female sex workers and transgender people. In the countries that are heavily dependent on international donor funding, rapid decreases in such resources threaten the sustainability of these programmes.

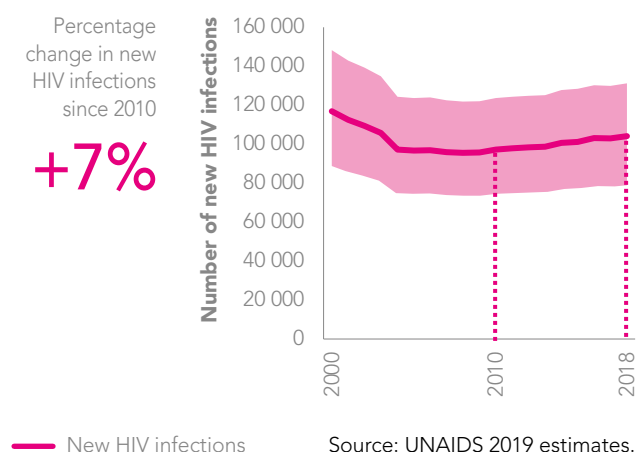
Latin America faces additional challenges, including dramatically increasing levels of migration due to sociopolitical uncertainty. HIV treatment coverage has plummeted in the Bolivarian Republic of Venezuela, and people living with HIV are migrating to other countries to seek access to HIV treatment and other health-related care. Many of these migrants pass through multiple countries, each of which must provide for their health needs and overall well-being, in addition to those of their residents.

Greater focus on increasing access to testing, improving linkage to care and supporting treatment adherence is needed in the region in order to reach the 90–90–90 testing and treatment targets by 2020. The introduction of diagnostic strategies—such as self-testing in Brazil and Mexico—is increasing programmatic testing yield (Figure 13.1).

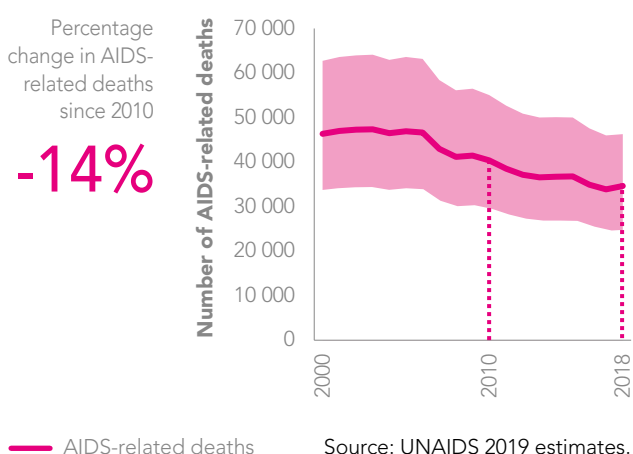
Although attention has been paid to HIV-related stigma and discrimination, it remains a challenge to the success of national HIV responses. For example, recent policy changes related to social contracting of civil society organizations in Mexico could potentially reverse the advances made in community-based HIV programming, especially for key populations. Retaining social contracting as a strategic partnership approach would reinforce the national response to AIDS. ■

## STATE OF THE EPIDEMIC

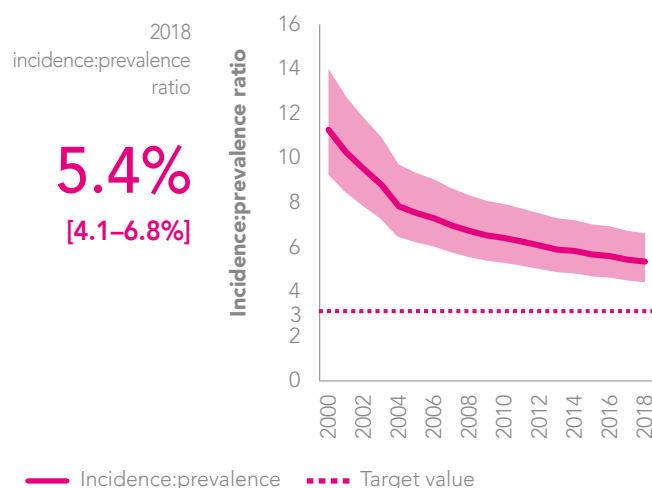
**FIGURE 13.2** Number of new HIV infections, Latin America, 2000–2018



**FIGURE 13.3** Number of AIDS-related deaths, Latin America, 2000–2018



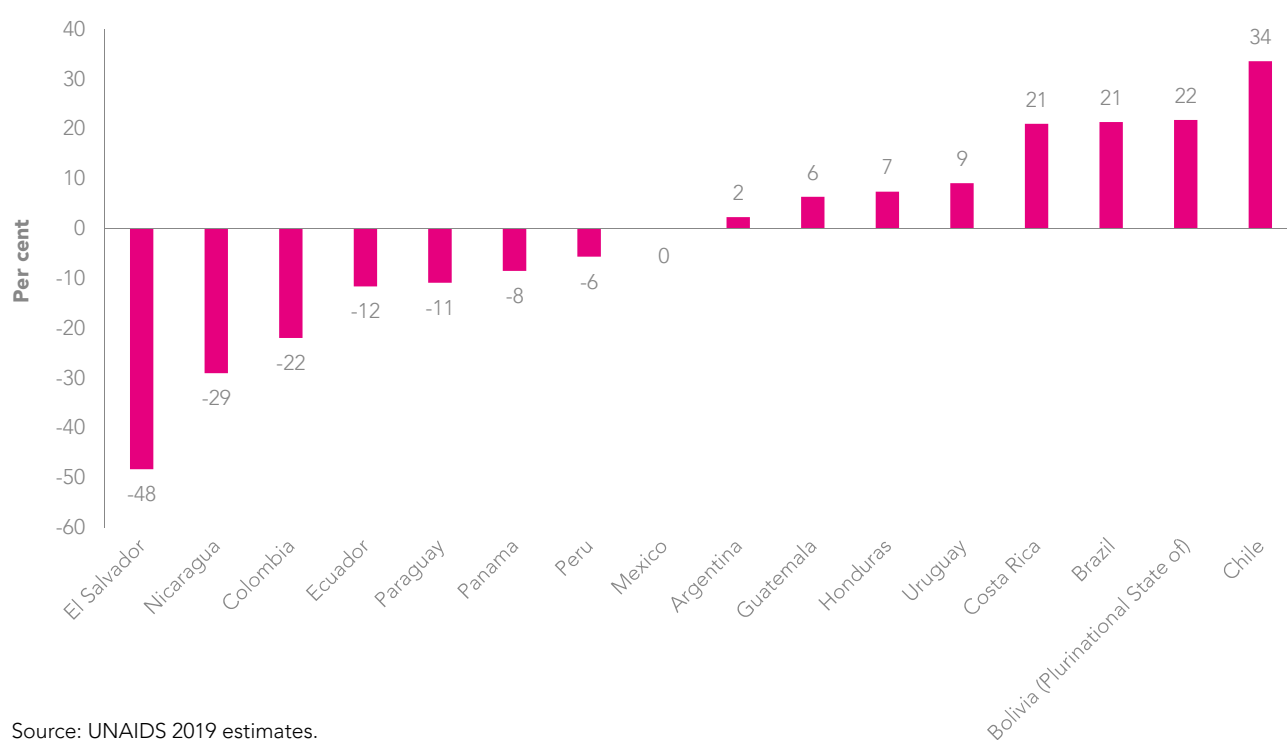
**FIGURE 13.4** Incidence:prevalence ratio, Latin America, 2000–2018



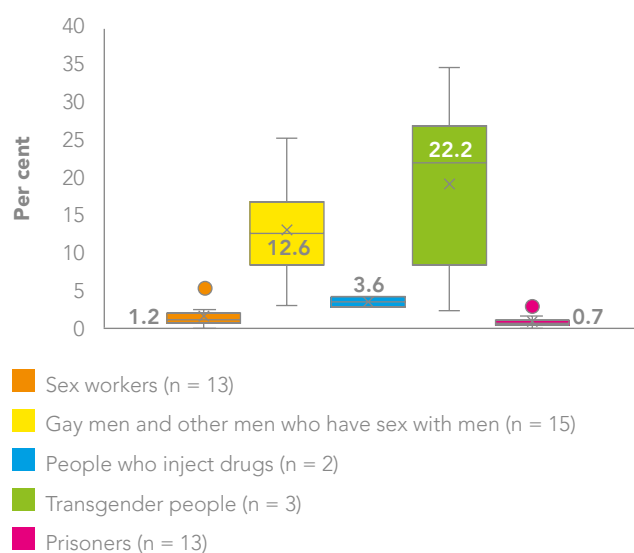
An estimated 100 000 [79 000–130 000] people acquired HIV in Latin America in 2018, a 7% increase compared with 2010 (Figure 13.2). Roughly half of the countries in the region saw increases in incidence between 2010 and 2018, with the largest increases occurring in Brazil (21%), Costa Rica (21%), the Plurinational State of Bolivia (22%) and Chile (34%). At the same time, impressive declines in El Salvador (-48%), Nicaragua (-29%) and Colombia (-22%) were observed (Figure 13.5). Forty per cent of new infections in 2018 were among gay men and other men who have sex with men (Figure 13.7): among 15 countries providing data, prevalence exceeded 20% in two countries and 10% in a further seven. Among the 13 countries providing data, HIV prevalence was highest among transgender people, at 30% or more in three countries and more than 20% in a further five (Figure 13.6).

The annual number of AIDS-related deaths in the region decreased by 14% between 2010 and 2018, with an estimated 35 000 [25 000–46 000] lives lost to AIDS-related causes in 2018 (Figure 13.3). The region's incidence-prevalence ratio continues to decrease, reaching 5.4% [4.1–6.8%] in 2018, but further progress is needed to reach the 3.0% epidemic transition benchmark (Figure 13.4).

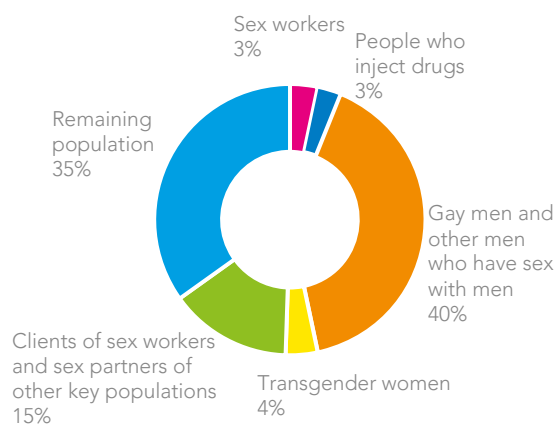
There are significant differences among countries in the availability of data on key population size (Table 13.1). Only four of eight countries reported data for more than two populations, and no countries provided data on people who inject drugs. Given the high prevalence and incidence of HIV among gay men and other men who have sex with men and transgender people in the region, national health information systems should be strengthened and expanded to collect comprehensive data about these populations. ■

**FIGURE 13.5** Percentage change in new HIV infections, by country, Latin America, 2010–2018

Source: UNAIDS 2019 estimates.

**FIGURE 13.6** HIV prevalence among key populations, Latin America, 2014–2018

Source: Global AIDS Monitoring, 2014–2018.

**FIGURE 13.7** Distribution of new HIV infections (aged 15–49 years), by population group, Latin America, 2018

Source: UNAIDS special analysis, 2019.

**TABLE 13.1** Estimated size of key populations, Latin America, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Bolivia (Plurinational State of)	7 711 000										
Chile	14 538 000									42 000	0.29
Costa Rica	3 893 000									100	<0.1
Mexico	96 429 000	240 000	0.25	1 200 000	1.23			120 000	0.12	200 000	0.21
Panama	3 033 000										
Peru	23 731 000										
Uruguay	2 743 000	6 900	0.25	25 000	0.92			1 600	0.06		
Venezuela	23 545 000							15 000	0.06		

■ National population size estimate 
 ■ Local population size estimate 
 ■ Insufficient data 
 ■ No data

The regions for which the local population size estimate refers are as follows:

Costa Rica: Gran Área Metropolitana

Panama: Azuero, Bocas del Toro, Chiriquí, Coclé, Comarca Ngäbe-Buglé, Panamá Centro, Panamá Este, Panamá Oeste, Panamá Norte and Veraguas

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).

## REMOVING BARRIERS TO AFFORDABLE TREATMENT

Equitable access to affordable medicines remains a major concern in Argentina and other upper- and middle-income countries in Latin America. Due to the income classification of these countries, they often do not benefit from voluntary licensing agreements and drug access programmes from pharmaceutical companies that would greatly reduce the prices they pay for antiretroviral medicines. In response, communities of people living with HIV have been monitoring patent applications and, with the support of legal experts, challenging patents that may block access to treatment. Success can reduce the overall costs of medicines through increased competition and the import of more affordable generic versions of drugs.

Leading such efforts in Argentina is the non-profit organization Fundación Grupo Efecto Positivo (FGEP). With support from the International Treatment Preparedness Coalition, FGEP filed two patent oppositions, lobbied decision-makers, engaged in policy dialogues and supported the government's efforts to pursue generic purchasing and encourage generic drug suppliers to enter the Argentine market. This legal, technical and advocacy campaign led to a 94% price reduction for the country's first-line regimen—a savings of US\$ 37 million for the country's national AIDS programme (1). (Full story on page 93.)



## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

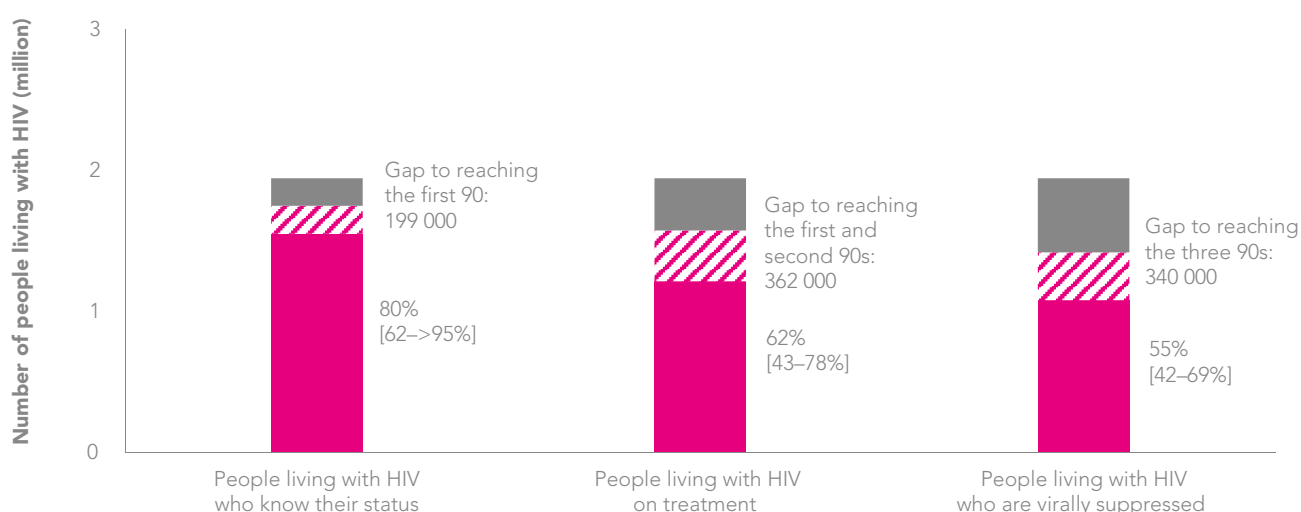
The proportion of the region's estimated 1.9 million [1.6 million–2.4 million] people living with HIV who knew their status rose to 80% [62–>95%] in 2018, up from 75% [58–>95%] in 2017 and 70% [53–89%] in 2015. Similar increases were observed in the percentage of people living with HIV accessing antiretroviral therapy (from 57% [41–72%] in 2017 to 62% [43–78%] in 2018) and those who were virally suppressed (from 50% [37–62%] in 2017 to 55% [42–69%] in 2018). Reaching all three targets will require an additional 199 000 people living with HIV knowing their status, 362 000 additional people on treatment, and an additional 340 000 people living with HIV who are virally suppressed (Figure 13.8).

In 2018, 80% of people living with HIV in the region knew their HIV status, more than three quarters who knew their HIV status were on treatment, and nearly nine in 10 of all people on treatment were virally suppressed (Table 13.2). Although no individual country in Latin America has achieved all three of the 90–90–90 targets, viral suppression among people on treatment in Brazil (the country with the largest HIV burden in

the region) reached 94% in 2018. Uruguay has had particular success reaching women living with HIV: more than 95% of women living with HIV knew their status, and 95% of women on treatment had achieved viral suppression. Despite these achievements, viral suppression among adults (aged 15 and older) living with HIV remained well under 50% in many countries in the region (Figure 13.9).

Among the many obstacles to achieving the 90–90–90 targets in the region, linkage to care following diagnosis is the largest gap. Late diagnosis also continues to be a challenge, with over 40% of people diagnosed with a CD4 count of under 350 cells per mm<sup>3</sup> in 12 of 14 reporting countries (Figure 13.10). In Guatemala, 71% of people had a CD4 count of under 350 cells per mm<sup>3</sup> at diagnosis, and nearly half (46.9%) had advanced HIV disease (CD4 count of under 200 cells per mm<sup>3</sup>). More than 20% of people diagnosed in an additional five countries—and more than 30% in seven more—had advanced HIV disease. ■

**FIGURE 13.8 HIV testing and treatment cascade, Latin America, 2018**



Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**TABLE 13.2 90–90–90 country scorecard: Latin America, 2018**

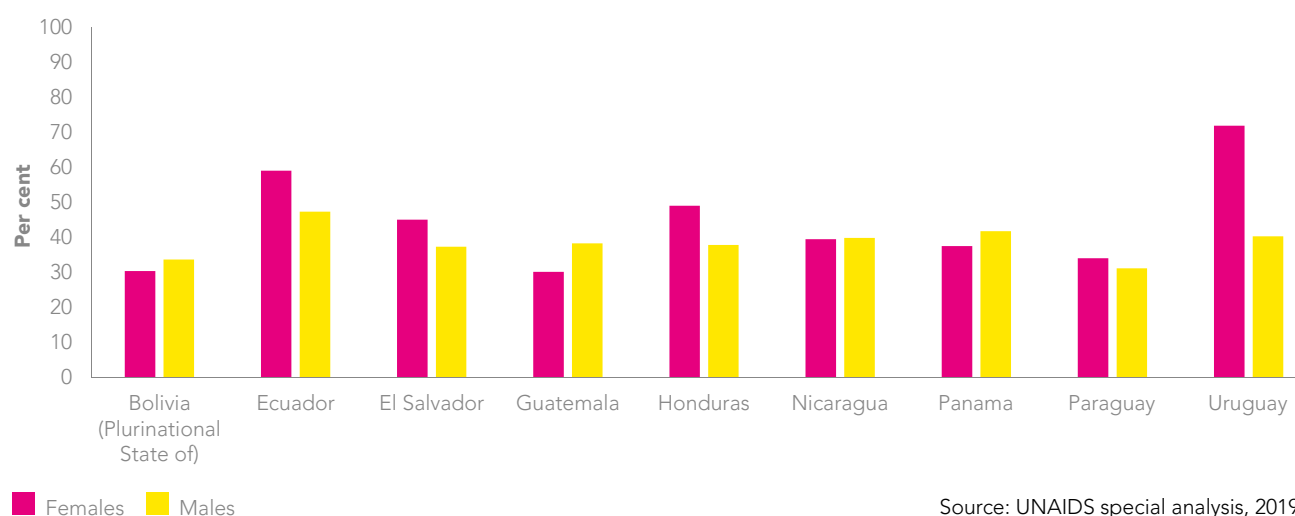
	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Latin America</b>	<b>80</b>	<b>83</b>	<b>79</b>	<b>78</b>	<b>75</b>	<b>80</b>	<b>89</b>	<b>89</b>	<b>89</b>	<b>55</b>	<b>55</b>	<b>56</b>
Argentina												
Bolivia (Plurinational State of)							74	68	76	33	30	34
Brazil	85			77			94			62		
Chile		77	88		69	74						
Colombia												
Costa Rica												
Ecuador	76	84	73	75	74	75	89	95	87	51	59	47
El Salvador	74	78	74	63	67	60	85	86	84	40	45	37
Guatemala	62	56	65	69	68	72	80	79	81	34	30	38
Honduras	60	71	53	85	85	84	83	81	85	42	49	38
Mexico	76			93			89			63		
Nicaragua							74	74	75	40	39	40
Panama	70	56	77	76	81	74	76	83	73	41	37	42
Paraguay	71	84	65	57	52	60	79	79	80	32	34	31
Peru												
Uruguay	82	>95	75	70	73	68	86	>95	79	50	72	40
Venezuela (Bolivarian Republic of)												

**90–90–90:** ■ 90% and above ■ 85–89% ■ 70–84% ■ 50–69% ■ Less than 50%

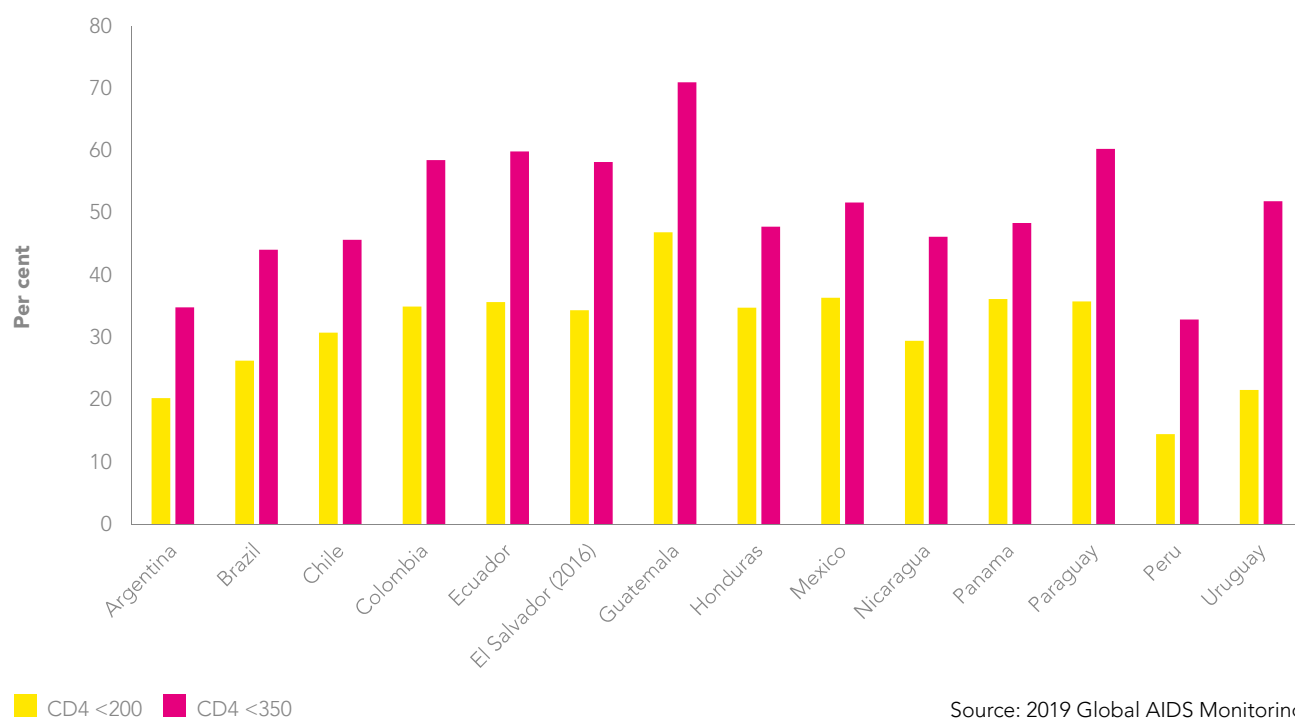
**Viral load suppression:** ■ 73% and above ■ 65–72% ■ 40–64% ■ 25–39% ■ Less than 25%

Source: UNAIDS special analysis, 2019.

**FIGURE 13.9** Viral load suppression among adults (15 years and older) living with HIV, by sex, Latin America, 2018



**FIGURE 13.10** Percentage of people living with HIV with a low CD4 count at initiation of antiretroviral therapy, Latin America, 2018

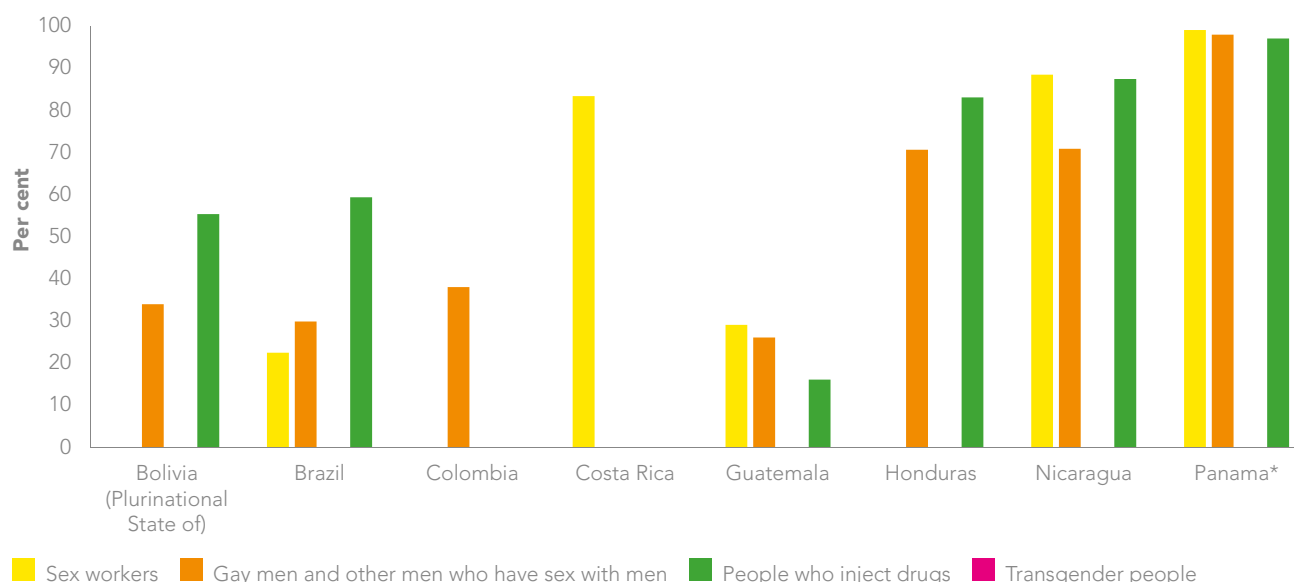


## A COMBINATION APPROACH TO PREVENTION

There is a pressing need for improved combination HIV prevention in the region, particularly for key populations at higher risk of HIV infection. No country had public policies that included the delivery of all nine prevention services recommended by the World Health Organization (WHO) for gay men and other men who have sex with men or transgender women, and only two countries had such policies for female sex workers (Table 13.3). Three quarters (76%) of countries had public policies for the delivery of five to eight of the services to all three of these populations.

In addition, there are disparities in the coverage of prevention services. For example, between 55.3% and 97% of transgender people reported having received at least two prevention services in the last three months, except in Guatemala, where only 16% of transgender people report such services (Figure 13.11). Among other key populations, only 29.4% of sex workers in Peru—and 26.3% of gay men and other men who have sex with men and 42.9% of transgender people in Colombia—reported the same service coverage. ■

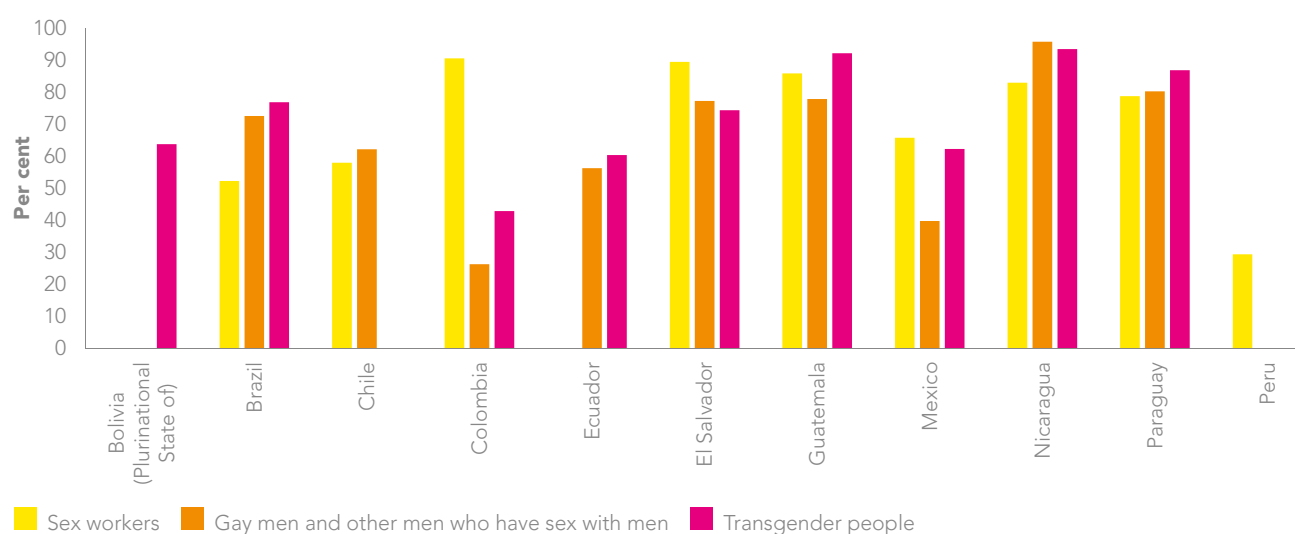
**FIGURE 13.11** Percentage of key populations who reported receiving at least two prevention services in the past three months, Latin America, 2016–2018



Note 1: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values due to the use as a denominator of the number of key population members that are linked to the programme) and not from a survey.

Note 2: Possible prevention services received among sex workers, gay men and other men who have sex with men and transgender people: condoms and lubricant, counselling on condom use and safe sex, and testing of sexually transmitted infections. Possible prevention services received among people who inject drugs: condoms and lubricant, counselling on condom use and safe sex, and clean needles or syringes.

Source: Global AIDS Monitoring, 2016–2018.

**FIGURE 13.12** Knowledge of status among key populations, Latin America, 2016–2018

Note: Data shown come from surveys, which are typically conducted in areas with high prevalence and needs and may not be nationally representative.

Source: Global AIDS Monitoring, 2016–2018.

**TABLE 13.3** Number of countries with public policies for delivery of HIV prevention services recommended by World Health Organization, by key population, Latin America

Latin America	Gay men and other men who have sex with men	Female sex workers	Transgender women
HIV testing and counselling	17	17	17
Sexually transmitted infection diagnosis and treatment	17	17	17
PrEP	5	4	5
Post-exposure prophylaxis (PEP)	4	4	4
Condoms	17	16	14
Lubricants	13	12	10
Antiretroviral therapy for all	12	12	12
Peer-led community outreach activities	12	15	12
Sexual health information and education	12	11	11
Number of countries with public policies for delivery of all nine services	0	2	0
Number of countries with public policies for delivery of five to eight services	13	13	13
Number of countries with public policies for delivery of four services or less	4	2	4

Note: Number of countries in the region (n = 17)

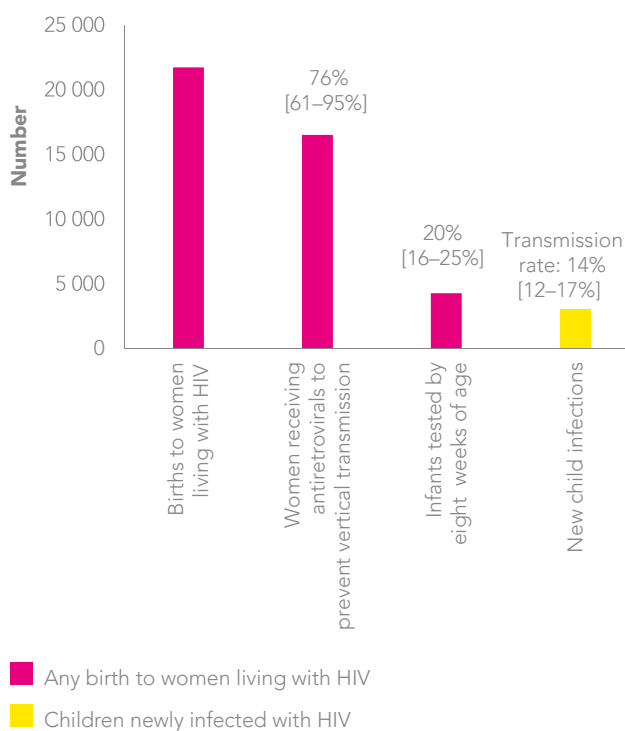
Source: HIV prevention in the spotlight: an analysis from the perspective of the health sector in Latin America and the Caribbean, 2017. Washington (DC): Pan American Health Organization, UNAIDS; 2017.



## ELIMINATING MOTHER-TO-CHILD TRANSMISSION

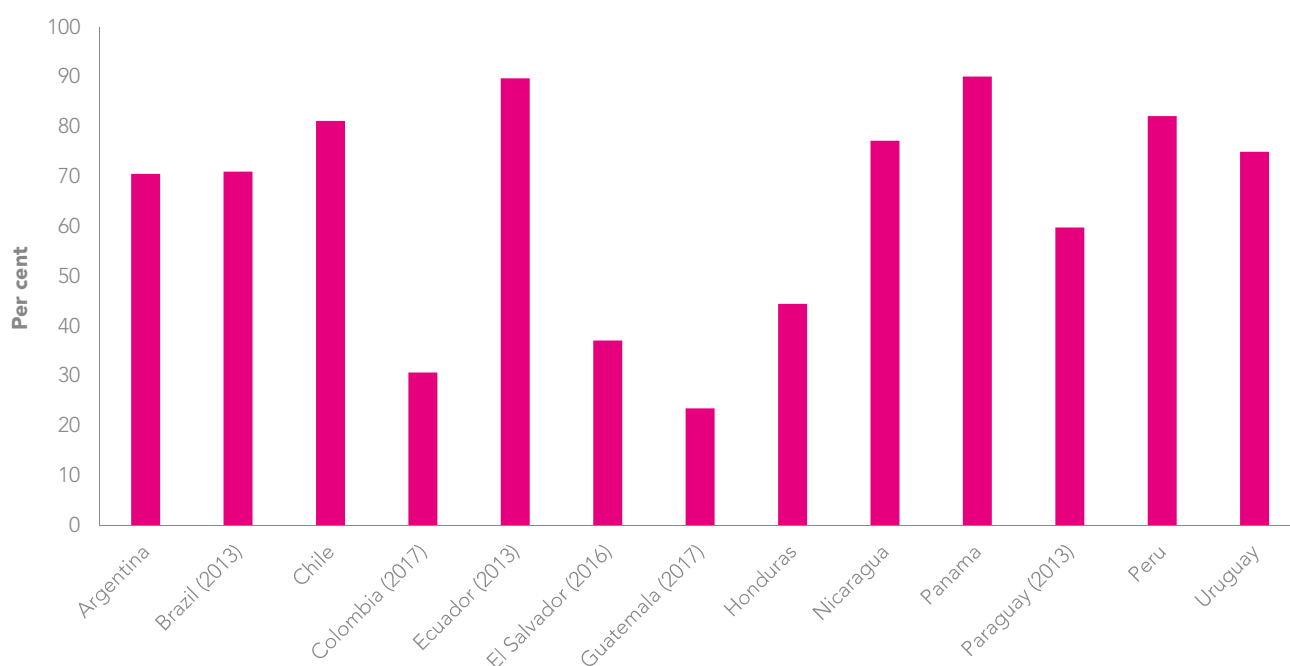
Regionally, progress on eliminating mother-to-child transmission of HIV is mixed. The percentage of pregnant women living with HIV receiving antiretroviral prophylaxis to prevent vertical transmission of HIV and protect their own health was 76% [61–95%] in 2018, and the rate of mother-to-child transmission was 14% [12–17%] in 2018 (Figure 13.13). Several countries in the region are close to reaching dual elimination of mother-to-child transmission of HIV and syphilis. National programmes should include the appropriate interventions to achieve the elimination of mother-to-child transmission of HIV, syphilis, Chagas disease and perinatal hepatitis B (2). ■

**FIGURE 13.13** Cascade of services for preventing vertical transmission, numbers of new HIV infections and transmission rate, Latin America, 2018



Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.

**FIGURE 13.14** Percentage of infants receiving HIV testing in the first 4–6 weeks, Latin America, 2018



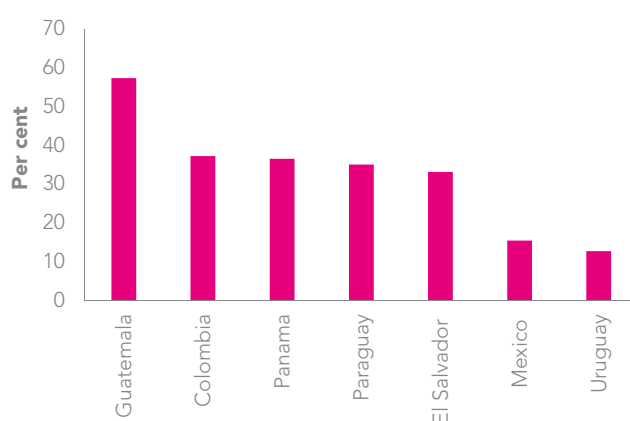
Source: 2019 Global AIDS Monitoring.

## CONFRONTING STIGMA AND DISCRIMINATION

Stigma and discrimination continue to impede the HIV response in many countries in the region, with 30% of people surveyed in five of seven countries with recent data saying they would not purchase vegetables from a vendor living with HIV (Figure 13.15). In Guatemala, the rate was 57%.

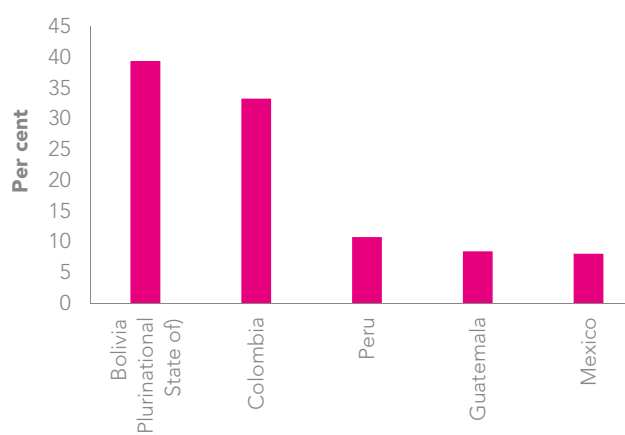
Women in some countries also continue to face high levels of physical and/or sexual violence by an intimate partner: nearly 40% in the Plurinational State of Bolivia, 33% in Colombia, almost 11% in Peru, and around 8% in both Guatemala and Mexico (Figure 13.16). ■

**FIGURE 13.15** Percentage of men and women aged 15–49 years who would not buy vegetables from a shopkeeper living with HIV, Latin America, 2013–2016



Source: Population-based surveys, 2013–2016, countries with available data.

**FIGURE 13.16** Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, Latin America, most recent data, 2015–2016



Source: Population-based surveys, 2015–2016.

### DECRIMINALIZATION OF HIV IN COLOMBIA AND MEXICO

Criminalization of perceived, potential or actual HIV transmission and criminalization of non-disclosure of HIV-positive status continues to slow the HIV response and violate the rights of people living with HIV in many countries. Supported by health and legal experts, networks of people living with HIV have been working hard to challenge such legislation. Two recent victories were achieved in Colombia and Mexico's Veracruz state. In June 2019, Colombia's Supreme Court overturned a section of the criminal code that criminalizes HIV and hepatitis B transmission. The court challenge was supported by Colombian nongovernmental organizations, international human rights organizations and United Nations agencies (3).

In Veracruz, a coalition including Grupo Multi de Veracruz, HIV Justice Worldwide and the National Human Rights Commission challenged the constitutionality of an amendment to the criminal code that would impose a penalty of six months to five years in prison for anyone who "willfully" transmits HIV. Two years of sustained campaigning by the coalition brought success: in May 2018, the Supreme Court found that the amendment to the Penal Code of the State of Veracruz was invalid. The court ruled that the law violated several fundamental rights, including the rights to equality before the law, to personal freedom and to nondiscrimination (4). (Full story on page 132.)

## INVESTING TO END AN EPIDEMIC

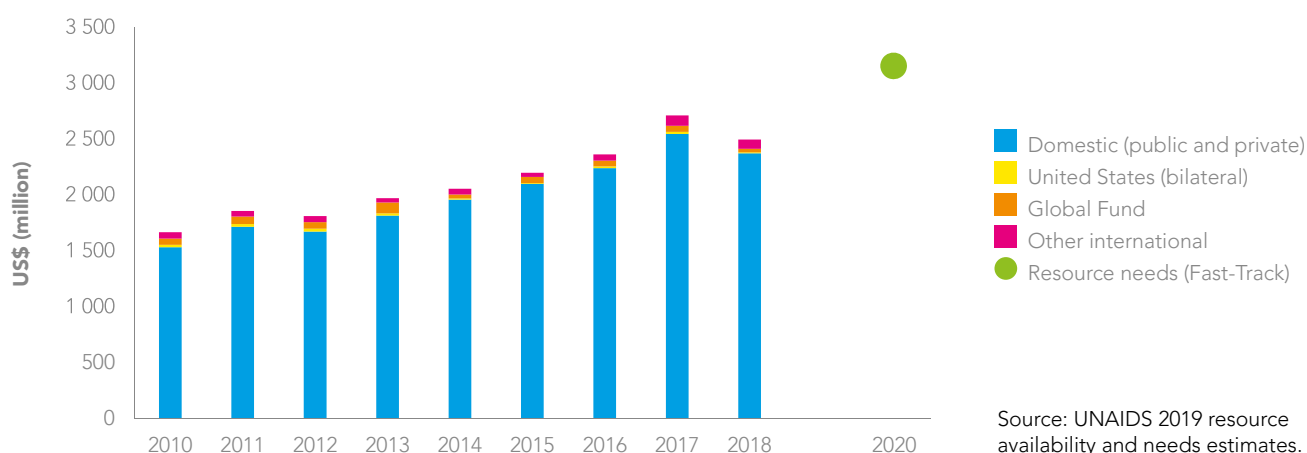
Latin American countries used domestic resources for 95% of the region's HIV response financing in 2018.<sup>1</sup> The availability of financial resources for HIV responses in the region has increased by 50% since 2010, mainly due to a 55% increase in domestic public resources, which accounted for US\$ 2.4 billion in 2018 (2016 constant US dollars) (Figure 13.17). Over the same period, bilateral contributions from the Government of the United States of America decreased by 62% and contributions from the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) decreased by 44%. Contributions from all other donors increased by 47%.

Funding from all sources decreased in 2018 compared to 2017. Domestic resources decreased by 7%, and international funding decreased by 8% overall: bilateral

contributions from the Government of the United States decreased by 56%, contributions from the Global Fund decreased by 42% and contributions from all other international sources decreased by 10%, for a total of US\$ 124 million (2016 constant US dollars).<sup>2</sup>

The funding gap for reaching the 2020 target was US\$ 660 million in 2018. Resource mobilization strategies, price reductions for commodities, better resource allocation and other efficiency gains are needed, as is greater investment in key populations and social enablers. Countries that are still heavily reliant on donor funds need to develop and implement plans for a transition to sustainable, domestically resourced HIV responses. ■

**FIGURE 13.17. HIV resource availability, by source, Latin America , 2010–2018, and projected resource needs by 2020**



Source: UNAIDS 2019 resource availability and needs estimates.

1 Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the Investing to End an Epidemic chapter.

2 The Global Fund disbursements to countries decreased by 20% in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

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☐ No ☐ Yes

Source: 2019 Global AIDS Monitoring.



# CARIBBEAN

## AT A GLANCE

There have been welcome decreases in new HIV infections and AIDS-related deaths in the region. However, efforts to expand treatment coverage have stalled.

Many people living with HIV are diagnosed several years after they acquire the virus. Policies and strategies are needed to reach these people sooner.

Countries need stronger strategies to reach all pregnant women living with HIV and their children with services, including HIV and syphilis diagnosis and treatment.

Differentiated, decentralized and non-discriminatory services are required to expand combination prevention and treatment coverage, especially for young people.

As external donor support decreases, countries must continue to increase domestic investment and improve service delivery to accelerate progress toward ending AIDS.

Across the Caribbean, progress has been made in reducing new infections and AIDS-related deaths, but these gains appear tenuous. National responses are highly dependent on donor funding, especially for programmes focused on key populations. Access to evidence-informed combination prevention services varies markedly, and scale-up of these services is needed, including increased investment in community programmes, pre-exposure prophylaxis (PrEP) for individuals at high risk of HIV infection and assisted partner notification following an HIV diagnosis (Figure 14.1).

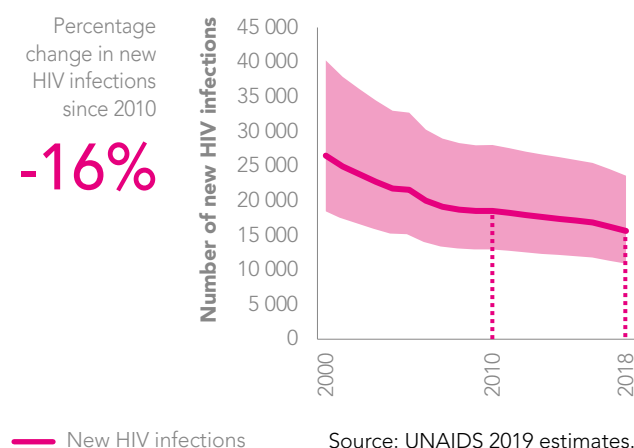
Many people living with HIV are diagnosed several years after they acquire the virus. Innovative testing strategies are required to reach those who have never been tested and to increase early diagnosis. In 2018, progress towards the second 90 (90% of people who know their HIV-positive status are accessing treatment) has stalled in the region due to slowing treatment uptake.

Discrimination against people living with HIV and key populations is a formidable barrier in the Caribbean, often fuelled by a lack of knowledge of HIV and human rights. Furthermore, there is little information on key populations; national health information systems should be strengthened to collect data to guide and monitor services for these populations. Rates of intimate partner violence experienced by women also are high in countries that report these data.

The region has made great strides towards the elimination of mother-to-child transmission, with Cuba being the first country to reach elimination in 2015; an additional six countries and territories reached that target in 2017. Cuba has since been re-certified. Treatment coverage among pregnant women living with HIV increased from 75% in 2017 to 86% in 2018, but programmes must be further scaled up to ensure elimination of mother-to-child transmission of HIV, syphilis, Chagas disease and perinatal hepatitis B (1). ■

## STATE OF THE EPIDEMIC

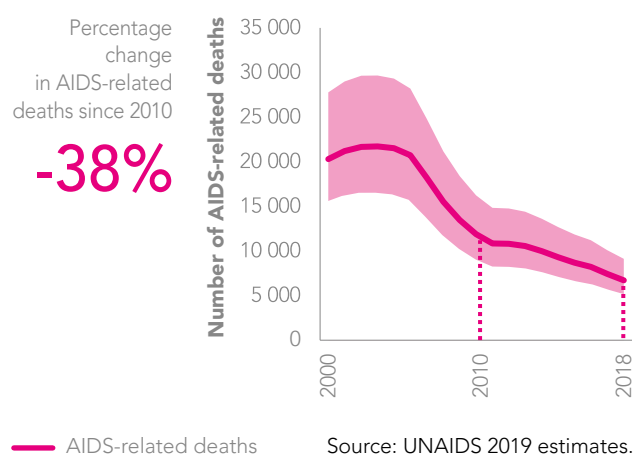
**FIGURE 14.2** Number of new HIV infections, Caribbean, 2000–2018



An estimated 16 000 [11 000–24 000] people acquired HIV in the Caribbean in 2018, 16% fewer than in 2010 (Figure 14.5). HIV incidence between 2010 and 2018 increased in only one country in the region: Belize (Figure 14.4). All other countries reported declining incidence, with the decline in the Bahamas and Cuba exceeding 20%.

There has been a 38% decrease in the annual number of AIDS-related deaths since 2010, with 6700 [5100–9100] deaths in 2018 (Figure 14.3). The region's incidence-prevalence ratio continued to decrease slowly, reaching 4.6% [3.2–7.0%] in 2018 (Figure 14.4).

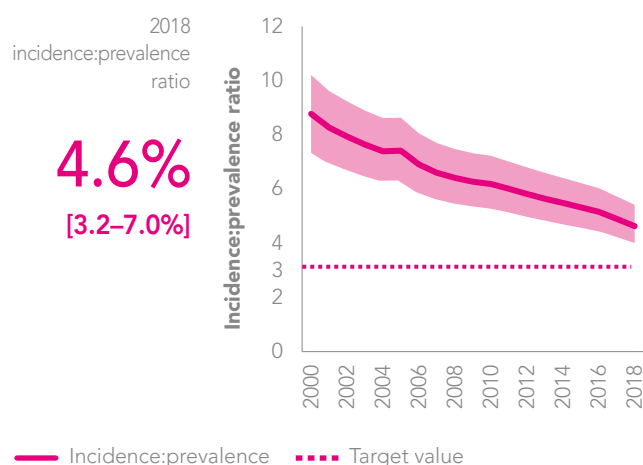
**FIGURE 14.3** Number of AIDS-related deaths, Caribbean, 2000–2018

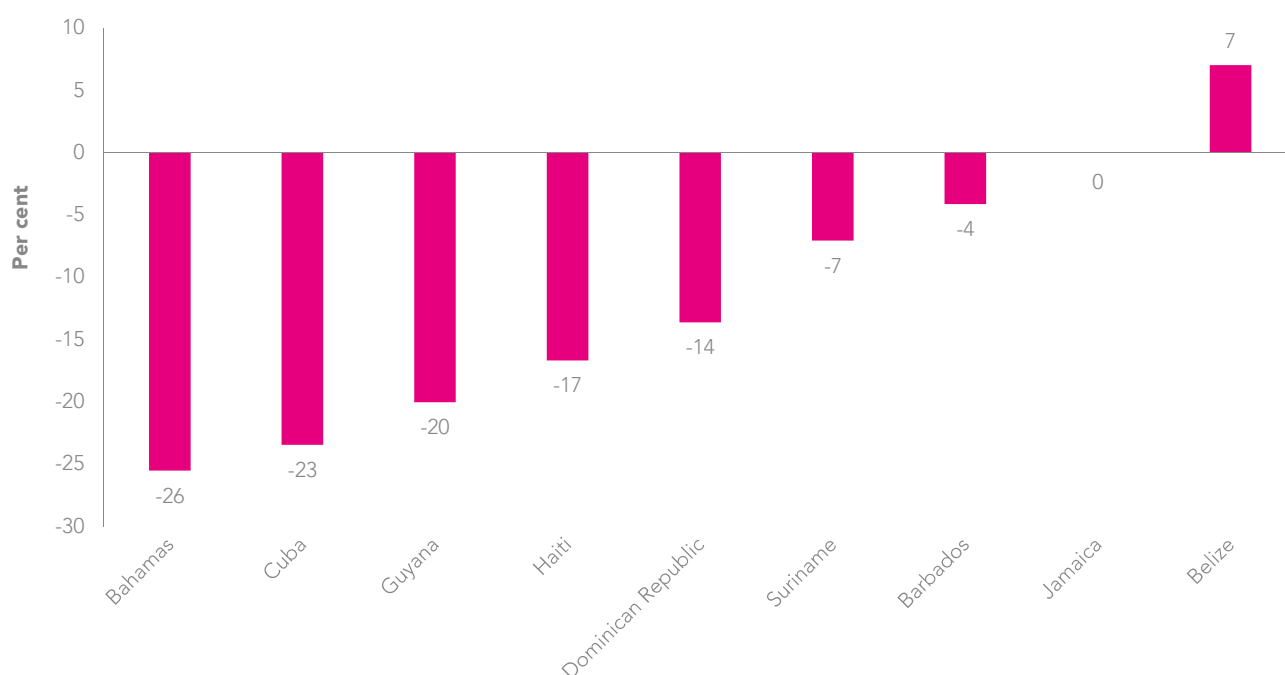


Key populations and their sexual partners accounted for nearly half (47%) of new HIV infections in the region in 2018, including nearly one quarter (22%) among gay men and other men who have sex with men and 5% among transgender people (Figure 14.7). Median HIV prevalence was 18% among transgender people and 9% among gay men and other men who have sex with men (Figure 14.6).

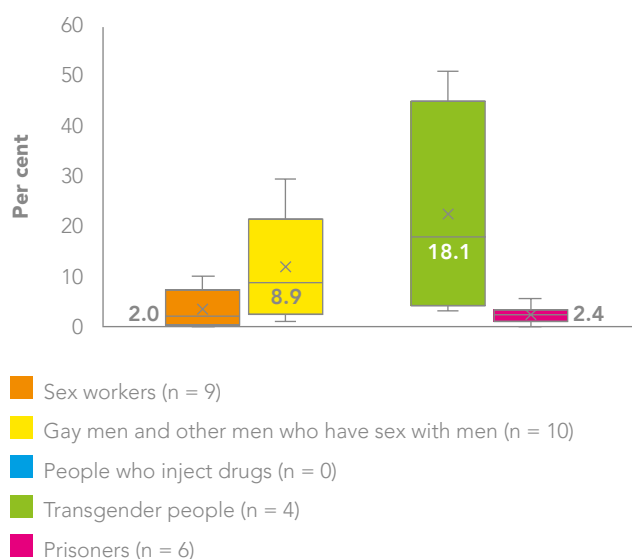
Data were available from six countries in the region on the population size of sex workers, gay men and other men who have sex with men, transgender people or prisoners. Five of those countries had a national population size estimate for at least one key population (Table 14.1). ■

**FIGURE 14.4** Incidence:prevalence ratio, Caribbean, 2000–2018

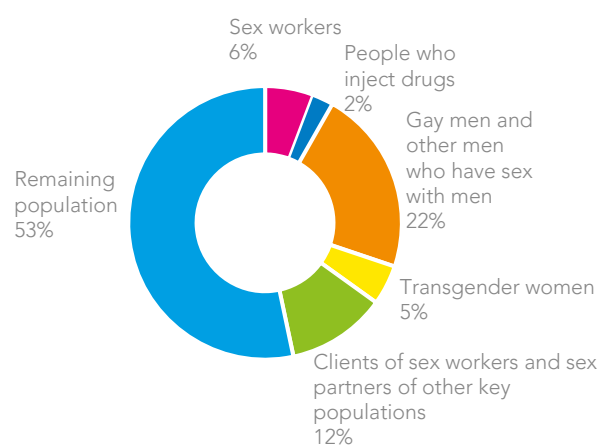


**FIGURE 14.5** Percentage change in new HIV infections, by country, Caribbean, 2010–2018

Source: UNAIDS 2019 estimates.

**FIGURE 14.6** HIV prevalence among key populations, Caribbean, 2014–2018

Source: Global AIDS Monitoring, 2014–2018.

**FIGURE 14.7** Distribution of new HIV infections (aged 15–49 years), by population group, Caribbean, 2018

Source: UNAIDS special analysis, 2019.

**TABLE 14.1** Estimated size of key populations, Caribbean, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Bahamas	319 000									2 300	0.73
Dominican Republic	7 731 000			130 000	1.71			9 400	0.12	20 000	0.26
Haiti	7 487 000									11 000	0.14
Jamaica	2 243 000			42 000	1.89			3 800	0.17		
Saint Lucia	146 000			3 000	2.05						
Saint Vincent and the Grenadines	83 000										

■ National population size estimate 
 ■ Local population size estimate 
 ■ Insufficient data 
 ■ No data

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).

## TAKING OUTREACH ONLINE IN JAMAICA

Peer outreach programmes face huge obstacles in societies where the lesbian, gay, bisexual, transgender and intersex (LGBTI) community is highly stigmatized and many gay men and other men who have sex with men are afraid to access HIV services. In Jamaica, the civil society organizations iFLEX and the TABS Project are collaborating with the National Family Planning Board to take their outreach work online with support from the LINKAGES project. In their work, the focus is on building a lifestyle-focused social media presence to connect with target audiences of transgender people and gay men and other men who have sex with men.

The project posts professionally designed ads, memes and videos on social media platforms to promote HIV testing—a method known as “passive outreach.” That component is combined with active outreach that links people to an online outreach worker who can assess their HIV risk. Online outreach workers can also arrange face-to-face meetings with a counsellor in a safe place, or they can arrange a referral to nearby HIV services. iFLEX and TABS facilitated more than 2500 online chats between clients and outreach staff from December 2017 to May 2019, and they supported almost 750 people to take an HIV test. Individuals who tested HIV-positive (3% of those who took an HIV test) were linked to treatment. Almost half (44%) of the new HIV cases that TABS assisted during 2018 were diagnosed through the new online outreach approach (2).

Valuable lessons are being learned. Provocative and relevant content attracts the most traffic—and the target audiences are best placed to advise on building that content. Novelty matters, and keeping the material fresh requires dedicated resources and effort. A specific challenge at the moment is to narrow the wide gap between the number of people who assess their risks online and those who go on to make appointments with service providers and take an HIV test (3). (Full story on page 39.)

## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

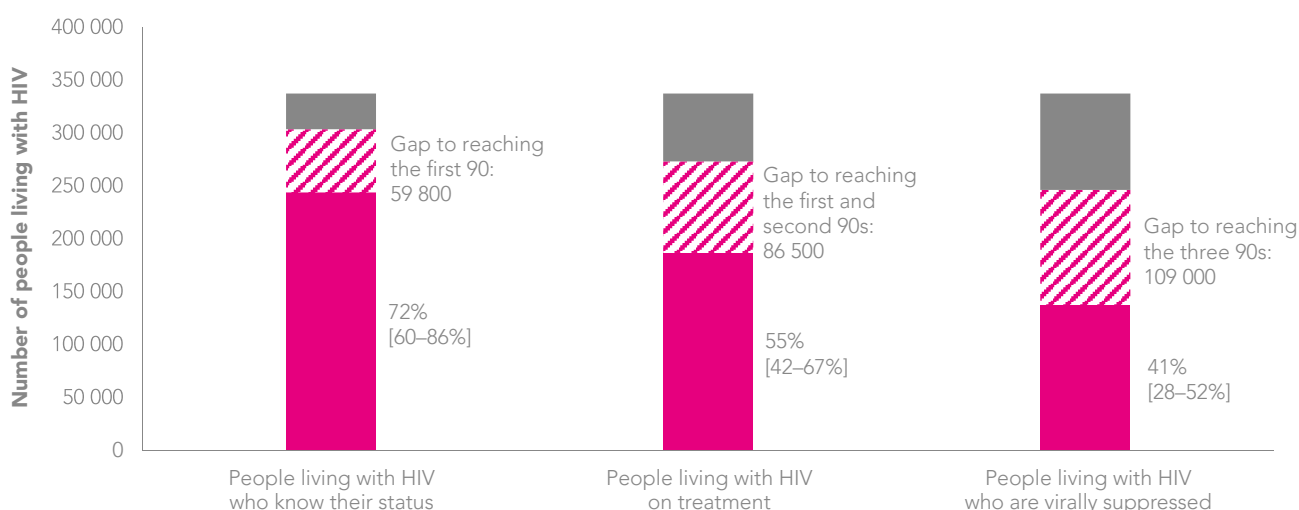
Progress along the HIV testing and treatment cascade in the region has slowed. Of the estimated 340 000 people living with HIV in 2018, 72% [60–86%] knew their status, 55% [42–67%] were on treatment and 41% [28–52%] were virally suppressed (Figure 14.8). In 2017, treatment coverage and viral suppression among people living with HIV were 54% [42–67%] and 40% [27–51%], respectively. Viral suppression among men was lower than among women in nearly all of the countries in the region with available data, highlighting an acute need to improve services for men (Figure 14.12).

The slowing progress in the region is in great part due to insufficient scale-up in treatment services among people living with HIV in Haiti, the country with the largest HIV burden in the region. However, once on treatment, 86% of diagnosed Haitians are virally suppressed (Table 14.2). Other notable successes in the region include Guyana, where 93% of people living with HIV know their status, and Barbados, which has reached 88% viral suppression among those on treatment.

One of the challenges impeding treatment initiation is late diagnosis. In 2018, five of 12 countries reporting data showed that 50% or more of newly diagnosed cases presented with CD4 counts less than 350 cells per mm<sup>3</sup> (Figure 14.9). In 10 of 13 countries providing data, more than 20% of people living with HIV presented with advanced HIV disease (CD4 count <200 cells per mm<sup>3</sup>).

Among key populations, six countries provided data on knowledge of HIV status, which ranged from 44.3% to 97.5% among HIV-positive gay men and other men who have sex with men, and from 51% to 92.8% among sex workers living with HIV. In the Dominican Republic, 83.3% of transgender people living with HIV were aware of their status (Figure 14.10). ■

**FIGURE 14.8** HIV testing and treatment cascade, Caribbean, 2018



Source: UNAIDS special analysis, 2019; see annex on methods for more details.



**TABLE 14.2 90–90–90 country scorecard: Caribbean, 2018**

	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Caribbean</b>	<b>72</b>	<b>80</b>	<b>67</b>	<b>77</b>	<b>77</b>	<b>75</b>	<b>74</b>	<b>75</b>	<b>73</b>	<b>41</b>	<b>46</b>	<b>37</b>
Antigua and Barbuda								47	42	19	27	15
Bahamas												
Barbados							88	88	88	44	55	39
Belize	49	51	48	58	58	56	65	65	67	18	19	18
Cuba	83	90	82	86	89	86	67	67	67	48	54	47
Dominica							55	58	53	18	27	14
Dominican Republic	82	91	75	68	67	69	67	65	70	37	40	36
Grenada							12	8	10	8	7	6
Guyana	93	95	95	73	82	64	81	81	80	55	63	49
Haiti	67	74	61	86	86	86						
Jamaica							80	81	80	25	38	18
Saint Kitts and Nevis							60	73	55	25	16	35
Saint Lucia							35	33	37	15	14	17
Saint Vincent and the Grenadines	70	93	60	47	52	42	81	84	81	27	41	21
Suriname	60	71	50	87	87	87	87	88	86	45	54	38
Trinidad and Tobago												

**90–90–90:** 90% and above 85–89% 70–84% 50–69% Less than 50%

**Viral load suppression:** 73% and above 65–72% 40–64% 25–39% Less than 25%

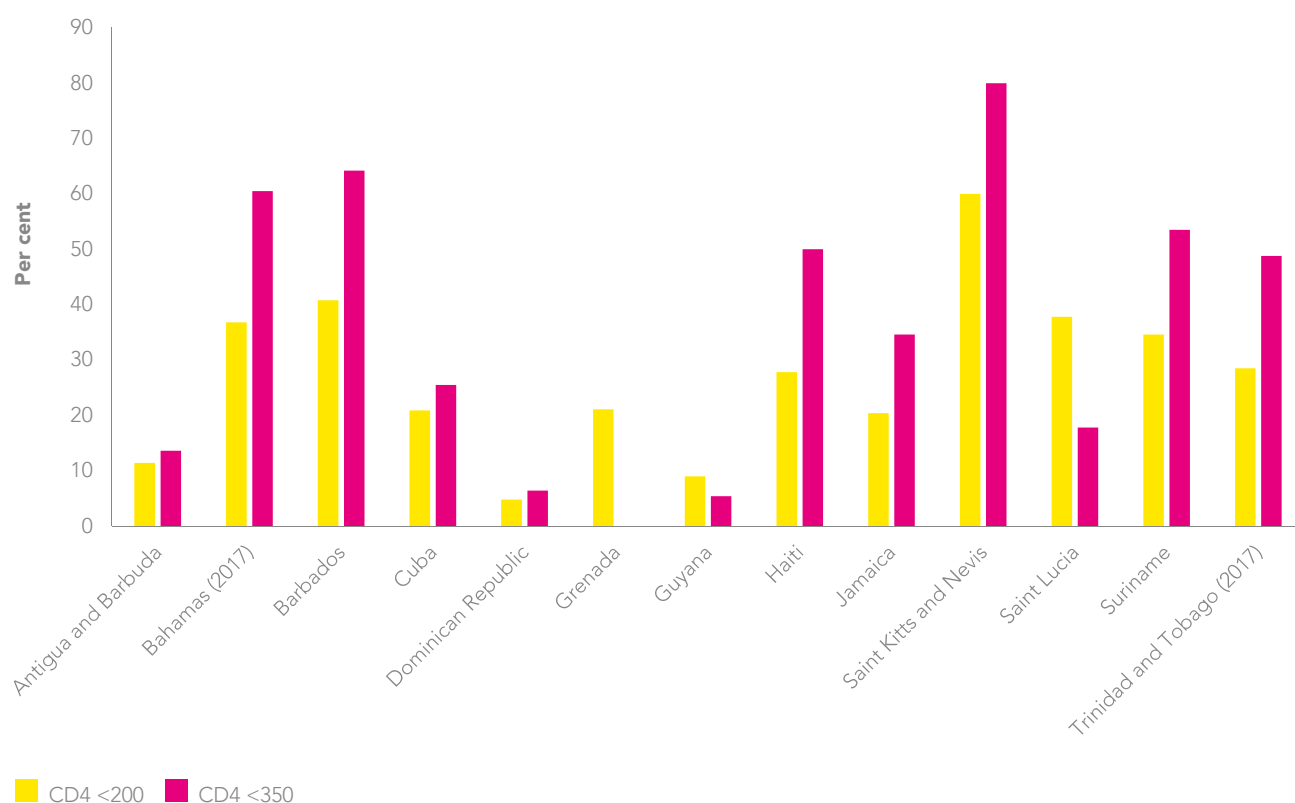
Source: UNAIDS special analysis, 2019.



**“INTERACTING WITH A REAL PERSON WHILE BEING ABLE TO REMAIN ANONYMOUS ENCOURAGES PEOPLE TO ASK QUESTIONS WITHOUT FEAR OF RIDICULE OR JUDGMENT. AND PEOPLE APPRECIATE THAT WE TALK TO THEM AS IF WE’RE FRIENDS AND JUST SHARING SOME INFORMATION, INSTEAD OF [GIVING THEM] A LECTURE.”**

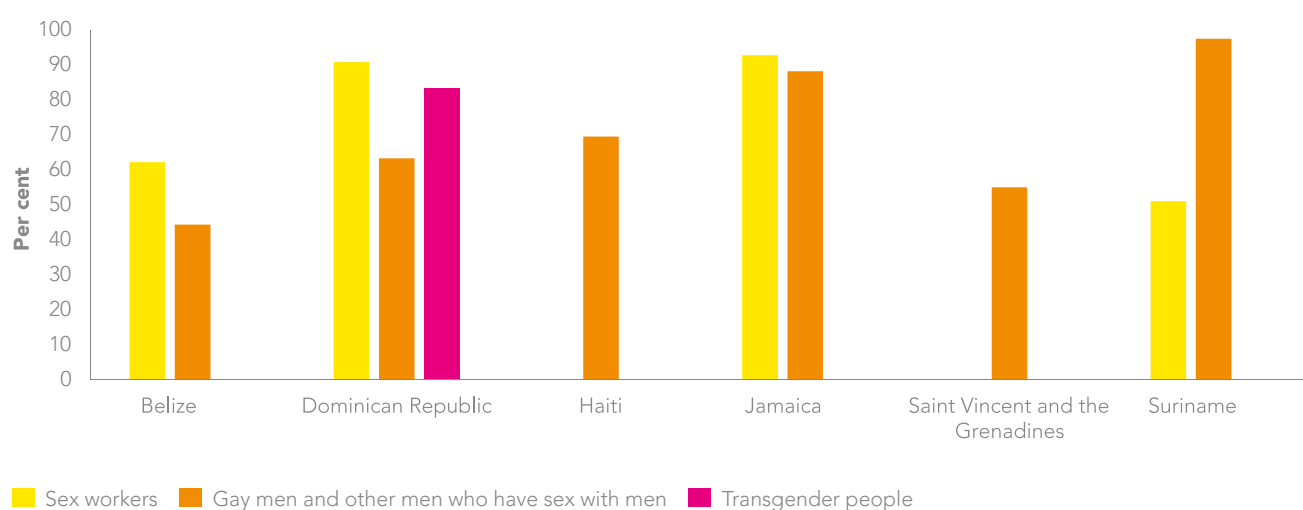
*Alex Sterling of iFLEX describes his work as an online outreach worker  
(Full story on page 39.)*

**FIGURE 14.9** Percentage of people living with HIV with a low CD4 count at initiation of antiretroviral therapy, Caribbean, 2018



Source: 2019 Global AIDS Monitoring.

**FIGURE 14.10** Knowledge of status among key populations, Caribbean, 2016–2018



Note: Data shown come from surveys, which are typically conducted in areas with high prevalence and needs and may not be nationally representative.

Source: Global AIDS Monitoring, 2016–2018.

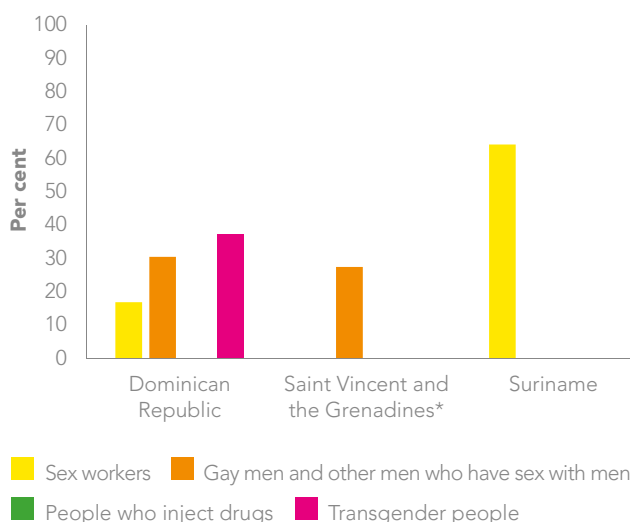
## A COMBINATION APPROACH TO PREVENTION

The majority of countries in the region had public policies for the delivery of HIV prevention services that included at least five of the nine prevention services recommended by the World Health Organization (WHO) for gay men and other men who have sex with men, transgender women and female sex workers (Table 14.3). However, only one country's public policies included all nine services for female sex workers, and none had policies with all nine services for transgender people or for gay men and other men who have sex with men.

The availability of prevention data for key populations varies widely; in some instances, data are entirely lacking. Only three countries provided data on key populations accessing combination HIV preventions services. Suriname reported that 64.1% of sex workers reported receiving at least two services within the past three months, and only 16.8% did so in the Dominican Republic (Figure 14.11).

The Caribbean has a high level of intraregional movement. A large and rapid influx of Venezuelan refugees and migrants is affecting health systems and HIV prevention programmes, particularly in Guyana and Trinidad and Tobago. The HIV-related needs of mobile populations are not fully understood, and their needs are often not integrated into health-care budgets and programming. Services should be provided to these mobile populations in their native language (e.g., Haitian Creole and Spanish), including for prevention programmes among key populations. ■

**FIGURE 14.11** Percentage of key populations who reported receiving at least two prevention services in the past three months, Caribbean, 2016–2018

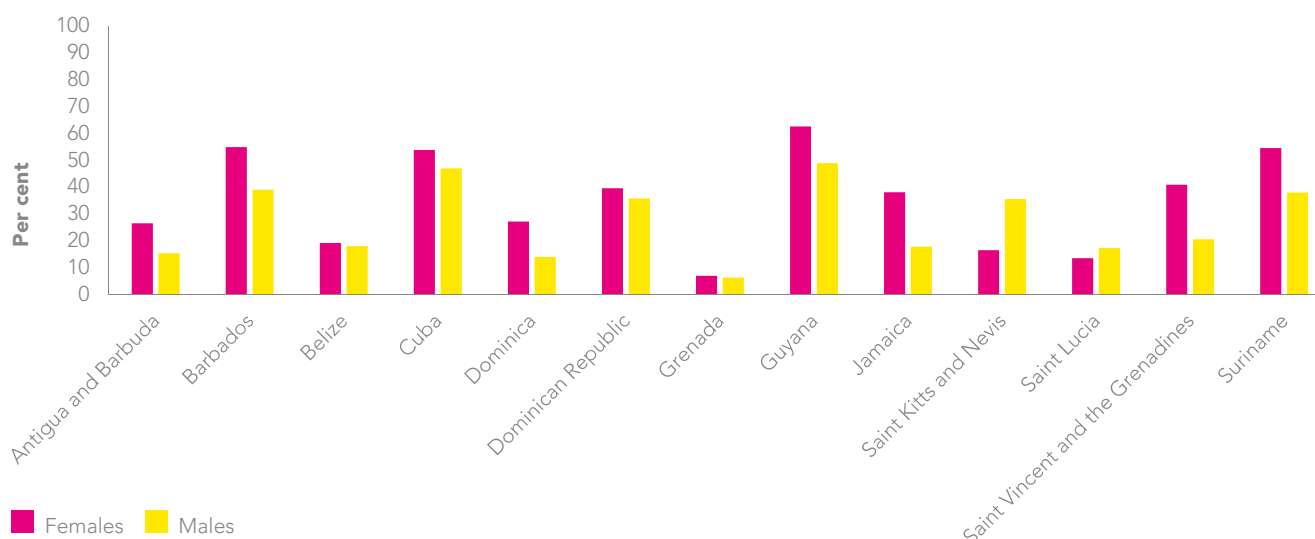


Note 1: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tend to show higher values due to the use as a denominator of the number of key population members that are linked to the programme) and not from a survey.

Note 2: Possible prevention services received among sex workers, gay men and other men who have sex with men and transgender people: condoms and lubricant, counselling on condom use and safe sex, and testing of sexually transmitted infections. Possible prevention services received among people who inject drugs: condoms and lubricant, counselling on condom use and safe sex, and clean needles or syringes.

Source: Global AIDS Monitoring, 2016–2018.

**FIGURE 14.12** Viral load suppression among adults (15 years and older) living with HIV, by sex, Caribbean, 2018



Source: UNAIDS special analysis, 2019.

**TABLE 14.3** Number of countries with public policies for delivery of HIV prevention services recommended by the World Health Organization, by key population, Caribbean

Caribbean	Gay men and other men who have sex with men	Female sex workers	Transgender women
HIV testing and counselling	14	12	11
Sexually transmitted infection diagnosis and treatment	11	10	9
PrEP	1	2	3
Post-exposure prophylaxis (PEP)	6	0	4
Condoms	14	12	10
Lubricants	13	10	10
Antiretroviral therapy for all	13	10	12
Peer-led community outreach activities	12	9	9
Sexual health information and education	10	8	9
Number of countries with public policies for delivery of all nine services	0	1	0
Number of countries with public policies for delivery of five to eight services	12	10	10
Number of countries with public policies for delivery of four services or less	4	5	6

Note: Number of countries in the region (n = 16).

Source: HIV prevention in the spotlight: an analysis from the perspective of the health sector in Latin America and the Caribbean, 2017. Washington (DC): Pan American Health Organization, UNAIDS; 2017.



Young people gather on the Malecon in Havana, Cuba.

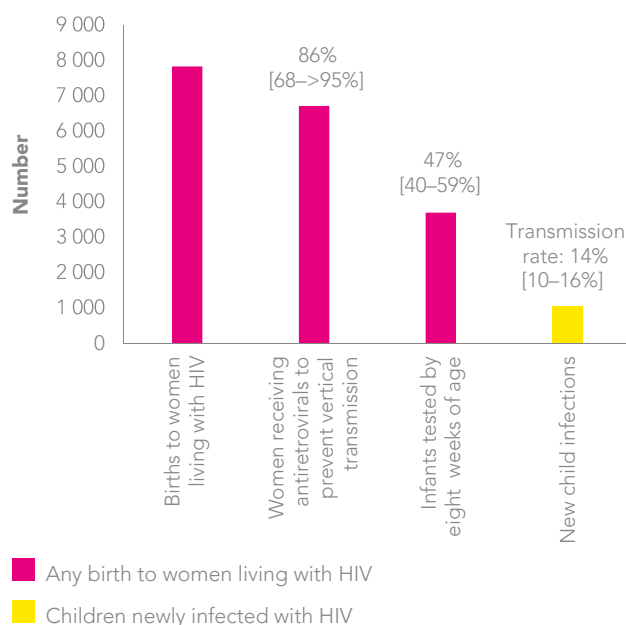
## ELIMINATING MOTHER-TO-CHILD TRANSMISSION

The rate of mother-to-child transmission of HIV was 14% [10–16%] in 2018. The proportion of pregnant women living with HIV in 2018 receiving antiretroviral medicines to prevent vertical transmission of HIV and protect their own health was 86% [68–>95%]. Coverage of early infant diagnosis in 2018 was 47% [40–59%] (Figure 14.13).

Early infant diagnosis coverage varies considerably between countries. Antigua and Barbuda, which has been validated as having eliminated mother-to-child transmission of HIV, achieved 100% coverage of infants receiving HIV testing in the first four to six weeks of life, as did Dominica and Grenada. Elsewhere, rates vary, ranging between 46% and 71% (Figure 14.14).

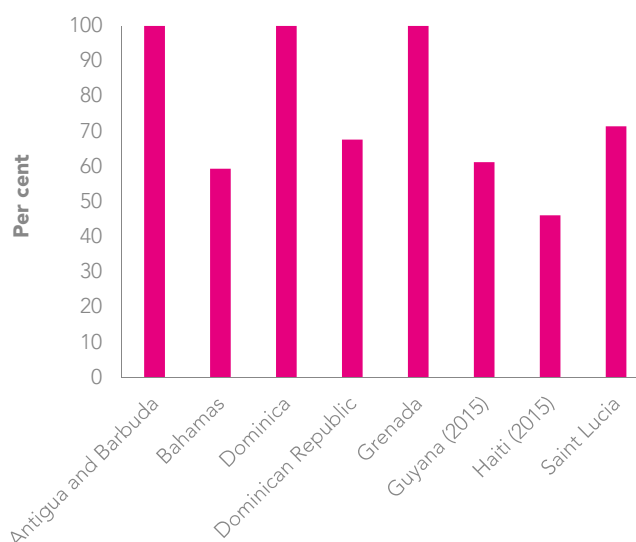
Seven countries and island states in the Caribbean have been validated as having eliminated mother- to-child transmission of HIV: Anguilla, Antigua and Barbuda, Bermuda, the Cayman Islands, Cuba, Montserrat, and Saint Kitts and Nevis. Eliminating mother-to-child transmission region-wide will require countries to develop strategies to reach all pregnant women living with HIV and their children with health and social services, including HIV and syphilis diagnosis and treatment. ■

**FIGURE 14.13** Cascade of services for preventing vertical transmission, numbers of new HIV infections and transmission rate, Caribbean, 2018



Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.

**FIGURE 14.14** Percentage of infants receiving HIV testing in the first 4–6 weeks, Caribbean, 2018



Source: 2019 Global AIDS Monitoring.

## CONFRONTING STIGMA AND DISCRIMINATION

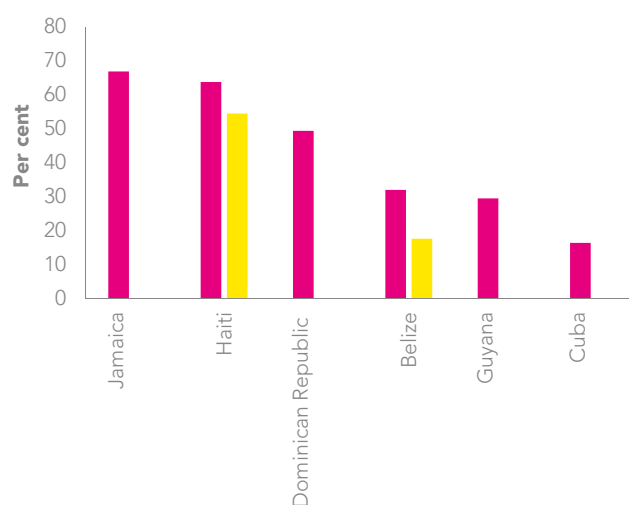
Little progress has been made in reducing misconceptions about HIV and the ensuing stigma and discrimination. Two thirds (67%) of people in Jamaica said they would not purchase vegetables from a vendor living with HIV. Such stigmatizing attitudes also were high in Haiti (64%), the Dominican Republic (49%), Belize (32%) and Guyana (29%). Eighteen per cent of people surveyed in Belize—54% in Haiti—believed that children living with HIV should not be allowed to attend school with other children (Figure 14.15).

Efforts are underway to combat stigma and discrimination in the region, including the #UnitedPositively initiative, which was launched by

the Caribbean Regional Network of People Living with HIV/AIDS (CRN+) in March 2019. The campaign challenges governments, policy-makers, civil society organizations, regional media and members of key populations to use social media to denounce stigma and discrimination that prevent vulnerable populations from accessing prevention, care, treatment and support (4).

Intimate partner violence is high among countries with recent data, with 16% of adult women in the Dominican Republic, 14% in Haiti and 7% in Cuba reporting physical and/or sexual violence by an intimate partner (Figure 14.16). ■

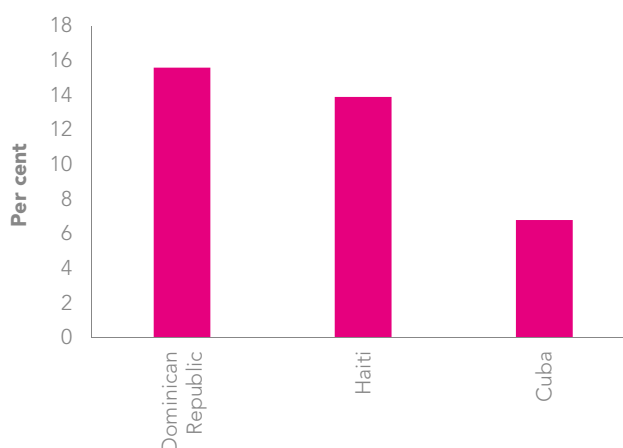
**FIGURE 14.15** Percentage of men and women aged 15–49 years with discriminatory attitudes towards people living with HIV, Caribbean, 2013–2017



- People who would not buy vegetables from a shopkeeper living with HIV
- People who think children living with HIV should not be allowed to attend school with other children

Source: Population-based surveys, 2013–2017, countries with available data.

**FIGURE 14.16** Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, Caribbean, most recent data, 2013–2017



Source: Population-based surveys, 2013–2017.



## INVESTING TO END AN EPIDEMIC

The financial resources available for HIV responses in the Caribbean have fluctuated over time, reaching the same level in 2018 as in 2010 (constant 2016 US dollars).<sup>1</sup> In total, US\$ 326 million was available for the Caribbean's HIV programmes in 2018, considerably less than the US\$ 600 million needed to achieve its Fast-Track Targets by 2020 (Figure 14.17).

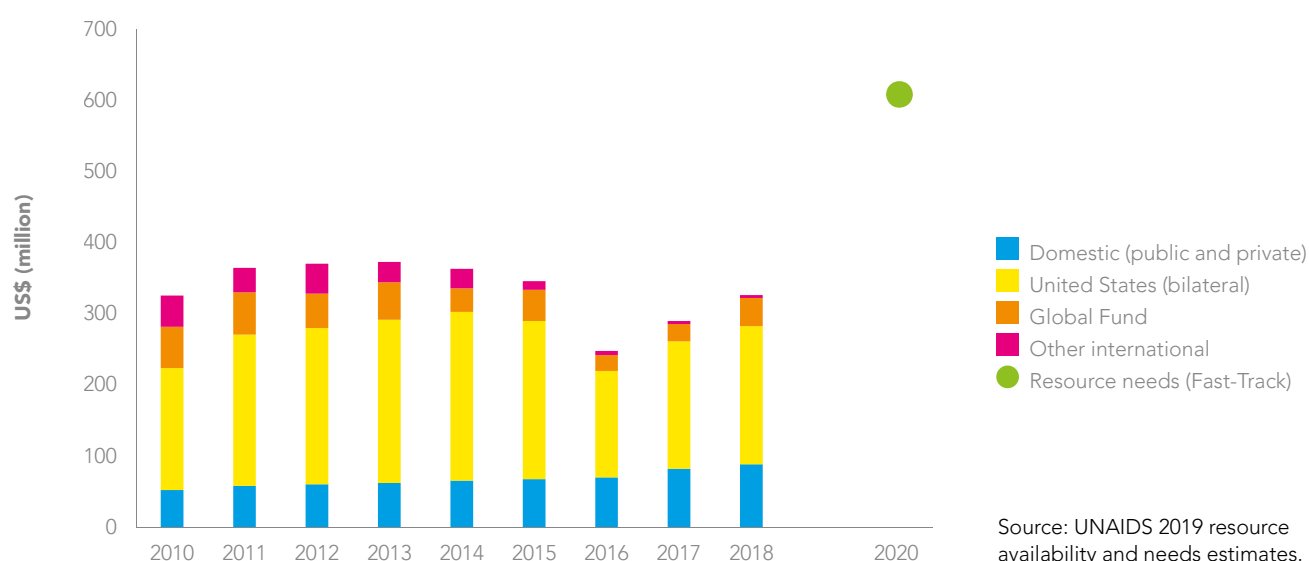
The availability of domestic resources for the HIV response increased by 69% during this eight-year period, reaching 27% of the total resources for HIV in the region. International donors decreased their share from 84% in 2010 to 73% by 2018: during that period, bilateral contributions from the Government of the United States of America increased by 13%, while disbursements from the Global Fund to Fight

AIDS, Tuberculosis and Malaria (the Global Fund) and all other international sources decreased by 32% and 91%, respectively.

Total funding for the region increased by 13% in 2018 compared to 2017. Domestic resources increased by 8%, bilateral funds from the Government of the United States increased by 9% (reaching 60% of all funds for the region), and Global Fund contributions increased by 63% (reaching 12% of the total).<sup>2</sup> All other international sources decreased by 10% and accounted for just 1% of total HIV resources in 2018.

More than 90% of the HIV response in Haiti, which has the largest epidemic in the region, is financed by international donors. ■

**FIGURE 14.17. HIV resource availability, by source, Caribbean, 2010–2018, and projected resource needs by 2020**



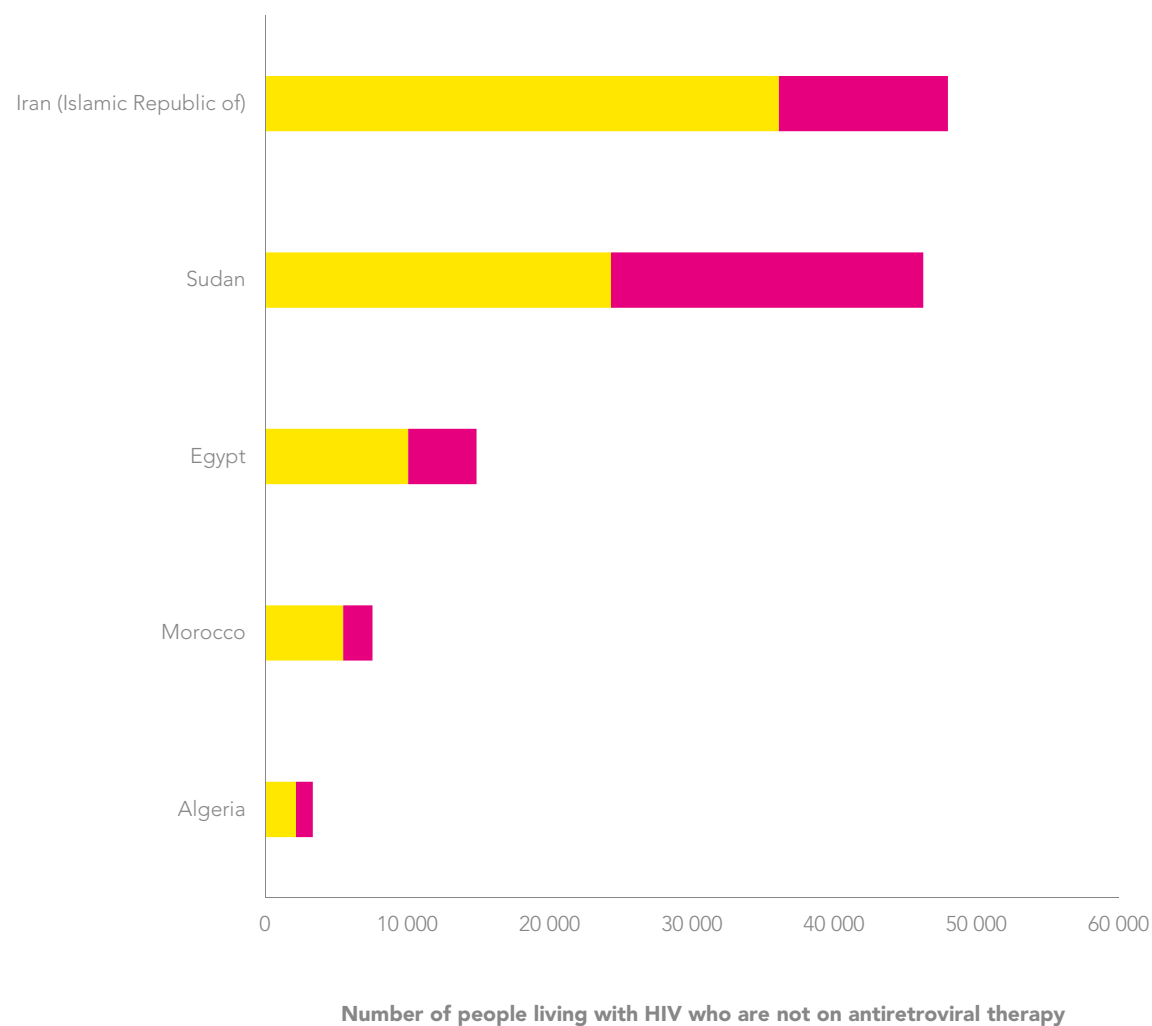
1 Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the Investing to End an Epidemic chapter.

2 The Global Fund disbursements to countries decreased by 20% globally in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

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**FIGURE 15.1** Number of people living with HIV who are not on antiretroviral therapy (aged 15 years and over), by sex, high-burden countries in Middle East and North Africa, 2018



■ Males  
■ Females

Source: UNAIDS 2019 estimates.

# MIDDLE EAST AND NORTH AFRICA

## AT A GLANCE

The epidemic in the Middle East and North Africa continues to grow, with a 10% increase in new infections and a 9% increase in the annual number of AIDS-related deaths between 2010 and 2018.

Access to HIV testing, treatment and care in the region is well below the global average. Less than half of people living with HIV are aware of their serostatus, and treatment gaps among men are larger than they are among women in many countries.

The increase in annual new infections is a sign that prevention programmes in many countries are not reaching sufficient numbers of people at high risk of HIV infection. Almost all new HIV infections are among key populations and their sexual partners.

While some countries have made progress in generating and using timely strategic information, increased investment is needed to fill large gaps in the generation and use of data to guide policies and programmes.

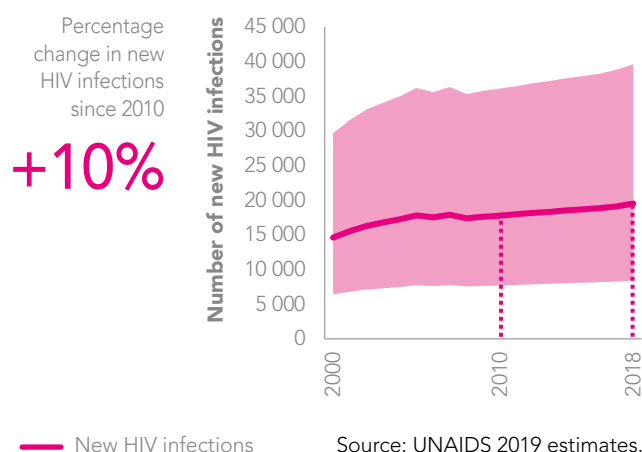
HIV prevention and treatment programmes in the Middle East and North Africa are not keeping pace with the region's growing epidemic. The annual number of people acquiring HIV continued to rise in 2018, although some countries with relatively higher burdens—including the Islamic Republic of Iran, Morocco and Somalia—are notable exceptions. Most HIV infections occurred among marginalized and vulnerable populations who are poorly served by HIV and other vital services.

Strengthened political commitment is evident in a few countries, such as Algeria and Morocco, but the region's overall HIV response is well off-track and far from reaching the 90–90–90 targets. In the five countries with the highest HIV burden in the region, 80 000 men and 40 000 women (approximately 70% of adults living with HIV in these countries) were not accessing life-saving antiretroviral therapy in 2018 (Figure 15.1).

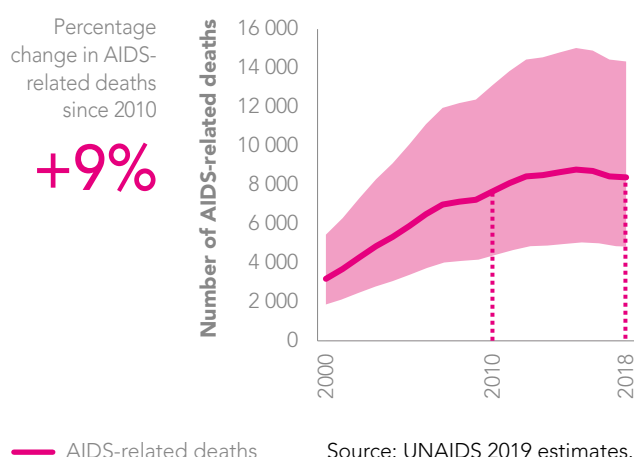
Humanitarian emergencies pose an additional challenge. The Middle East and North Africa hosts the largest number of refugees and displaced people in the world due to the protracted emergencies in Libya, the Syrian Arab Republic, Yemen and elsewhere. Efforts to provide integrated HIV and other health services for refugees and other displaced persons are being boosted by approval from the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) of a US\$ 36.4 million Middle East Response Grant in December 2018. This grant is focused on addressing HIV, tuberculosis and malaria services in five countries (Iraq, Jordan, Lebanon, the Syrian Arab Republic and Yemen) that are affected by humanitarian crises (1). ■

## STATE OF THE EPIDEMIC

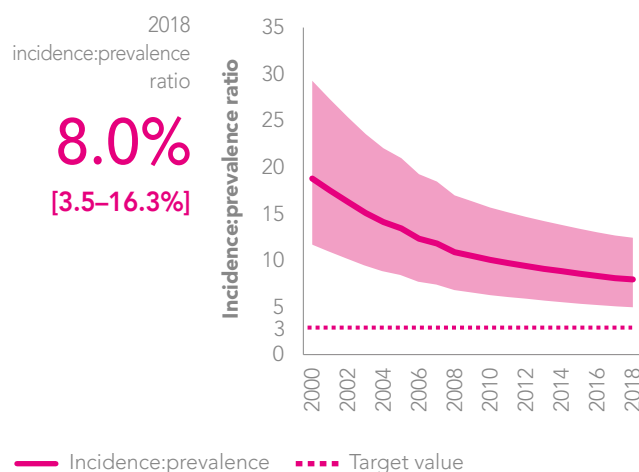
**FIGURE 15.2** Number of new HIV infections, Middle East and North Africa, 2000–2018



**FIGURE 15.3** Number of AIDS-related deaths, Middle East and North Africa, 2000–2018



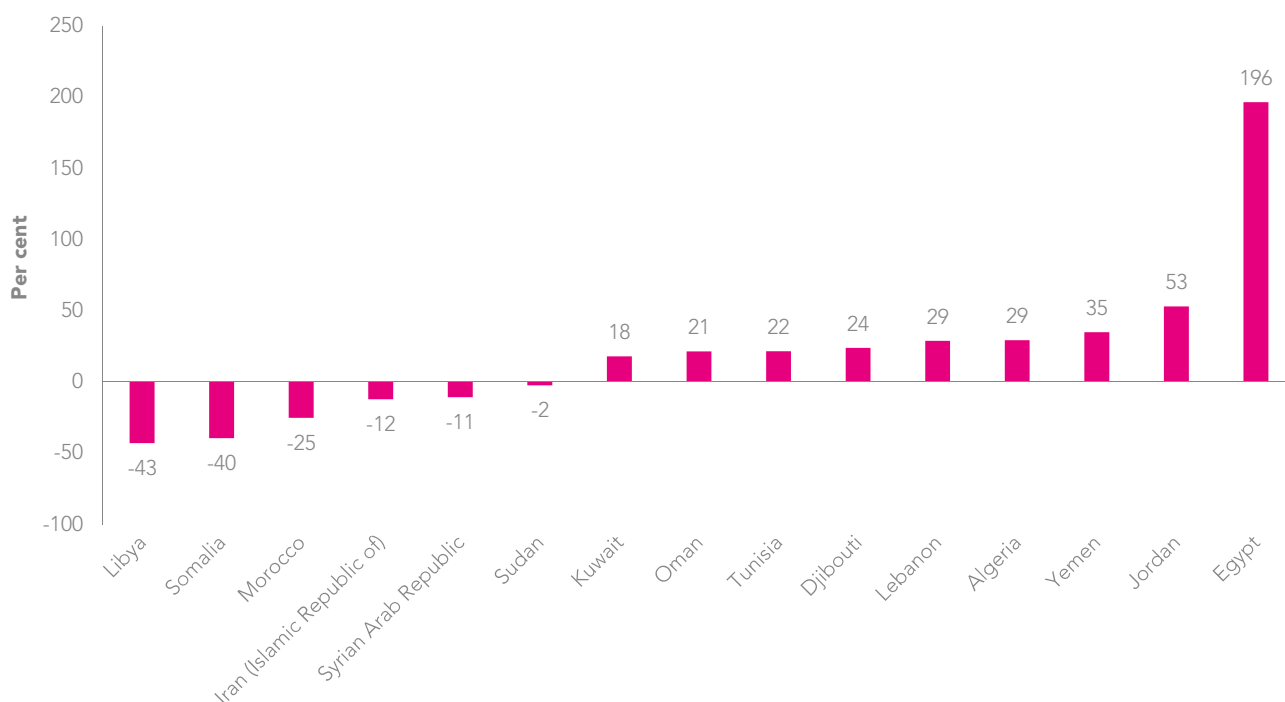
**FIGURE 15.4** Incidence:prevalence ratio, Middle East and North Africa, 2000–2018



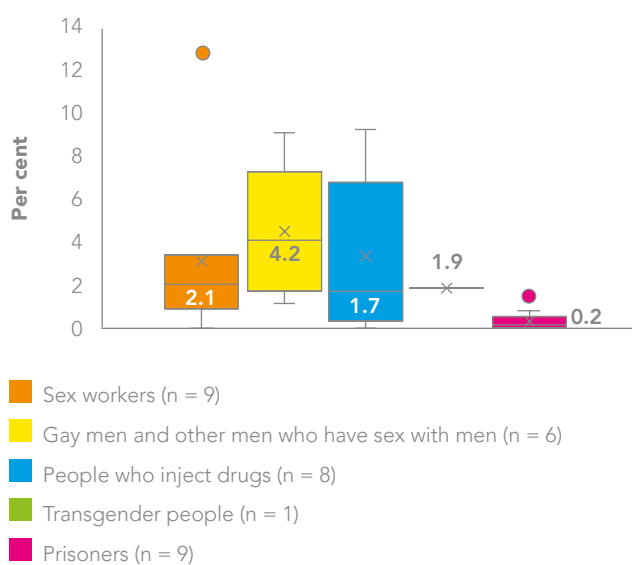
An estimated 20 000 [8 000–40 000] people acquired HIV in the Middle East and North Africa in 2018, a 10% increase compared with 2010 (Figure 15.2). This regional increase hides several successes in the region. Three countries with higher HIV burdens—the Islamic Republic of Iran, Morocco and Somalia—are among the five countries in the region where annual new HIV infections have declined by more than 10% since 2010 (Figure 15.5). In other countries, increases in incidence of more than 20% have occurred, including in Algeria (29%), Yemen (35%), Jordan (53%) and Egypt (196%). More than one third of HIV infections in 2018 were among people who inject drugs, and key populations and their sexual partners accounted for approximately 95% of all new infections in the region (Figure 15.7). HIV services focused on these key populations are scarce, and they often operate in contexts marked by punitive laws and harsh social reproach. HIV prevalence is highest among gay men and other men who have sex with men, among whom it exceeded 5% in half the countries reporting data (Figure 15.6).

Poor access to HIV services for key populations is also reflected in the 9% increase in the annual number of AIDS-related deaths since 2010, which reached an estimated 8000 [5000–14 000] deaths in 2018. The region's incidence-prevalence ratio was 8.0% [3.5–16.3%] in 2018—less than the 10.1% [4.4–20.6%] estimated for 2010, but far from the 3.0% epidemic transition benchmark.

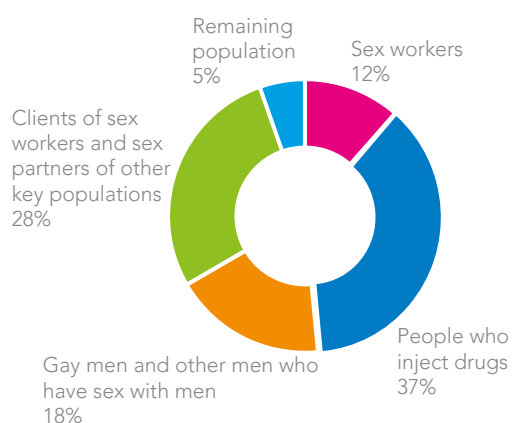
The scant data available on the sizes of key populations reflects the incompleteness of HIV strategic information systems in the Middle East and North Africa. Given that almost all new HIV infections in the region are associated with key populations, this deficiency must be addressed so that more effective and focused HIV programmes can be put into action. ■

**FIGURE 15.5** Percentage change in new HIV infections, by country, Middle East and North Africa, 2010–2018

Source: UNAIDS 2019 estimates.

**FIGURE 15.6** HIV prevalence among key populations, Middle East and North Africa, 2014–2018

Source: UNAIDS Global AIDS Monitoring, 2014–2018.

**FIGURE 15.7** Distribution of new HIV infections (aged 15–49 years), by population group, Middle East and North Africa, 2018

Source: UNAIDS special analysis, 2019.



**TABLE 15.1** Estimated size of key populations, Middle East and North Africa, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Iran (Islamic Republic of)	62 613 000									210 000	0.34
Kuwait	3 307 000									5 200	0.16
Lebanon	4 718 000			17 000	0.35						
Morocco	26 362 000									84 000	0.32
Oman	3 785 000										
Tunisia	8 856 000									22 000	0.25

■ National population size estimate 
 ■ Local population size estimate 
 ■ Insufficient data 
 ■ No data

The regions for which the local population size estimate refers are as follows:

Oman: Samail

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).



Young men in Algeria review a pamphlet about the HIV epidemic and response in their country.

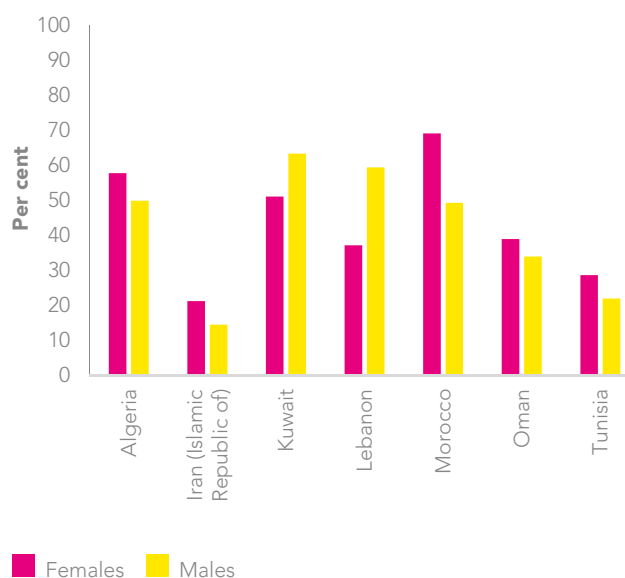
## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

HIV testing, treatment and care programmes in the region are not reaching many people living with HIV, the majority of whom belong to marginalized populations. Less than half (47% [26–80%]) of the estimated 240 000 people living with HIV knew they were HIV-positive, and about one third (32% [18–54%]) of people living with HIV were receiving antiretroviral therapy in 2018, the lowest treatment coverage of any region in the world (Figure 15.9).

A huge gap in the region's testing and treatment programmes is the first 90: diagnosing people living with HIV. In 2018, the gap to achieving the first 90 was 104 000 people living with HIV. There are some inspiring exceptions: at least 75% of people living with HIV in Algeria, Lebanon and Morocco knew their serostatus (Table 15.2). Focused and user-friendly testing approaches, including community-based testing and self-testing, should be promoted, and key populations and their sexual partners should be made the priority.

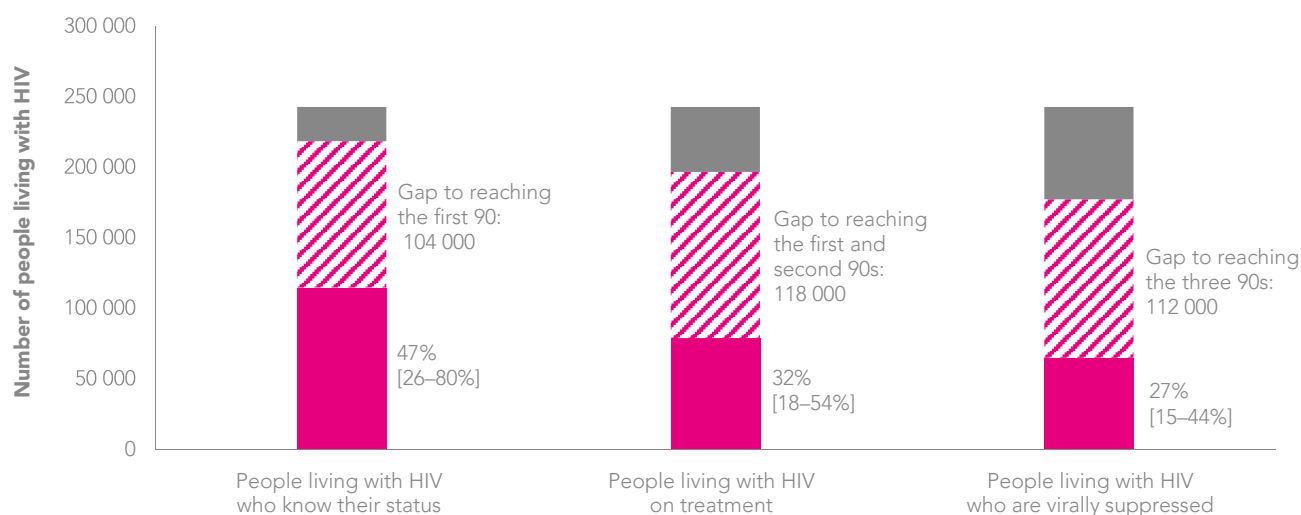
Approximately 79 000 people were accessing antiretroviral therapy in 2018, which meant the gap to the first and second 90s was 118 000 people living with HIV in need of treatment. The estimated 27% [15–44%] of people who had a suppressed viral load in 2018 was an improvement over the 23% [13–38%] estimated for 2017. The fact that more than 80% of people who accessed HIV treatment achieved suppressed viral loads in 2018 is a sign of the kinds of progress that could be made if the gaps in diagnosing people living with HIV and linking them to care are filled. ■

**FIGURE 15.8** Viral load suppression among adults (15 years and older) living with HIV, by sex, Middle East and North Africa, 2018



Source: UNAIDS special analysis, 2019.

**FIGURE 15.9** HIV testing and treatment cascade, Middle East and North Africa, 2018



Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**TABLE 15.2 90–90–90 country scorecard: Middle East and North Africa, 2018**

	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Middle East and North Africa</b>	<b>47</b>	<b>49</b>	<b>47</b>	<b>69</b>	<b>73</b>	<b>65</b>	<b>82</b>	<b>82</b>	<b>83</b>	<b>27</b>	<b>29</b>	<b>25</b>
Algeria	86	91	81	93	91	91	68	69	68	55	58	50
Bahrain												
Djibouti												
Egypt												
Iran (Islamic Republic of)	36	34	35	57	79	49	82	79	83	17	21	15
Iraq												
Jordan												
Kuwait	67	58	70	92	90	92	>95	>95	>95	60	51	63
Lebanon	91	77	95	66	49	69	92	>95	92	56	37	59
Libya												
Morocco	76	90	64	86	84	84	91	91	91	59	69	49
Occupied Palestinian Territories												
Oman	48	51	47	84	87	83	87	88	87	35	39	34
Qatar				>95	>95	>95	73	77	72			
Saudi Arabia				94	95	95	94	>95	93			
Somalia												
Sudan	27	28	28	56	54	54						
Syrian Arab Republic												
Tunisia							62	58	67	24	29	22
United Arab Emirates												
Yemen												

**90–90–90:** ■ 90% and above ■ 85–89% ■ 70–84% ■ 50–69% ■ Less than 50%

**Viral load suppression:** ■ 73% and above ■ 65–72% ■ 40–64% ■ 25–39% ■ Less than 25%

Source: UNAIDS special analysis, 2019.

## A COMBINATION APPROACH TO PREVENTION

Levels of viral suppression among people living with HIV are generally too low in the Middle East and North Africa to contribute significantly to the prevention of HIV transmission. Other proven prevention methods, such as consistent condom use during high-risk sex and needle–syringe programmes, should be priorities. However, the low number of countries reporting basic data on prevention services for key populations suggests that the requisite political commitment and urgency is still lacking across much of the region. Fewer than five out of 21 countries reported on most Global AIDS Monitoring prevention indicators for key populations in the past three reporting rounds (Table 15.3).

In a region where more than one third of new HIV infections are associated with injecting drug use,

harm reduction services are essential to prevent HIV transmission. A few countries (i.e., the Islamic Republic of Iran, Lebanon and Morocco) have incorporated harm reduction strategies into their national HIV frameworks, but access to such services remains scant across the region. Civil society organizations provide most of the services that are available, and funding cuts and/or restrictive policies in recent years have led to the closure of services in Egypt and Jordan (2).

Pre-exposure prophylaxis (PrEP) can serve as an additional component of combination prevention strategies in the Middle East and North Africa. Morocco has taken a step in that direction, with between 100 and 300 people using PrEP as part of a programme launched in mid-2017 (3). ■

**TABLE 15.3 Number of countries reporting on key population indicators, 2016–2018**

Key population prevention indicator	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
HIV testing among key populations	5	4	5	0	N/A
Coverage of HIV prevention programmes among key populations	2	1	1	0	N/A
Antiretroviral therapy coverage among people living with HIV in key populations	0	0	1	0	2
Needles–syringes distributed per person who injects drugs	N/A	N/A	3	N/A	N/A
Coverage of opioid substitution therapy	N/A	N/A	2	N/A	2

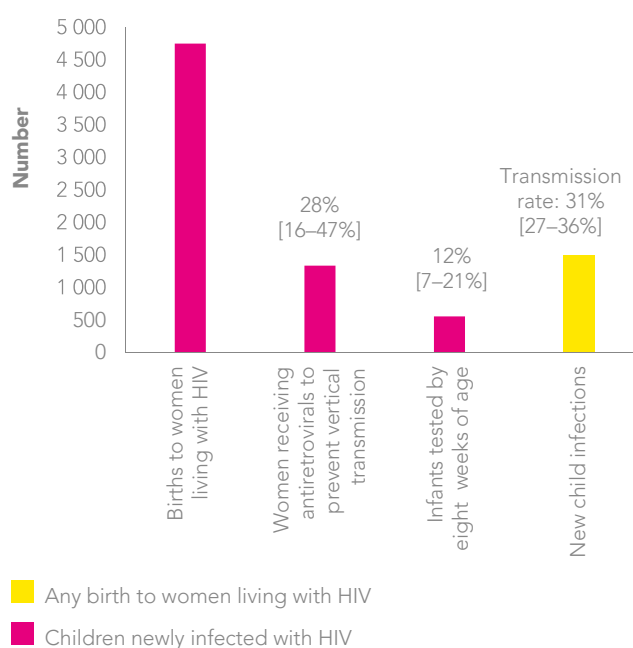
Note: There are a total number of 21 countries in the Middle East and North Africa region.

Source: Global AIDS Monitoring, 2016–2018.

## ELIMINATING MOTHER-TO-CHILD TRANSMISSION

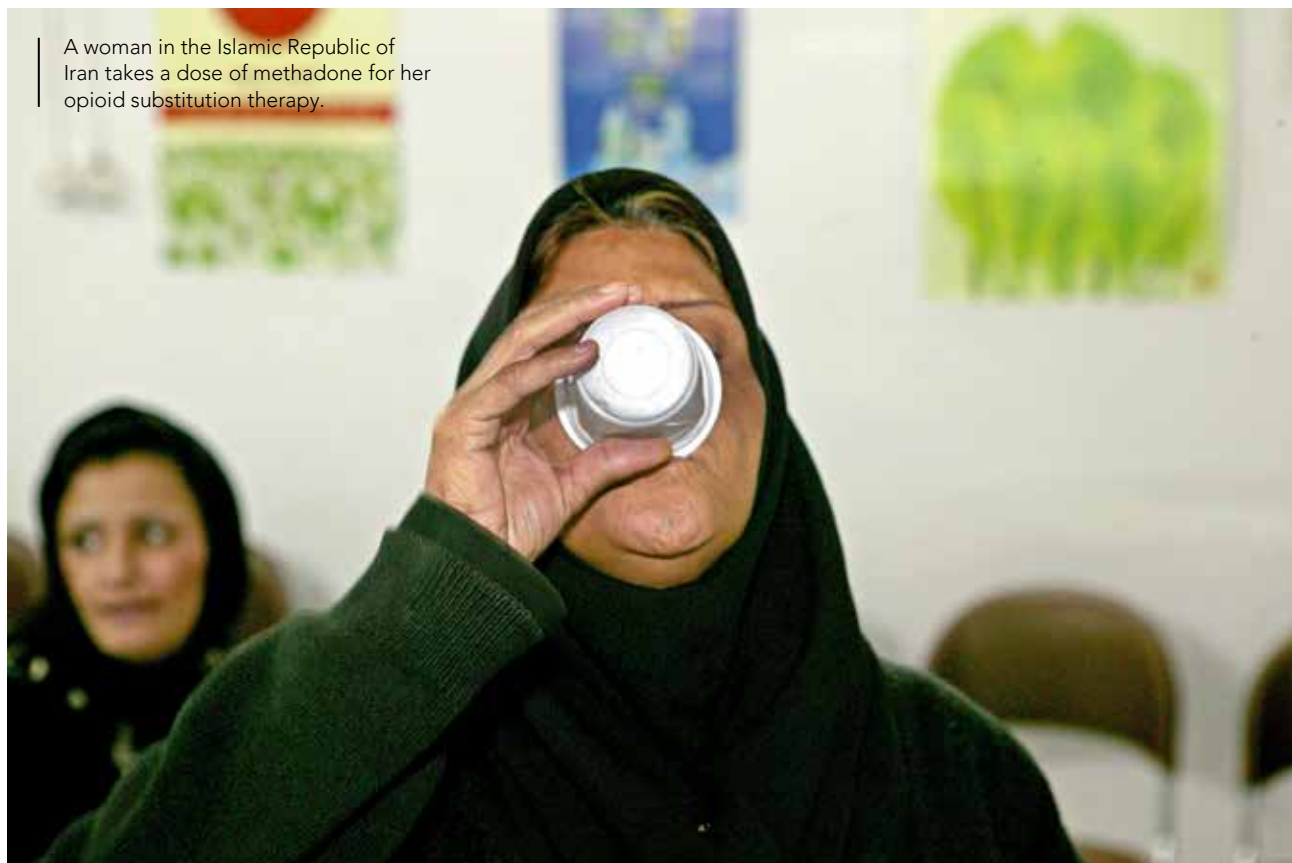
Coverage of services for preventing mother-to-child transmission of HIV in the Middle East and North Africa is among the lowest in the world, with only 28% [16–47%] of women living with HIV in the region accessing those services in 2018. Yet service coverage is strikingly higher in countries such as Algeria (74% [69–78%]) and the Islamic Republic of Iran (81% [41–>95%]), where integration of maternal and child health and HIV services is a greater priority. Deeper integration of HIV services in sexual and reproductive health services, maternal and child health services, and gender-based violence programmes is needed, especially for marginalized and vulnerable women. ■

**FIGURE 15.10** Cascade of services for preventing vertical transmission, numbers of new HIV infections and transmission rate, Middle East and North Africa, 2018



Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.

A woman in the Islamic Republic of Iran takes a dose of methadone for her opioid substitution therapy.

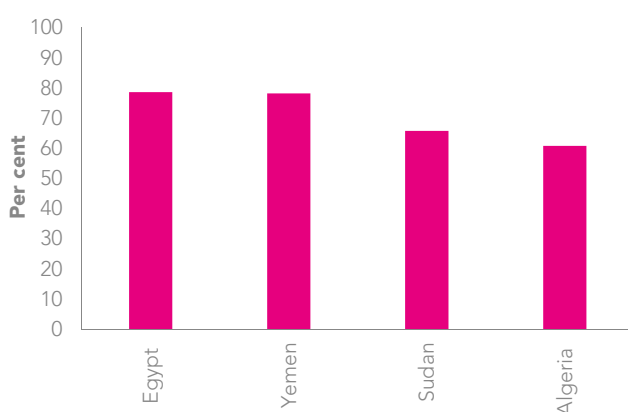


## CONFRONTING STIGMA AND DISCRIMINATION

Stigmatizing attitudes and incorrect knowledge about HIV are pervasive in the region. When surveyed, close to 80% of people in Egypt and Yemen, for example, said they would not purchase vegetables from a vendor living with HIV. Stigma and discrimination in health-care settings adds to the difficulties that people face when trying to access services for preventing or managing HIV: it is not uncommon in some countries for people to

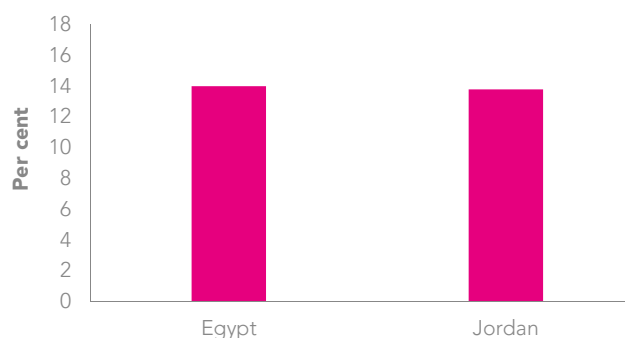
be denied health services due to their HIV status, and breaches of confidentiality are a widespread concern (4, 5). Groups such as MENA-Rosa (a regional network of women living with HIV that provides peer-led support in Algeria, Egypt, Lebanon, Morocco, Tunisia and elsewhere) are working to overcome stigma, improve access to HIV services for women living with and affected by HIV, and protect human rights. ■

**FIGURE 15.11** Percentage of men and women aged 15–49 years who would not buy vegetables from a shopkeeper living with HIV, Middle East and North Africa, 2013–2014



Source: Population-based surveys, 2013–2016, countries with available data.

**FIGURE 15.12** Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, Middle East and North Africa, most recent data, 2014–2018



Source: Population-based surveys, 2014–2018.

### ADDRESSING VIOLENCE AGAINST WOMEN LIVING WITH HIV

Social isolation and violence are near certainties for women living with HIV in the Middle East and North Africa, according to a community-led study in one of the few regions of the world where HIV infections and deaths from AIDS-related illness continue to rise. Led by MENA-Rosa, a regional network of women living with or affected by HIV, the LEARN MENA study conducted community dialogues in seven countries across the region in 2018. Designed and led by women, these dialogues enabled women to share their experiences and explore the underlying causes of violence and HIV in their communities. The women came from all walks of life: more than half were living with HIV (53%), and almost all had experienced violence at some point in their lifetime (6).

The dialogues catalogued numerous examples of women and girls being discriminated against on the basis of their gender—experiences that included early forced marriage, genital mutilation, sexual subjugation and violence. Ninety-five per cent of the women who participated reported that they had been subjected to violence at least once in their lifetime, and 73% had experienced violence in the previous 12 months (6). The personal testimonies of women also revealed extraordinary resilience and mutual support. Community organizations and peer groups are providing a lifeline to women and girls, and findings from the project are helping women advocate for stronger actions that can reduce violence against women. (Full story on page 150.)



## INVESTING TO END AN EPIDEMIC

Between 2010 and 2018, the total resources available for HIV responses in the Middle East and North Africa remained stable at between US\$ 150 million and US\$ 200 million (in 2016 constant US dollars) (Figure 15.13).<sup>1</sup> Resources available in 2018, however, were just one third of what is needed in the region for reaching the 2020 Fast-Track Targets.

A 4% total increase in resource availability over the eight-year period included a 67% increase in domestic resources, while all international resources decreased. Bilateral resources from the Government of the United States of America decreased by 76%, Global Fund resources decreased by 58%, and funding from all other international channels decreased by 23%. The share of the total HIV resources from domestic resources increased from 48% in 2010 to 77% in 2018.

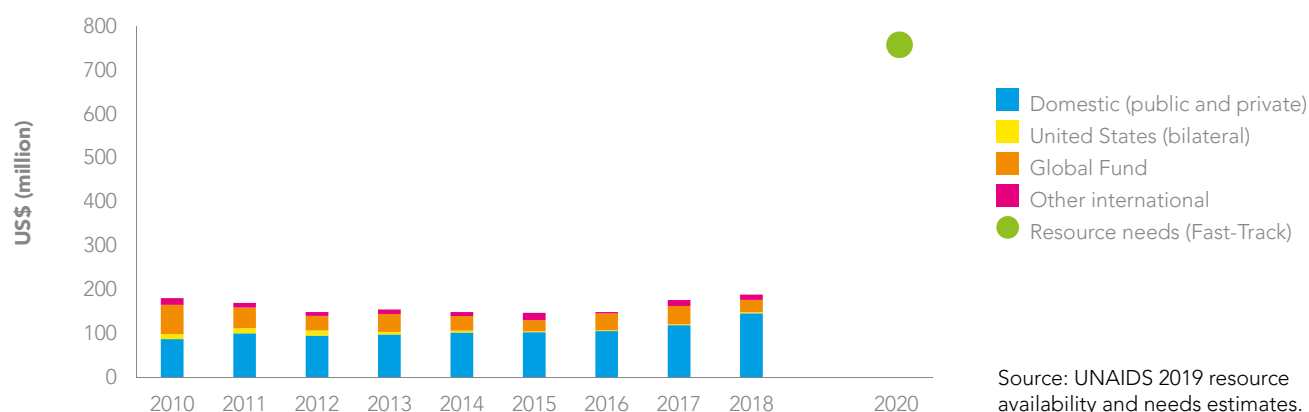
Resource availability increased by 7% between 2017 and 2018 (in 2016 constant US dollars), with domestic

resources increasing by 23% and United States bilateral resources increasing by 15%. However, disbursements from the Global Fund and all other international sources decreased 32% and 10%, respectively, over one year.<sup>2</sup>

The mix of sources of investment in the national HIV responses in the region varies. Algeria, the Islamic Republic of Iran and Gulf Cooperation Council countries rely mainly on domestic resources.<sup>3</sup> Lower income countries—like Djibouti, Somalia, the Sudan and Yemen—depend on external financing from sources such as the Global Fund.

While the Global Fund remains the main supporter of regional networks and civil society organizations in the region, diminishing external resource availability threatens community-led programmes. There is a need for innovative financing modalities—such as social contracting—to ensure the sustainability of prevention programmes that are focused on key populations in the region. ■

**FIGURE 15.13** HIV resource availability, by source, Middle East and North Africa, 2010–2018, and projected resource needs by 2020



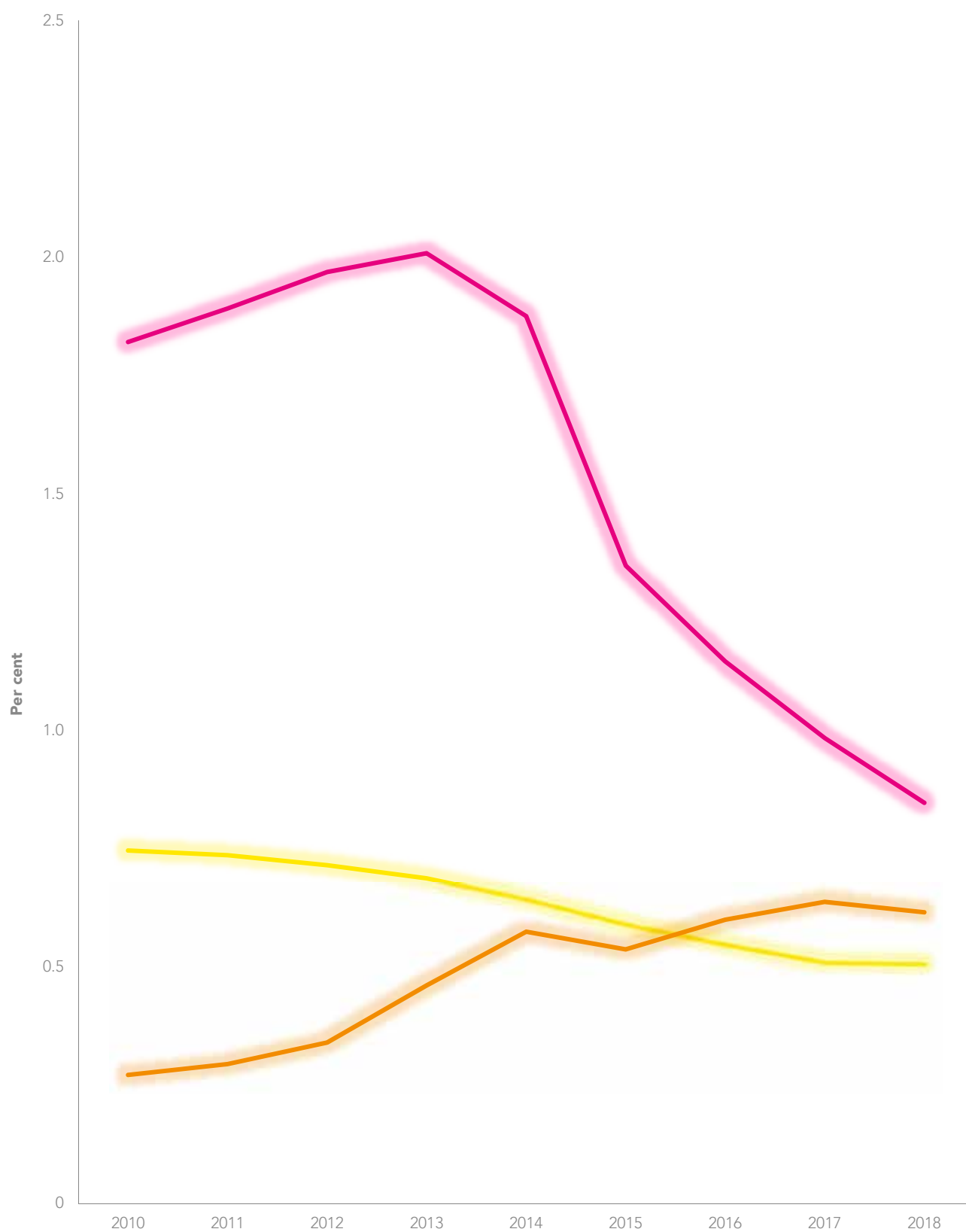
1 Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the Investing to End an Epidemic chapter.

2 The Global Fund disbursements to countries decreased by 20% in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

3 The Gulf Cooperation Council countries are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates.

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**FIGURE 16.1** HIV incidence trends among key populations, eastern Europe and central Asia, 2010–2018

- People who inject drugs
- Sex workers
- Gay men and other men who have sex with men

Note: Countries included are: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Tajikistan, Ukraine and Uzbekistan. Shadows indicate the uncertainty in the calculations which has not been estimated.

Source: UNAIDS special analysis, 2019.

# EASTERN EUROPE AND CENTRAL ASIA

## AT A GLANCE

The number people newly infected with HIV in eastern Europe and central Asia increased by 29% between 2010 and 2018. Key populations are disproportionately affected, and they lack access to the HIV services they need.

Despite expanded HIV testing services, antiretroviral therapy coverage in the region is lower than in most other regions. Large proportions of people diagnosed with HIV are not being linked to HIV treatment and care.

Both HIV incidence and prevalence remain high among people who inject drugs, and they are rising among gay men and other men who have sex with men.

Access to comprehensive harm reduction services is uneven, with need far outstripping availability in most of the region.

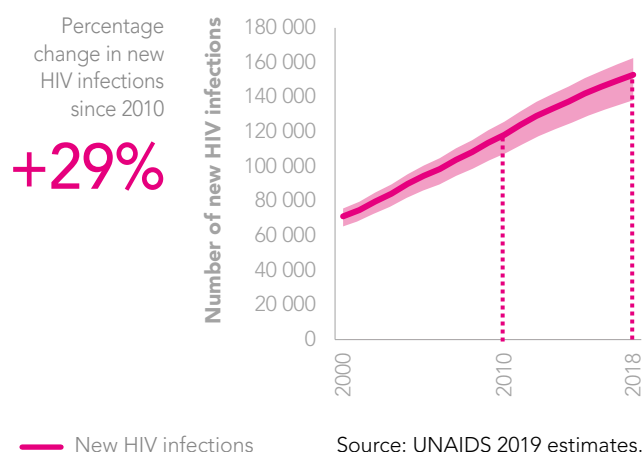
Four countries are providing HIV treatment to at least 70% of incarcerated people living with HIV, while eight countries distribute condoms and three offer sterile injecting equipment to prisoners.

Eastern Europe and central Asia is one of three regions in the world where the HIV epidemic continues to grow. HIV services are often delivered within hostile legal and social environments, and they are not accessible to substantial proportions of the populations who need them most. Civil society organizations are trying to fill some of the gaps, but in several countries they are limited by shrinking civic space and insufficient financial support.

A UNAIDS analysis indicates that while the incidence of HIV among people who inject drugs in 10 countries in the region has decreased since 2013, it remained high in 2018 at 0.9% (Figure 16.1). Among gay men and other men who have sex with men, HIV incidence has doubled since 2010, reaching 0.6% in 2018—a sign that the epidemic in this key population is being neglected by the HIV responses of many countries. ■

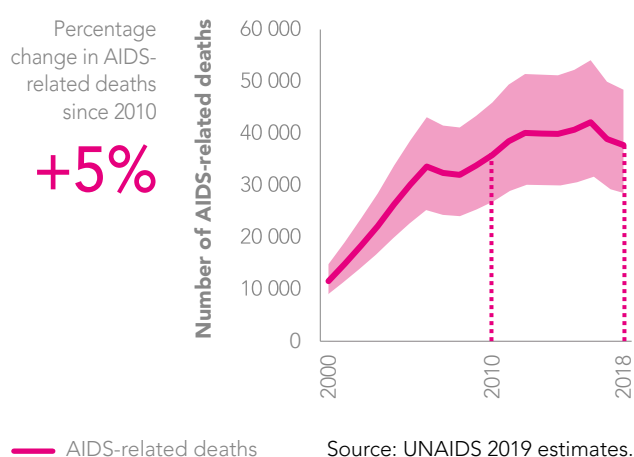
## STATE OF THE EPIDEMIC

**FIGURE 16.2** Number of new HIV infections, eastern Europe and central Asia, 2000–2018



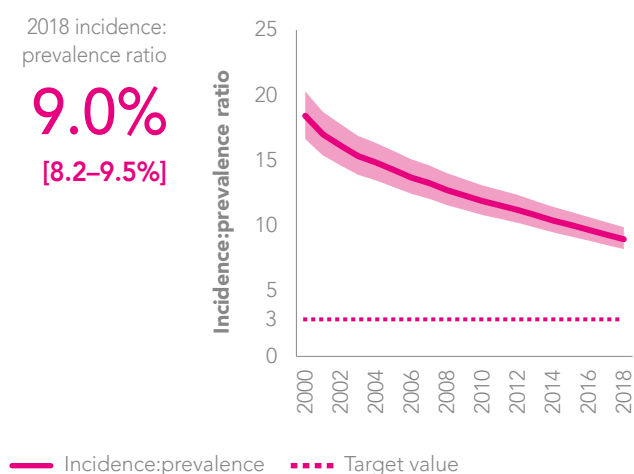
The region has the fastest growing HIV epidemic in the world. The annual number of new HIV infections was 29% higher than in 2010, reaching 150 000 [140 000–160 000] in 2018 (Figure 16.2). The vast majority of people acquiring HIV were in the Russian Federation and Ukraine, the two most populous countries in the region. Together, these countries account for 84% of all new infections in eastern Europe and central Asia. Excluding the Russian Federation from the region's trend analysis results in a 4% decline in new HIV infections between 2010 and 2018. Impressive declines in new infections of more than 35% since 2010 have been achieved in Kyrgyzstan and the Republic of Moldova (Figure 16.5).

**FIGURE 16.3** Number of AIDS-related deaths, eastern Europe and central Asia, 2000–2018



Eastern Europe and central Asia is one of only two regions in the world where the annual number of AIDS-related deaths has increased since 2010, although that trend appears to have reversed within the past few years (Figure 16.3). The estimated 38 000 [28 000–48 000] people who died of AIDS-related causes in 2018 was 5% more than the 36 000 [27 000–46 000] deaths in 2010. The region's incidence-prevalence ratio was 9.0% [8.2–9.5%] in 2018. It has scarcely changed since 2015, and it was three times higher than the epidemic transition benchmark of 3.0% (Figure 16.4).

**FIGURE 16.4** Incidence:prevalence ratio, eastern Europe and central Asia, 2000–2018



Most new infections in the region are among key populations, who must contend with punitive legal environments, social ostracization and discrimination. Almost two thirds (63%) of HIV infections in 2018 were among people who inject drugs and gay men and other men who have sex with men (Figure 16.7). Size estimates indicate that there are large populations at high risk of HIV infection (Table 16.1).

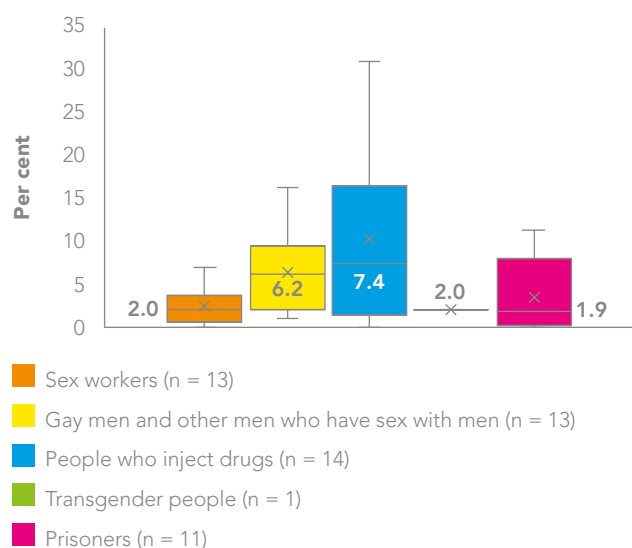
Surveys continue to reveal high HIV prevalence among these key populations (Figure 16.6). For instance, HIV prevalence was at least 10% among people who inject drugs in six of the 14 countries reporting data, and it exceeded 20% in three countries. Similarly, substantial proportions of gay men and other men who have sex with men are living with HIV: prevalence of HIV infection ranged from 5% to 10% in six countries reporting data to UNAIDS, and from 13% to 16% in a further two countries. Among sex workers, HIV prevalence ranged from under 1% in five countries to between 3% and 7% in five other countries, and among prisoners, it was 8% or higher in three countries. ■

**FIGURE 16.5** Percentage change in new HIV infections, by country, eastern Europe and central Asia, 2010–2018



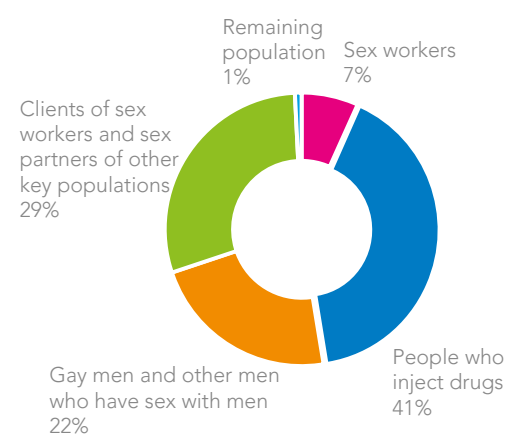
Source: UNAIDS 2019 estimates.

**FIGURE 16.6** HIV prevalence among key populations, eastern Europe and central Asia, 2014–2018



Source: Global AIDS Monitoring, 2014–2018.

**FIGURE 16.7** Distribution of new HIV infections (aged 15–49 years), by population group, eastern Europe and central Asia, 2018



Source: UNAIDS special analysis, 2019.



**TABLE 16.1** Estimated size of key populations, eastern Europe and central Asia, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Albania	2 432 000									3 000	0.13
Armenia	2 345 000	4 600	0.20	16 000	0.69	9 000	0.38				
Azerbaijan	7 610 000	32 000	0.42	24 000	0.31	60 000	0.79				
Georgia	3 150 000			19 000	0.59						
North Macedonia	1 741 000					6 800	0.39			2 300	0.13
Tajikistan	5 889 000	18 000	0.30								
Ukraine	37 062 000			180 000	0.48	350 000	0.95				

■ National population size estimate ■ Local population size estimate ■ Insufficient data ■ No data

The regions for which the local population size estimate refers are as follows:  
Ukraine: All regions except Luhansk region and Sevastopol

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).

## ROUND-THE-CLOCK SERVICES FOR SERVICES FOR SEX WORKERS IN UKRAINE

In Ukraine, the nongovernmental organization Convictus is bringing round-the-clock services to the estimated 10 000 sex workers who are active in and around the country's capital, Kyiv (1). Convictus' long-standing work with sex workers of all genders has shown the need for HIV and health services that are convenient, comprehensive and match people's lives. To reduce the high HIV prevalence among sex workers (which is 5.2% nationally and up to 36% among sex workers who inject drugs), it developed a model for providing health services out of a small facility in the centre of the city and through mobile units that visit sex workers at hotels, saunas, truck stops, brothels and apartments (2).

The consulting centre is open from 10 am until 6 pm. Supplementing it is a mobile team that hits the streets at 7 pm, using Convictus' contacts within the sex worker communities and monitoring social media to stay up to date on the sites where sex workers are congregating. The team usually stops work at 1 am, at which point a second mobile unit has already started doing its rounds of Kyiv and the surrounding areas where the most vulnerable sex workers, many of whom lack documentation and shun state-run services, are found.

The evidence clearly shows that community-led HIV services for sex workers can have a potent impact. A 2015 systematic review of HIV programmes among female sex workers in low- and middle-income countries found that interventions with strong empowerment elements increased the odds of consistent condom use with clients by more than 300% and reduced the odds of HIV infection by 32% (3).  
(Full story on page 50.)

## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

Of the estimated 1.7 million [1.5 million–1.9 million] people living with HIV in eastern Europe and central Asia, only about 1.2 million knew their serostatus in 2018, and only 650 000 [571 000–674 000] or 38% [30–44%] were receiving HIV treatment (Figure 16.8). Linkage to treatment and care is particularly deficient: a little more than half of people diagnosed with HIV infection were accessing antiretroviral therapy in 2018. Only 29% [26–33%] of people living with HIV were virally suppressed in 2018.

The region is a long way from reaching the 90–90–90 targets, with 72% [64–81%] of people living with HIV knowing their HIV status, 53% [45–56%] of people who knew their HIV status receiving treatment, and 77% [67–81%] of people receiving treatment having suppressed viral loads. The gap to the first 90 was 306 000 people who did not know they were living with HIV, while the gap to the first two 90s was 731 000 people living with HIV in need of treatment. Reaching all three 90s will require an additional 740 000 people living with HIV to achieve viral suppression.

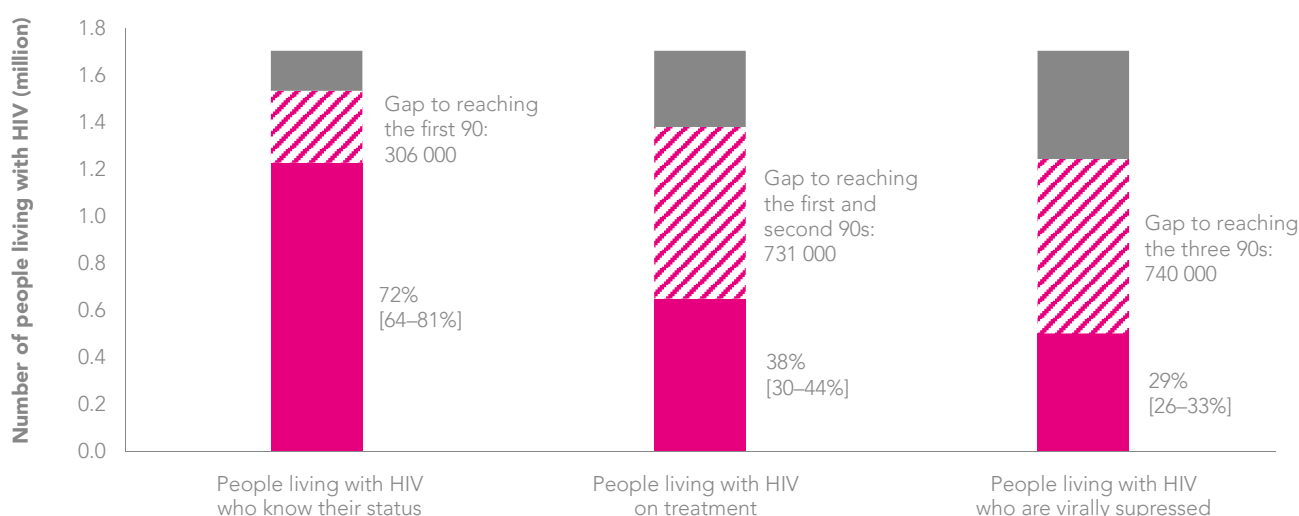
Among the countries with high burdens of HIV infection, Montenegro, North Macedonia and Ukraine have reached one of the 90–90–90 targets (Table 16.2). Given that all but a small percentage of HIV infections

in the region are among key populations and their sex partners, the low coverage speaks to a failure to reach at-risk, marginalized populations with the HIV services they need. Accessible, affordable and stigma-free care and treatment services, including access to viral load testing, must be made available to all people living with HIV.

Levels of HIV knowledge among key populations vary substantially across the region (Figure 16.10). Less than 20% of HIV-positive people who inject drugs in Azerbaijan—and only 37% in North Macedonia—knew their serostatus in 2018. The proportion of HIV-positive gay men and other men who have sex with men who knew their HIV status ranged from less than 40% in Ukraine to 87% in Kazakhstan. Only 16% of female sex workers living with HIV in Azerbaijan knew their serostatus, compared with more than 90% of their counterparts in Kazakhstan and Tajikistan.

Given the low levels of viral suppression in the region, a massive improvement in treatment services is needed. In most of the countries that reported data, men were much less likely to reach viral suppression than women. In Ukraine, for example, only 26% of men living with HIV were virally suppressed, compared to 42% of women (Figure 16.9). ■

**FIGURE 16.8** HIV testing and treatment cascade, eastern Europe and central Asia, 2018



Source: UNAIDS special analysis, 2019; see annex on methods for more details.

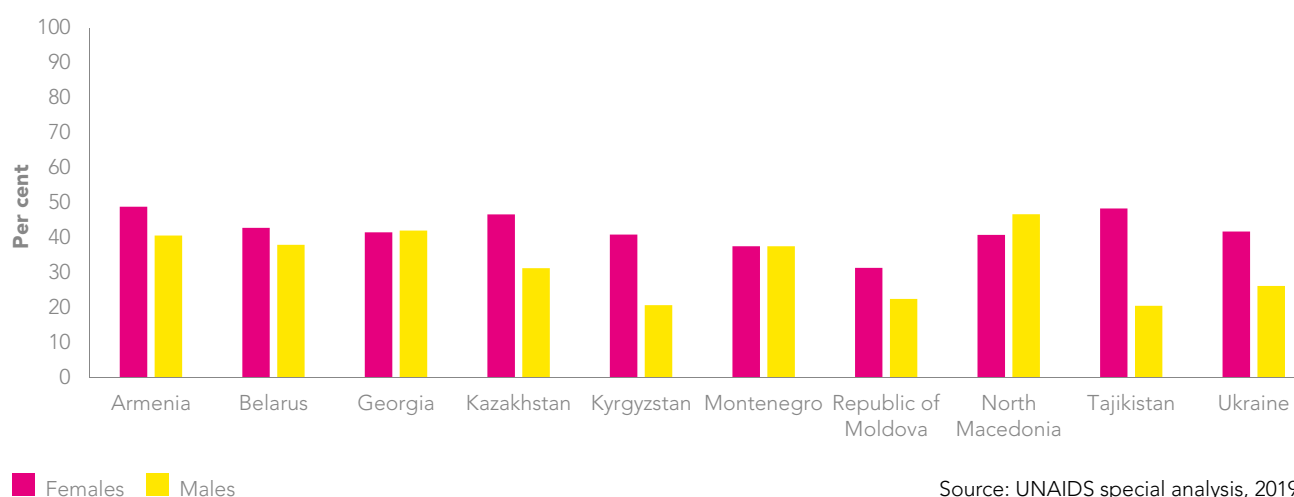
**TABLE 16.2 90–90–90 country scorecard, eastern Europe and central Asia, 2018**

	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Eastern Europe and central Asia</b>	<b>72</b>	<b>85</b>	<b>65</b>	<b>53</b>	<b>54</b>	<b>51</b>	<b>77</b>	<b>78</b>	<b>77</b>	<b>29</b>	<b>36</b>	<b>25</b>
Albania				62	65	60						
Armenia	73	72	73	72	78	69	83	87	80	44	49	41
Azerbaijan				71			75					
Belarus	79	77	80	74	78	70	69	71	67	40	43	38
Bosnia and Herzegovina												
Georgia	59	50	62	84	95	80	85	87	85	42	41	42
Kazakhstan	88	>95	83	66	71	61	65	68	62	38	47	31
Kyrgyzstan	68	79	61	64	69	54	68	76	63	30	41	21
Montenegro	55	52	56	73	72	73	93	>95	92	38	38	38
Republic of Moldova	54	61	49	63	67	60	77	77	76	26	31	22
North Macedonia	59	41	61	91	>95	90	86	>95	85	46	41	47
Russian Federation												
Tajikistan	58	80	47	80	84	70	67	72	63	31	48	20
Turkmenistan												
Ukraine	47	60	39	74	75	72	93	93	93	32	42	26
Uzbekistan												

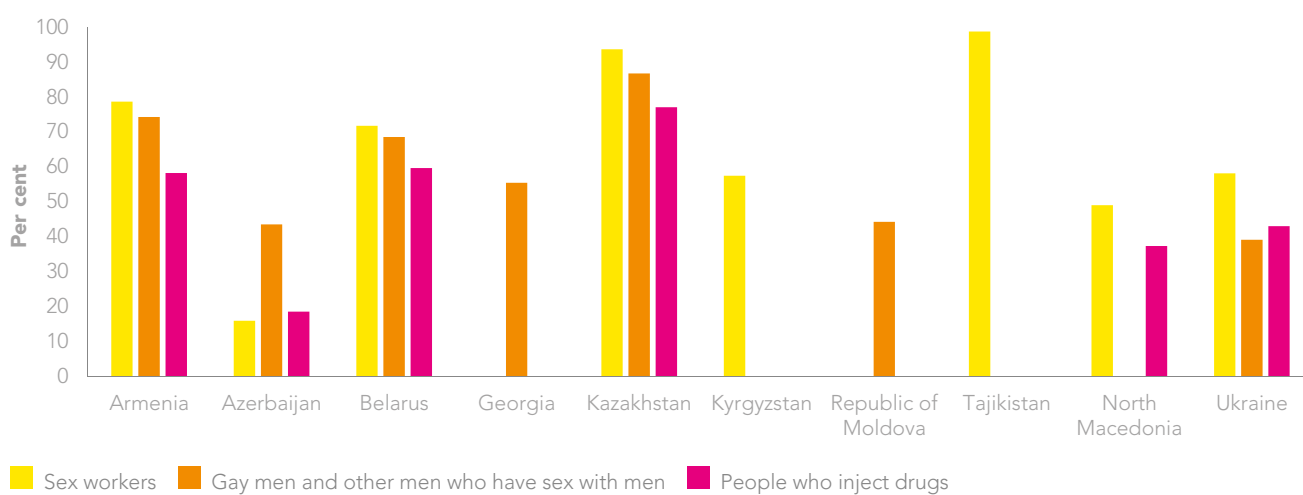
**90–90–90:** 90% and above 85–89% 70–84% 50–69% Less than 50%

**Viral load suppression:** 73% and above 65–72% 40–64% 25–39% Less than 25%

Source: UNAIDS special analysis, 2019.

**FIGURE 16.9 Viral load suppression among adults (aged 15 years and older) living with HIV, by sex, eastern Europe and central Asia, 2018**

Source: UNAIDS special analysis, 2019.

**FIGURE 16.10** Knowledge of status among key populations, eastern Europe and central Asia, 2016–2018

Note: Data shown come from surveys, which are typically conducted in areas with high prevalence and needs and may not be nationally representative.

Source: Global AIDS Monitoring, 2016–2018.

HIV express testing services in St. Petersburg, Russian Federation, include mobile laboratories and clinics operated by community organizations. Credit: UNAIDS/Olga Rodionova

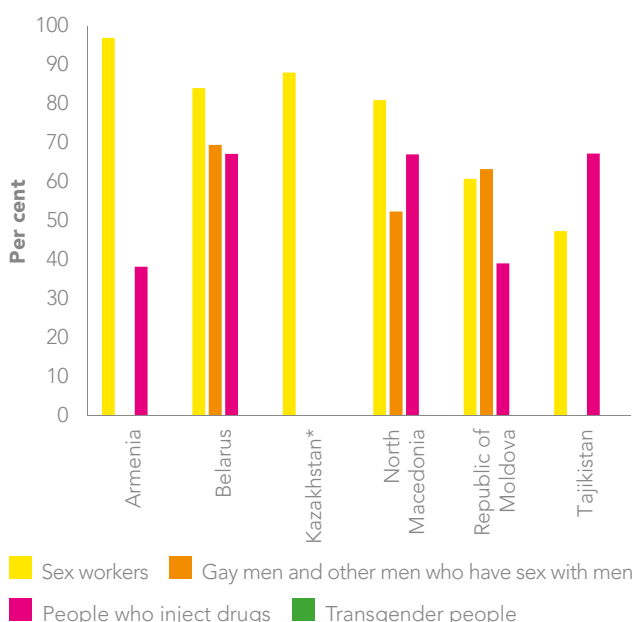


## A COMBINATION APPROACH TO PREVENTION

The region is missing opportunities to reverse the upward trend in HIV infections. In addition to low viral suppression in the region, coverage of prevention services for key populations varied widely in the few countries with recently available data (Figure 16.11). In Belarus and Kazakhstan, more than 80% of female sex workers had received at least two HIV prevention services in the previous three months. Harm reduction services (such as needle–syringe programmes and opioid substitution therapy) were available at a large number of sites in Ukraine—and, to a lesser extent, Belarus—but they were either unavailable or highly restricted in several other countries, including some with large HIV epidemics among people who inject drugs (4).

Elimination of mother to child transmission of HIV is a priority in the region. The World Health Organization has validated the elimination of mother-to-child transmission of HIV in both Armenia and Belarus, and several other countries are making progress towards the certification of elimination. ■

**FIGURE 16.11** Percentage of key populations who reported receiving at least two prevention services in the past three months, eastern Europe and central Asia, 2016–2018



Note 1: The use of an asterisk (\*) indicates that data for marked countries come from programme data (which tends to show higher values due to the use as a denominator of the number of key population members that are linked to the programme) and not from a survey.

Note 2: Possible prevention services received among sex workers, gay men and other men who have sex with men and transgender people: condoms and lubricant, counselling on condom use and safe sex, and testing of STIs. Possible prevention services received among people who inject drugs: condoms and lubricant, counselling on condom use and safe sex, and clean needles or syringes.

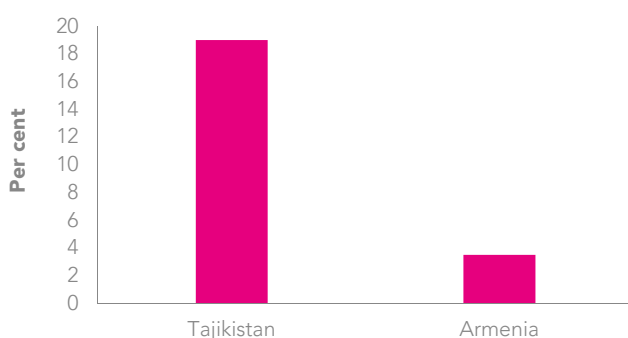
Source: Global AIDS Monitoring, 2016–2018.



## CONFRONTING STIGMA AND DISCRIMINATION

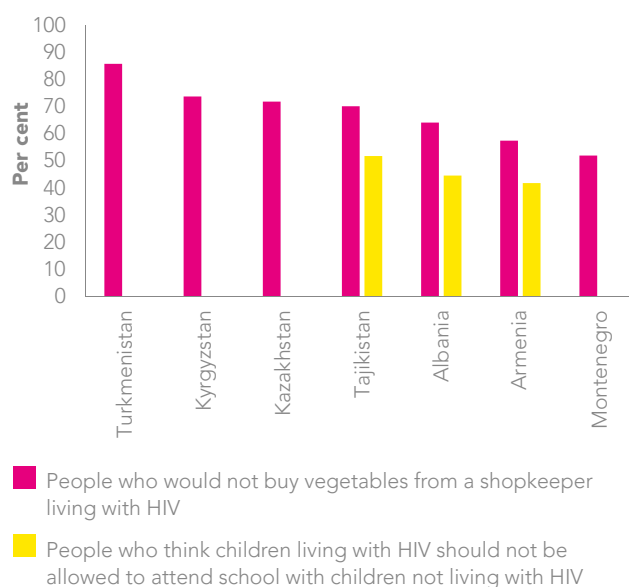
Population-based surveys reveal high levels of HIV-related stigma and discrimination in this region. At least 40% of survey respondents in three countries with data stated that children living with HIV should not attend the same schools as other children, and at least 70% of people in four countries said they would not buy vegetables from a shopkeeper who was living with HIV (Figure 16.13). ■

**FIGURE 16.12** Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, eastern Europe and central Asia, most recent data, 2016–2017



Source: Population-based surveys, 2016–2017.

**FIGURE 16.13** Percentage of men and women aged 15–49 years with discriminatory attitudes towards people living with HIV, eastern Europe and central Asia, 2013–2018



Note: Data for Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan are for female respondents only.

Source: Population-based surveys, 2013–2018, countries with available data.



A Convictus outreach worker provides condoms to a sex worker in Kyiv, Ukraine.  
Credit: Convictus



## INVESTING TO END AN EPIDEMIC

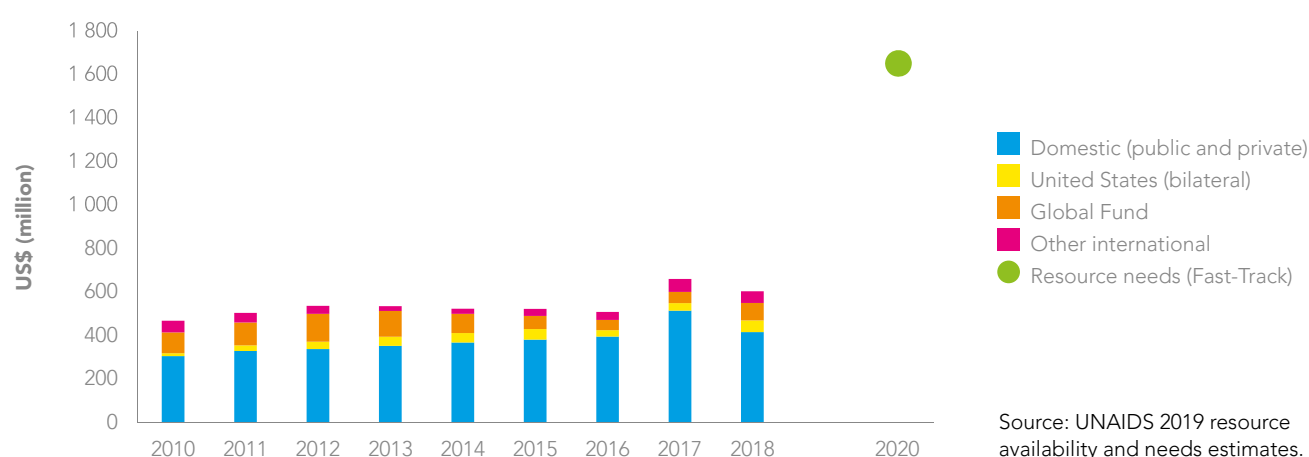
Total HIV funding in the region, not including the Russian Federation, increased by 29% from 2010, reaching US\$ 603 million in 2018 (in 2016 constant US dollars).<sup>1</sup> This represents a little more than one third of the resources needed to reach the region's 2020 Fast-Track Targets (Figure 16.14). Domestic resources increased by 36%, and there was a significant increase in bilateral resources from the Government of the United States of America (although that increase was from a very low level). Resources from the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund), however, decreased by 16% over the same period.<sup>2</sup>

More than two thirds (69%) of the region's HIV response is funded from domestic sources, a slightly larger share

than in 2010. Bilateral funding from the United States accounted for 9% of resources available for HIV in 2018, while those from the Global Fund accounted for 13% and those from all other international contributors accounted for 9%.

Domestic resources available for HIV programmes in 2018 were 19% lower than in 2017 (in 2016 constant US dollars), while United States bilateral and Global Fund funding each increased by 56%. All other international donor funding decreased by 10%. The Russian Federation increased domestic financing of its response by 8% in 2018 (in national currency) over the previous year. ■

**FIGURE 16.14. HIV resource availability, by source, eastern Europe and central Asia, 2010–2018, and projected resource needs by 2020**



Source: UNAIDS 2019 resource availability and needs estimates.

Note: Data from the Russian Federation is not included in this analysis.

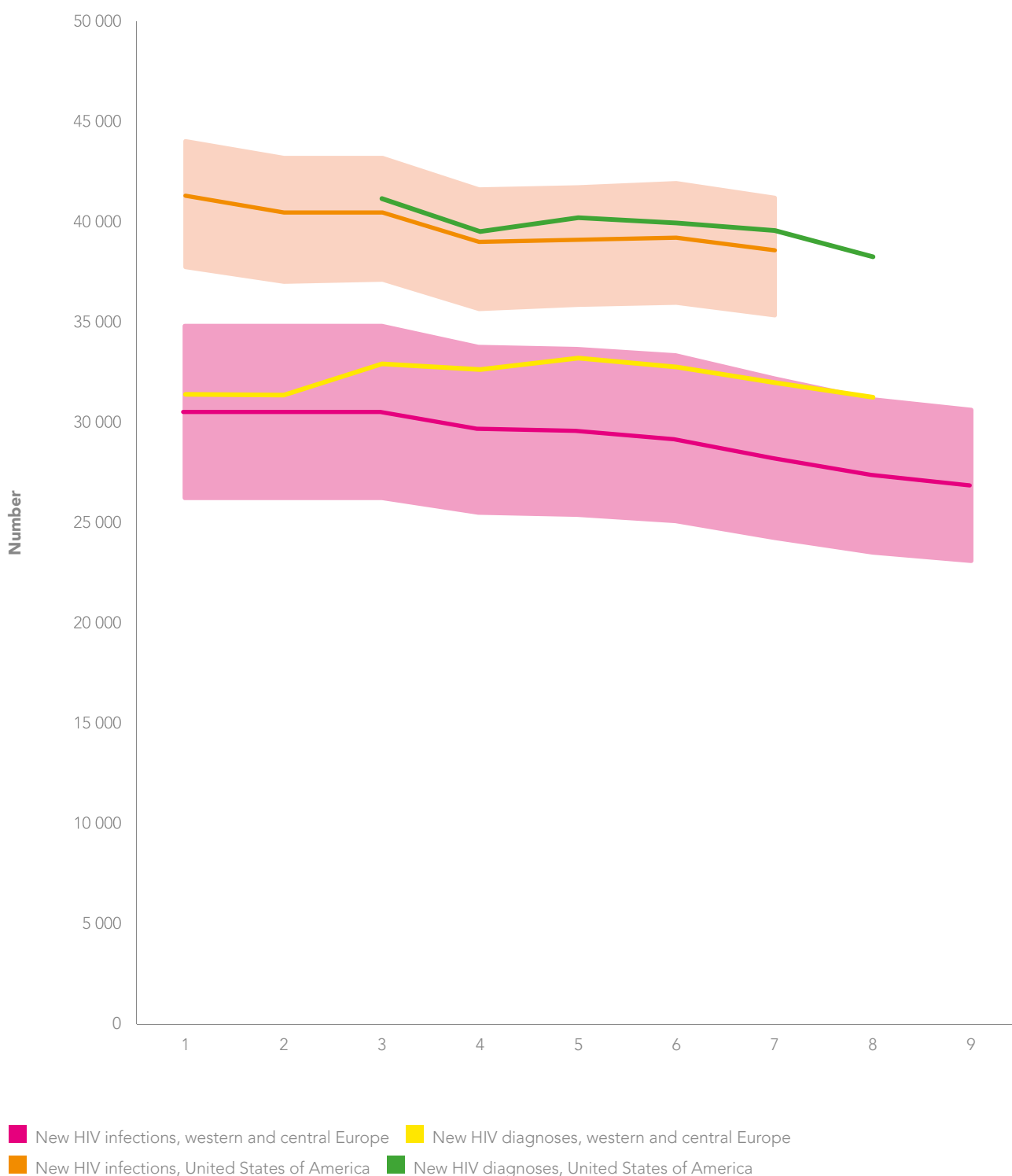
<sup>1</sup> Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the Investing to End an Epidemic chapter.

<sup>2</sup> The Global Fund disbursements to countries decreased by 20% in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

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2. Sazonova Y, Salyuk T; Alliance for Public Health. Main results of bio-behavioral surveillance among key populations. Kyiv (Ukraine): Alliance for Public Health; 2018 ([http://aph.org.ua/wp-content/uploads/2018/10/OSNOVNY-REZULTATY-A4-ENG-site-version-16.10.2018\\_red.pdf](http://aph.org.ua/wp-content/uploads/2018/10/OSNOVNY-REZULTATY-A4-ENG-site-version-16.10.2018_red.pdf), accessed 20 June 2019).
3. Kerrigan D, Kennedy CE, Morgan-Thomas R, Reza-Paul S, Mwangi P, Win KT et al. A community empowerment approach to the HIV response among sex workers: effectiveness, challenges, and considerations for implementation and scale-up. *The Lancet*. 2015;385:172–85.
4. Global state of harm reduction 2018. London: Harm Reduction International; 2018 (<https://www.hri.global/files/2019/02/05/global-state-harm-reduction-2018.pdf>, accessed 17 July 2019).

**FIGURE 17.1** Estimated new HIV infections and reported new HIV diagnoses in western and central Europe and the United States of America, 2010–2018



Source: Estimates of new HIV infections: UNAIDS estimates, 2019. New HIV diagnoses data for western and central Europe, including European Union countries and Israel, Serbia, Switzerland and Turkey were abstracted from: European Centre for Disease Prevention and Control, World Health Organization (WHO) Regional Office for Europe. HIV/AIDS surveillance in Europe 2018. 2017 data. Copenhagen: WHO Regional Office for Europe; 2018 (<https://ecdc.europa.eu/sites/portal/files/documents/hiv-aids-surveillance-europe-2018.pdf>, accessed 4 July 2019). Trends in new diagnoses and new infections for western and central Europe exclude data for Germany, where data were not reported for 2017. New HIV diagnoses for the United States abstracted from: HIV surveillance report. Diagnoses of HIV infection in the United States and dependent areas, 2017. Volume 29. Atlanta (GA): Centers for Disease Control and Prevention; 2018 (<http://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>, accessed 5 July 2019).

# WESTERN AND CENTRAL EUROPE AND NORTH AMERICA

## AT A GLANCE

This high-income region appears to be on track to meet the 90–90–90 targets. However, efforts to prevent HIV infections have not achieved sufficient impact.

Western and central Europe as a whole has exceeded the viral load suppression target of 73% of all people living with HIV, but progress is not uniform among countries.

Key populations and their sexual partners accounted for 88% of HIV infections in 2018, with gay men and other men who have sex with men accounting for more than half of all HIV infections.

Comprehensive harm reduction programmes in western and central Europe have pushed new HIV diagnoses among people who inject drugs to an all-time low.

The United States has led the world in the roll-out of PrEP, with more than 130 000 current users in mid-2019, nearly half of the global total.

The high-income region of western and central Europe and North America provides a level of health care to people living with HIV that appears to be on track to meet the 90–90–90 targets. However, efforts to prevent HIV infections have not achieved sufficient impact. Between 2010 and 2016, the decline in annual new HIV infections in the United States was 7%, and in western and central Europe annual new infections fell by 12% between 2010 and 2018 (Figure 17.1). The United States accounted for more than half (57%) of new infections in the region in 2016, the latest year for which data are available.

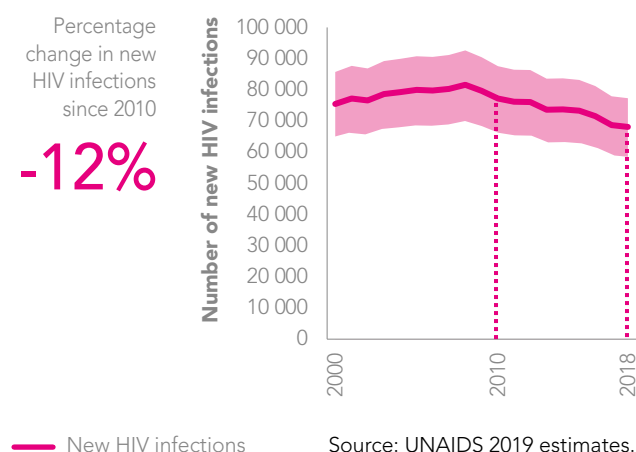
The annual number of people newly diagnosed in western and central Europe and the United States was higher than the annual number of new HIV infections, indicating that the number of people living with HIV who are undiagnosed has declined over time. When testing coverage is high, changes in new HIV

diagnoses are preceded by earlier changes in the underlying incidence of HIV infection. In western and central Europe, the gap between new HIV infections and diagnoses is wider, although the gap narrowed between 2016 and 2017.

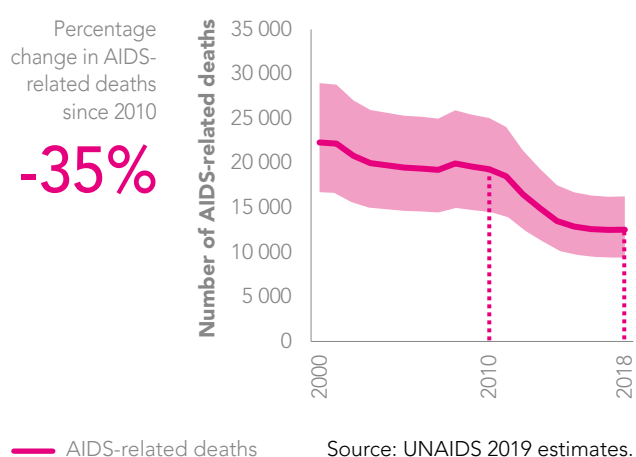
In 2019, the United States launched an ambitious plan to reduce the number of new HIV infections in the country by 75% within five years, and then by at least 90% within 10 years, for an estimated 250 000 total HIV infections averted (1). The plan calls for an intensified use of case reports and other data to focus efforts on the counties and populations in greatest need with evidence-informed HIV prevention and treatment, including pre-exposure prophylaxis (PrEP) for people at higher risk of HIV infection and antiretroviral therapy to achieve viral load suppression among people living with HIV. ■

## STATE OF THE EPIDEMIC

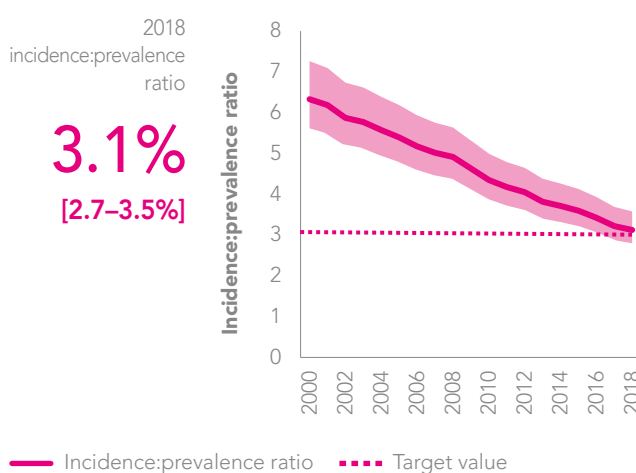
**FIGURE 17.2** Number of new HIV infections, western and central Europe and North America, 2000–2018



**FIGURE 17.3** Number of AIDS-related deaths, western and central Europe and North America, 2000–2018



**FIGURE 17.4** Incidence:prevalence ratio, western and central Europe and North America, 2000–2018



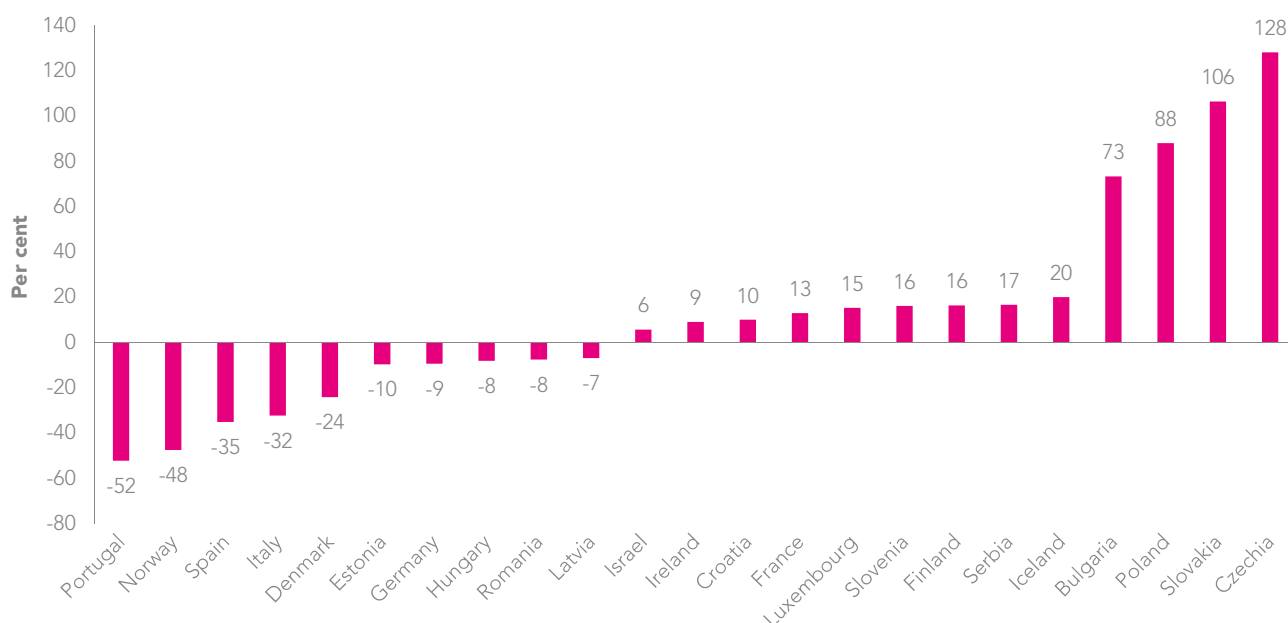
The estimated number of new HIV infections in western and central Europe and North America has declined over the past decade, but the pace of decline is insufficient to reach the region's 2020 target (Figure 17.2). Reductions in AIDS-related deaths have been stronger, reaching 13 000 [9000–16 000] in 2018 (Figure 17.3). The region's incidence-prevalence ratio has steadily declined, to 3.1% [2.7–3.5%] in 2018, meaning that the UNAIDS benchmark of 3.0% has nearly been met (Figure 17.4).

National trends in HIV infections within the region varied. Denmark, Norway, Portugal and Spain have achieved steep declines in the number of annual infections, while Bulgaria, Czechia, Poland and Slovakia have seen annual HIV infections rise precipitously (Figure 17.5). In the cases of Bulgaria, Czechia and Slovakia, each country had less than 500 infections in 2018.

Key populations and their sexual partners accounted for 88% of HIV infections in 2018, with gay men and other men who have sex with men accounting for more than half of all HIV infections (Figure 17.1). In Europe, there is a growing divide between countries in the western and central subregions. In western Europe, new HIV diagnoses among gay men and other men who have sex with men were declining rapidly in several countries, while in eastern Europe there have been increases in new diagnoses among that key population. Median HIV prevalence among gay men and other men who have sex with men among 21 countries that reported data was 6.7%, with six countries reporting HIV prevalence above 10% (Figure 17.6).

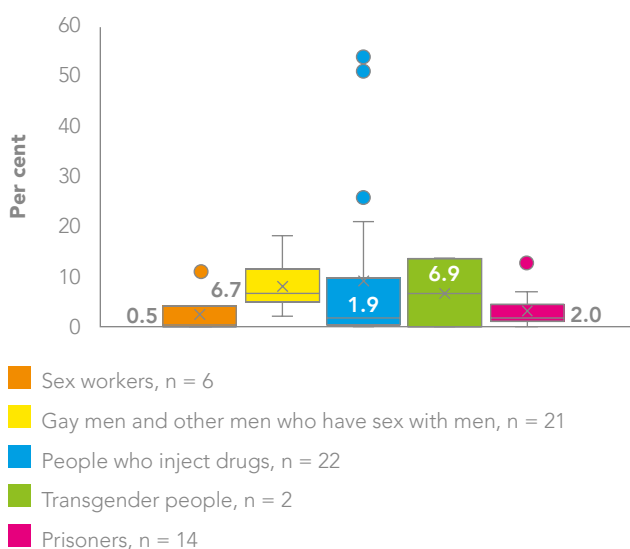
New HIV diagnoses among people who inject drugs are at an all-time low in western and central Europe, representing only 4.6% of all new HIV diagnoses with known transmission mode in 2017, showing the effectiveness of comprehensive harm reduction programmes (2). However, local HIV outbreaks continue to occur, demonstrating the importance of keeping harm reduction at high coverage and addressing new challenges, such as stimulant injecting and chemsex. Median HIV prevalence among people who inject drugs in 22 countries that reported data was 1.9%, with three countries reporting HIV prevalence above 20%. ■

**FIGURE 17.5** Percentage change in new HIV infections, by country, western and central Europe and North America, 2010–2018



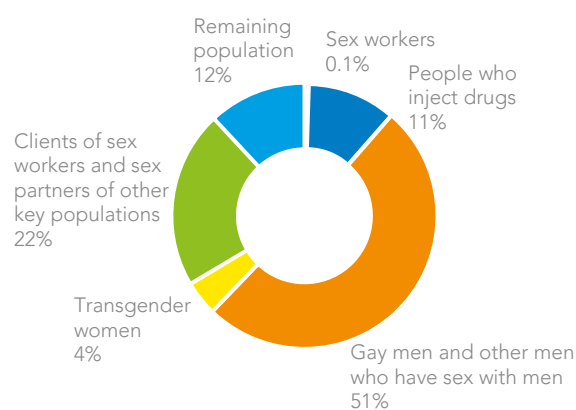
Source: UNAIDS 2019 estimates.

**FIGURE 17.6** HIV prevalence among key populations, western and central Europe and North America, 2014–2018



Source: Global AIDS Monitoring, 2014–2018.

**FIGURE 17.7** Distribution of new HIV infections (aged 15–49 years), by population group, western and central Europe and North America, 2018



Source: UNAIDS special analysis, 2019.

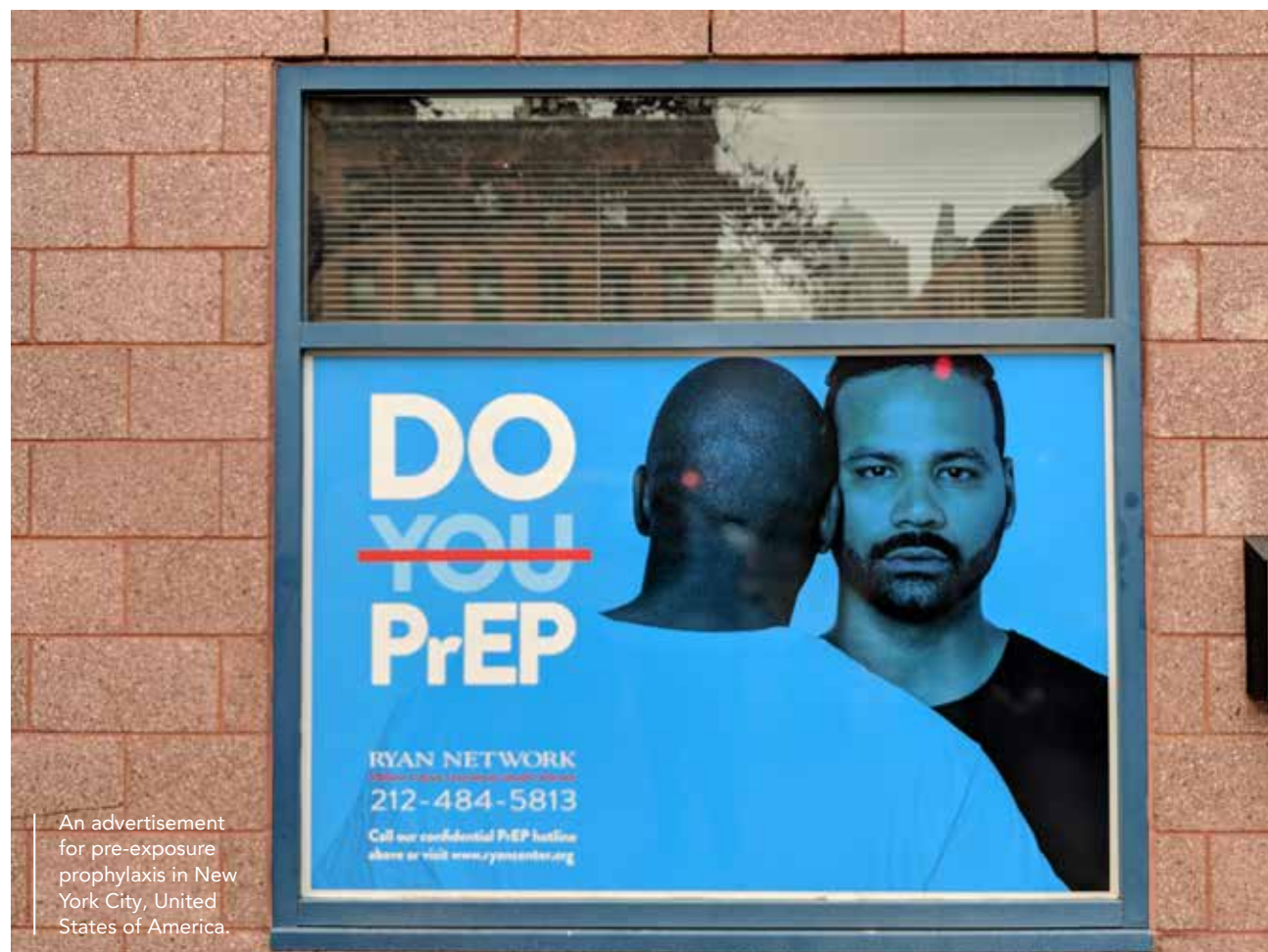


**TABLE 17.1** Estimated size of key populations, western and central Europe and North America, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Canada	31 004 000									14 000	0.05
Czechia	8 974 000									22 000	0.24
Estonia	1 088 000									2 100	0.20
Israel	6 107 000										
Serbia	7 331 000										
United States of America	265 224 000							1 000 000	0.38		

■ National population size estimate 
 ■ Local population size estimate 
 ■ Insufficient data 
 ■ No data

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).



An advertisement for pre-exposure prophylaxis in New York City, United States of America.

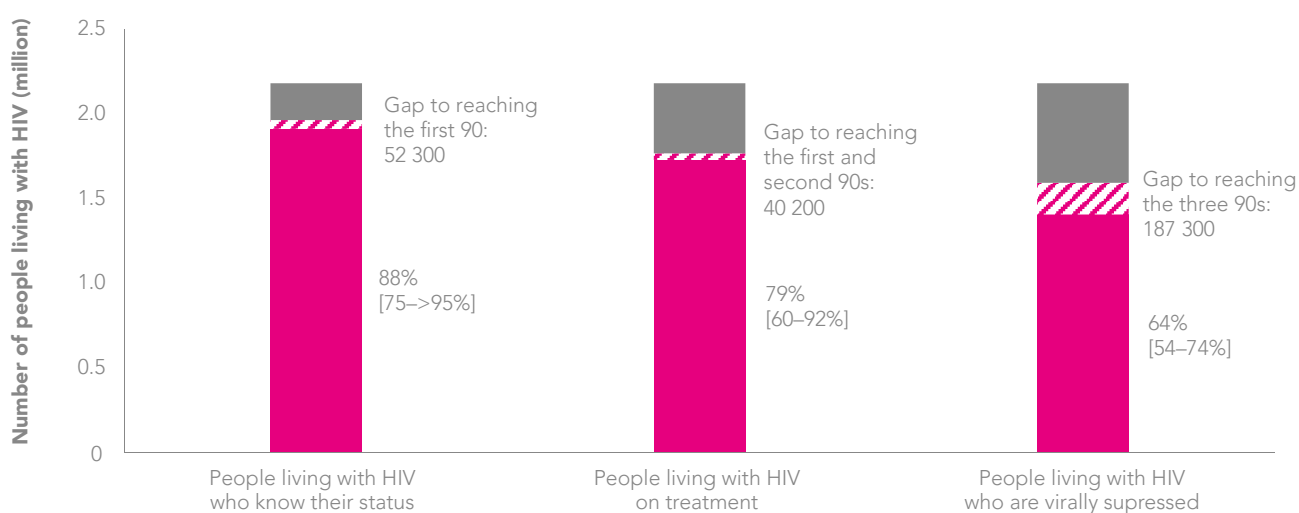
## THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

Of the estimated 2.2 million [1.9 million–2.4 million] people living with HIV in the region in 2018, 88% [75–>95%] knew their status, 79% [60–92%] were on treatment and 64% [54–74%] were virally suppressed—progress that appears to be on track to meet the 90–90–90 targets (Figure 17.8). Western and central Europe has exceeded the viral load suppression target of 73% of all people living with HIV (Figure 17.10), but progress varies among countries across the region (Table 17.2). There is a need for more disaggregated data on access to testing and treatment among key populations.

According to the latest available data, viral load suppression in the United States remains worryingly low, although an estimated 76% of people who received an HIV diagnosis in 2016 were linked to HIV medical care within one month (3).

Late HIV diagnoses remain a challenge in western and central Europe. Among adults (aged 15 years and older) newly diagnosed for whom information about CD4 cell count at the time of HIV diagnosis was available, just over half (53%) were late presenters, with CD4 cell counts below 350 cells/mm<sup>3</sup>, including 32% with advanced HIV infection (CD4 below 200 cells/mm<sup>3</sup>). The percentage of people newly diagnosed who were late presenters varied across transmission categories and age groups. The percentage of late presenters at diagnosis was highest for people with reported heterosexual transmission (62% for men with heterosexual transmission and 54% for women with heterosexual transmission) and for people who acquired HIV through injecting drug use (55%), and it was lowest for gay men and other men who have sex with men (39%). The percentage of late presenters at diagnosis increased with age, ranging from 34% and 32% among people aged 15–19 years and 20–24 years, respectively, to 66% among those aged 50 years or older (4). ■

**FIGURE 17.8** HIV testing and treatment cascade, western and central Europe and North America, 2018



Source: UNAIDS special analysis, 2019; see annex on methods for more details.

**TABLE 17.2 90–90–90 country scorecard: western and central Europe and North America, 2018<sup>1,2</sup>**

	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
<b>Western and central Europe and North America</b>	<b>88</b>			<b>90</b>			<b>81</b>			<b>64</b>		
Andorra												
Austria				93			86					
Belgium												
Bulgaria	83	>95	79	50	36	54	94	>95	94	39	33	40
Canada												
Croatia							90	85	91	68	56	69
Cyprus												
Czechia	61			>95						51		
Denmark	90	91	90	95	>95	94	>95			85		
Estonia	83	94	77	71	71	70	90	90	90	53	60	49
Finland	91	91	91	84	83	84	88			67		
France	88	87	88	92	88	93	93	>95	92	75	74	75
Germany	87	88	87	93	94	92	95	95	95	77	79	76
Greece												
Hungary	90	64	95	62	64	61						
Iceland	80	>95	74	>95	>95	>95	95	>95	95	76	92	70
Ireland	90	86	92	89	88	88	95	95	95	76	72	77
Israel	87	90	86									
Italy	92	85	94	87	91	86	87	95	84	70	74	68
Kosovo												
Latvia												
Liechtenstein												
Lithuania												
Luxembourg	86	87	86	89	90	89	89	86	90	68	67	69
Malta							87					
Monaco				>95	>95	>95	>95	>95	>95			
Netherlands	90	>95	88	93	90	93	94	92	94	78	80	78
Norway	>95	>95	>95	84	84	84						
Poland												
Portugal	89			>95								
Romania	87	>95	80	78	73	80	80	80	80	54	57	51
San Marino												
Serbia	86	86	86	76	76	76						
Slovakia	69	51	72	78	94	76	86	85	86	46	41	47
Slovenia												
Spain	86	85	86	93	>95	93	90	93	90	73	76	72
Sweden				>95			95					
Switzerland				>95			>95					
Turkey												
United Kingdom	92			>95			>95			87		
United States of America												

**90–90–90:** 90% and above 85–89% 70–84% 50–69% Less than 50%

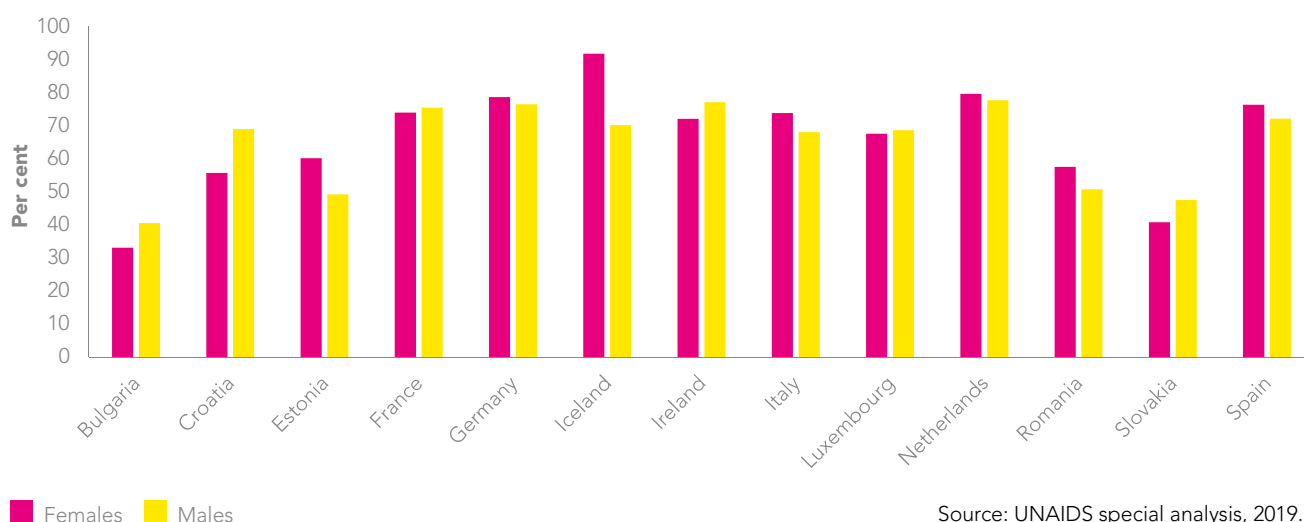
**Viral load suppression:** 73% and above 65–72% 40–64% 25–39% Less than 25%

1 Selected data for western and central Europe provided by the European Centres for Disease Control and Prevention Dublin Declaration reporting.

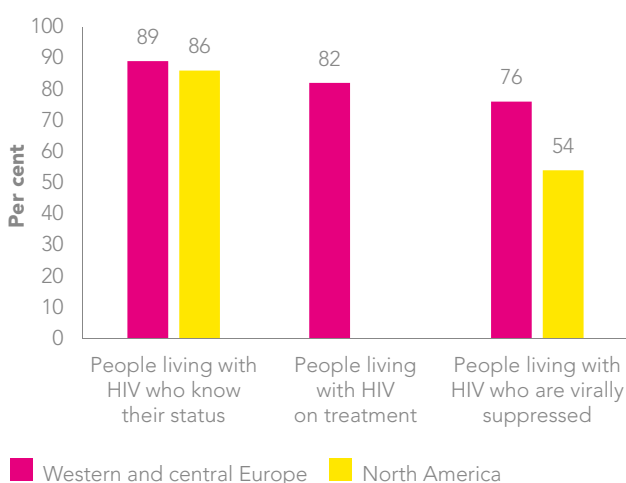
2 All estimates are for 2018 except as follows: 2016: Austria, Denmark, France, Italy and Spain; 2017: Germany, Israel, Luxembourg, Netherlands, Portugal, Switzerland and the United Kingdom

Source: UNAIDS special analysis, 2019.

**FIGURE 17.9** Viral load suppression among adults (aged 15 years and older) living with HIV, by sex, western and central Europe, 2018



**FIGURE 17.10** HIV testing and treatment cascade, western and central Europe and North America



Note: Estimates of the HIV testing and treatment cascades are for the latest year of published data (2016 for North America and 2018 for western and central Europe). The estimate of the percentage of people living with HIV on treatment in the United States is not available for 2016, and the value for the area is excluded.

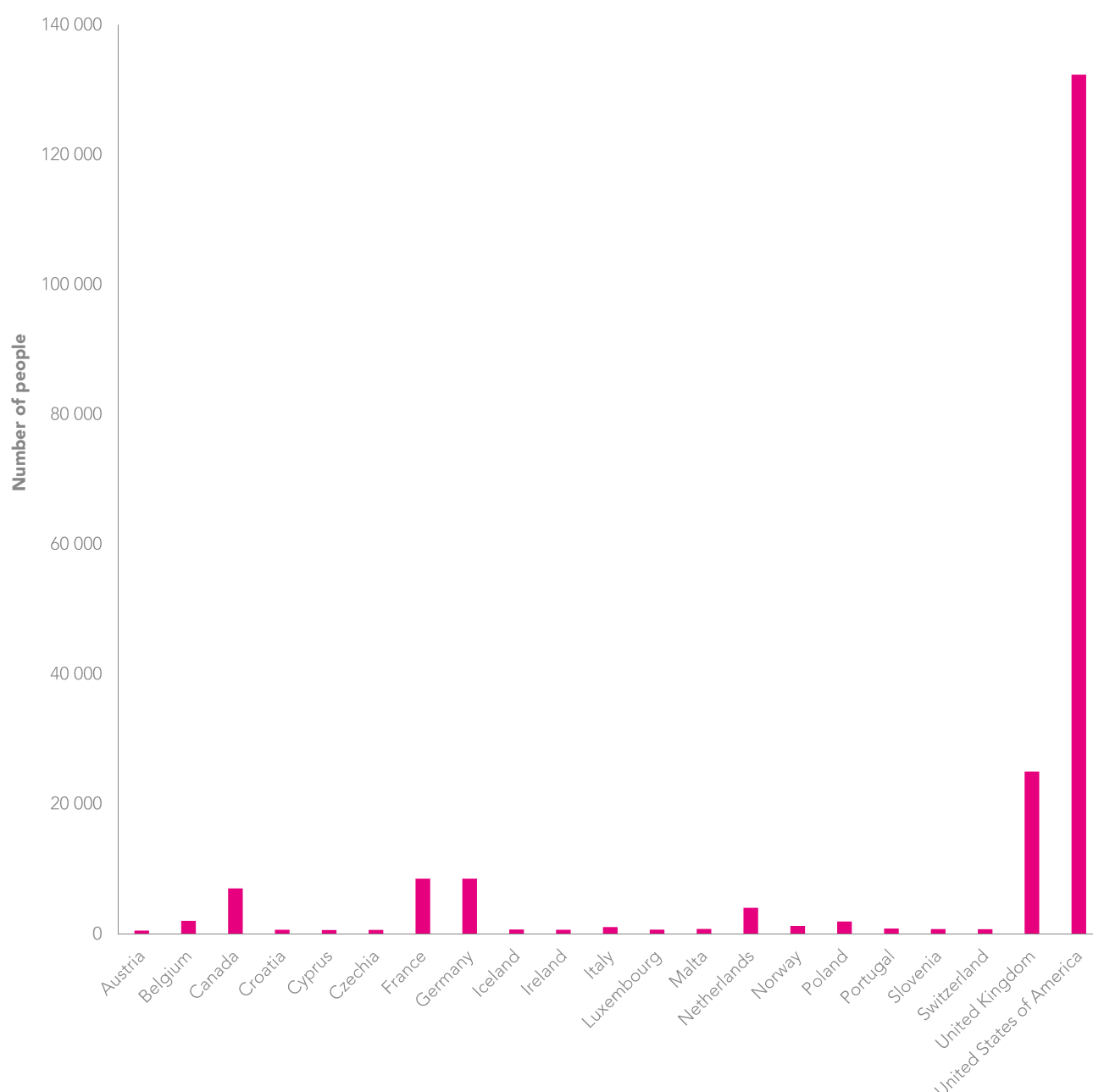
Source: UNAIDS special analysis, 2019; and Monitoring selected national HIV prevention and care objectives by using HIV surveillance data. United States and 6 dependent areas, 2017. Volume 24, number 3. Atlanta (GA): Centers for Disease Control and Prevention; 2019 (<https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-24-3.pdf>, accessed 5 July 2019).

## A COMBINATION APPROACH TO PREVENTION

The United States has led the world in the roll-out of PrEP, with more than 130 000 current users in mid-2019, nearly half of the global total (Figure 17.11). The United Kingdom of Great Britain and Northern Ireland had

about 25 000 active PrEP users in 2019. In San Francisco and London, PrEP scale-up and high rates of viral suppression among people living with HIV have been attributed to a decline in new HIV diagnoses (5, 6). ■

**FIGURE 17.11** Number of people taking PrEP at least once during 2018, western and central Europe and North America, 2018



Source: 2019 Global AIDS Monitoring; World Health Organization, UNAIDS, European Centre for Disease Prevention and Control. Pre-exposure prophylaxis in the EU/EEA setting. Meeting notes. Stockholm; 15–16 November 2018; Canada. In: PrEPWatch [Internet]. AVAC; 1 May 2019 (<https://www.prepwatch.org/country/canada/>, accessed 3 July 2019); The HIV situation in Norway as of 31 December 2018. Oslo: Norwegian Institute of Public Health; 2019 ([https://www.fhi.no/globalassets/dokumenterfiler/trykksaker/gonore-syfilis-hiv-klamysia/hivarsoppgjor-2018\\_050319.pdf](https://www.fhi.no/globalassets/dokumenterfiler/trykksaker/gonore-syfilis-hiv-klamysia/hivarsoppgjor-2018_050319.pdf), accessed 20 June 2019); and Direct communication with CDC and Gilead: Dawn Smith, Norma Harris and Robertino Mera.

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# ANNEX ON METHODS



# PART I. METHODS FOR DERIVING UNAIDS HIV ESTIMATES

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## INTRODUCTION

UNAIDS annually provides revised global, regional and country-specific modelled estimates using the best available epidemiological and programmatic data to track the HIV epidemic. Modelled estimates are required because it is impossible to count the exact number of people living with HIV, people who are newly infected with HIV or people who have died from

AIDS-related causes in any country: doing so would require regularly testing every person for HIV and investigating all deaths, which is logistically impossible and ethically problematic. Modelled estimates—and the lower and upper bounds around these estimates—provide a scientifically appropriate way of describing HIV epidemic levels and trends.

## PARTNERSHIPS IN DEVELOPING METHODS FOR UNAIDS ESTIMATES

Country teams use UNAIDS-supported software to develop estimates annually. The country teams are primarily comprised of demographers, epidemiologists, monitoring and evaluation specialists, and technical partners.

The software used to produce the estimates is Spectrum, which is developed by Avenir Health, and the Estimates and Projections Package, which is developed by the East–West Center.<sup>1</sup> The UNAIDS Reference Group on Estimates, Modelling and Projections provides technical guidance on the development of the HIV component of the software.<sup>2</sup>

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1 More information on Avenir Health can be found at [www.avenirhealth.org](http://www.avenirhealth.org). The East–West Center website can be found at [www.eastwestcenter.org](http://www.eastwestcenter.org).

2 For more on the UNAIDS Reference Group on Estimates, Modelling and Projections, please visit [www.epidem.org](http://www.epidem.org).

## A BRIEF DESCRIPTION OF METHODS USED BY UNAIDS TO CREATE ESTIMATES<sup>3</sup>

For countries where HIV transmission is high enough to sustain an epidemic in the general population, available epidemiological data typically consist of HIV prevalence results from pregnant women attending antenatal clinics and from nationally representative population-based surveys. Many countries have historically conducted HIV sentinel surveillance among women attending antenatal clinics, which requires collecting data from a selection of clinics for a few months every few years. More recently, a number of countries have stopped conducting sentinel surveillance among pregnant women and are now using the data from the routine HIV tests conducted when pregnant women attend antenatal clinics and are tested for HIV. These data avoid the need to conduct a separate surveillance effort, and they provide a complete set of data from all clinics across the country instead of samples from specific sites.

The trends from pregnant women at antenatal clinics, whether done through surveillance or routine data, can be used to inform estimates of national prevalence trends, whereas data from population-based surveys—which are conducted less frequently but have broader geographical coverage and also include men—are more useful for informing estimates of national HIV prevalence levels. Data from these surveys also contribute to estimating age- and sex-specific HIV prevalence and incidence levels and trends. For a few countries in sub-Saharan Africa that have not conducted population-based surveys, HIV prevalence levels are adjusted based on comparisons of antenatal clinic surveillance and population-based survey data from other countries in the region. HIV prevalence trends and numbers of people on antiretroviral therapy are then used to derive an estimate of HIV incidence trends.

Historically, countries with high HIV transmission have produced separate HIV prevalence and incidence trends for rural and urban areas when there are well-established geographical differences in prevalence. To better describe and account for further geographical heterogeneity, an increasing number of countries have produced subnational estimates (e.g., at the level of the province or state) that, in some cases, also account for rural and urban differences. These subnational or

rural–urban estimates and trends are then aggregated to obtain national estimates.

In the remaining countries, where HIV transmission occurs largely among key populations at higher risk of HIV and the epidemic can be described as low-level, the estimates are derived from either surveillance among key populations and the general, low-risk population, or from HIV case reporting data, depending on which data are most reliable in a particular country. In countries with high-quality HIV surveillance data among the key populations, the data from repeated HIV prevalence studies that are focused on key populations are used to derive national estimates and trends. Estimates of the size of key populations are increasingly derived empirically in each country; when studies are not available, they are derived based on regional values and consensus among experts. Other data sources—including HIV case reporting data, population-based surveys and surveillance among pregnant women—are used to estimate the HIV prevalence in the general, low-risk population. The HIV prevalence curves and numbers of people on antiretroviral therapy are then used to derive national HIV incidence trends.

For most countries in western and central Europe and North America—and many countries in Latin America, the Caribbean, and the Middle East and North Africa that have insufficient HIV surveillance or survey data, but that have robust disease reporting systems—HIV case reporting and AIDS-related mortality data from vital registration systems are directly used to inform trends and levels in national HIV prevalence and incidence. These methods also allow countries to take into account evidence of underreporting or reporting delays in HIV case report data, as well as the misclassification of deaths from AIDS-related causes.

In all countries where UNAIDS supports the development of estimates, assumptions about the effectiveness of HIV programme scale-up and patterns of HIV transmission and disease progression are used to obtain the following age- and sex-specific estimates of people living with HIV, people newly infected with HIV, people dying from AIDS-related illness and other important indicators (including treatment programme coverage statistics). These assumptions are based on

<sup>3</sup> A full description of the methods used for the 2019 estimates is available in the July 2019 supplement of the journal AIDS.

systematic literature reviews and analyses of raw study data by scientific experts. Demographic population data, including fertility estimates, are derived from the United Nations Population Division's World Population Prospects 2017 data files.

Selected inputs into the model—including the number of people on antiretroviral therapy and the number of women accessing services for the prevention of mother-to-child transmission of HIV by type of regimen—are reviewed and validated in partnership with the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), the Government of the United States of America, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and other partners.

Final country-submitted files containing the modelled outputs are reviewed at UNAIDS to ensure that the results are comparable across regions and countries and over time.

In 2019, sub-national estimates were created and used by more than 25 countries for internal planning purposes. The methods for producing robust sub-national estimates varies by country and depends primarily on the availability of sub-national data. Four methods were used (Mathematical modelling, Model-based geo-statistics, small area estimation and direct estimates from prevalence surveys) to derive the sub-national estimates. The methods to generate robust sub-national estimates are still being refined.

## UNCERTAINTY BOUNDS AROUND UNAIDS ESTIMATES

The estimation software calculates uncertainty bounds around each estimate. These bounds define the range within which the true value lies (if it can be measured). Narrow bounds indicate that an estimate is precise, while wide bounds indicate greater uncertainty regarding the estimate.

In countries using HIV surveillance data, the quantity and source of the data available partly determine the precision of the estimates: countries with more HIV surveillance data have smaller ranges than countries with less surveillance data or smaller sample sizes. Countries in which a national population-based survey has been conducted generally have smaller ranges around estimates than countries where such surveys have not been conducted. Countries producing subnational estimates at the provincial level have wider ranges. In countries using HIV case reporting and AIDS-related mortality data, the number of years of data and the magnitude of the cases reported or AIDS-related

deaths observed will contribute to determining the precision of the estimate.

The assumptions required to arrive at the estimate also contribute to the extent of the ranges around the estimates: in brief, the more assumptions, the wider the uncertainty range, since each assumption introduces additional uncertainties. For example, the ranges around the estimates of adult HIV prevalence are smaller than those around the estimates of HIV incidence among children, which require additional data on prevalence among pregnant women and the probability of mother-to-child HIV transmission that have their own additional uncertainty.

UNAIDS is confident that the actual numbers of people living with HIV, people who are newly infected with HIV or people who have died from AIDS-related causes lie within the reported ranges. Over time, more and better data from countries will steadily reduce uncertainty.

## IMPROVEMENTS INCLUDED IN THE 2019 UNAIDS ESTIMATES MODEL

Country teams create new Spectrum files every year. The files may differ from one year to the next for two reasons. First, new surveillance and programme data are entered into the model; this can change HIV prevalence and incidence trends over time or antiretroviral therapy coverage rates, including for past years. Second, improvements are incorporated into the model based on the latest available science and statistical methods, which leads to the creation of more accurate trends in

HIV incidence. Due to these improvements to the model and the addition of new data to create the estimates, the results from previous years cannot be compared with the results from this year. A full historical set of estimates are created each year, however, enabling a description of trends over time.

Between the 2018 estimates and the 2019 estimates, the following changes were applied to the model



under the guidance of the UNAIDS Reference Group on Estimates, Modelling and Projections and based on the latest scientific evidence.

### **New incidence estimation model for generalized epidemics**

In 2019, a new model (R-hybrid) was introduced that uses an improved function to estimate the rate of HIV infection during different phases of the HIV epidemic. For estimating infections early in the epidemic, when data were relatively sparse, the new model has a simple structure that follows the consistent pattern across countries of exponential growth, peak and decline. For more recent years the model has more flexibility to follow the increased amount of data to shape the trends in new infections. This new model improves the fit to existing prevalence data, especially for recent routine testing data from antenatal clinics.

The previous incidence estimation model used in generalized epidemics assumed HIV prevalence stabilized at the last observed value. The impact of adopting the R-hybrid model will be minimal in countries with substantial historical surveillance data and recent surveys, but in countries with few data points early in the epidemic or in recent years, the R-hybrid model should improve the fit to available data.

### **Mortality among people not receiving treatment**

Assumptions of the risk of mortality among people not receiving treatment were reduced based on high quality vital registration data where fewer AIDS-related deaths among the untreated HIV positive adults were recorded than predicted by Spectrum.

The impact of this change is lower mortality rates among people not receiving treatment and fewer AIDS-related deaths overall.

### **Mortality among people receiving antiretroviral therapy**

Previously, the model assumed that mortality rates following antiretroviral therapy initiation are constant over time, conditional on age, sex, baseline CD4 count and duration on treatment. However, recent studies have shown that these rates have declined over time,

even after controlling for temporal changes in baseline CD4 count and treatment duration. A temporal reduction in mortality was included in the model as estimated from the leDEA cohort data.

leDEA data were also reanalysed for Latin America, North America, and Asia and the Pacific with improved assumptions about mortality among those lost to follow-up. This resulted in substantially lower mortality rates than previously estimated. In countries with high-quality mortality data, on- and off-treatment mortality were adjusted to match AIDS-related deaths. An option to specify allocation of treatment disproportionately to either those with low CD4 counts or according to eligibility criteria was introduced to better match the low number of AIDS-related mortality data observed in western and central Europe.

### **Fertility among women living with HIV**

The 2019 Spectrum model included updated parameters about the fertility of women living with HIV who were not receiving antiretroviral therapy. The new parameters led to higher fertility among women living with HIV early in the epidemic, before treatment was provided to HIV-positive pregnant women. This adjustment increased historical estimates of children living with HIV.

In the 2019 model, HIV prevalence data from routine testing among pregnant women at antenatal clinics were used to calibrate the estimated births to women living with HIV. This increased the estimates in some countries and decreased the values in others. There is still some work to be done to ensure the country programme data used for this calibration are robust.

### **Breastfeeding among women living with HIV**

New analysis of survey data done in early 2019 found that women who were living with HIV before widespread HIV testing and treatment had shorter breastfeeding duration. The model previously assumed that women who did not know their HIV status had similar breastfeeding patterns as women who were HIV-negative.

In 2019, eight high-burden countries in eastern southern Africa with household surveys from the early 2000s adjusted the breastfeeding duration among

undiagnosed women living with HIV to reflect the new analysis. The impact of this change is reduced mother-to-child transmission during breastfeeding.

### Probability of mother-to-child transmission

Analysis conducted for the UNAIDS Reference Group on Estimates, Modelling and Projections found minor updated transmission probabilities based on the latest published literature about the impact of different antiretroviral regimens on mother-to-child transmission. This had minimal impact on the child HIV estimates.

### Updated age at initiation of antiretroviral therapy for children

The average age of children starting antiretroviral therapy has changed over the years as children are diagnosed earlier. Data from the IeDEA and CIPHER networks provide data on the average age of children starting antiretroviral therapy in multiple regions around the world. These data are available for each calendar year from 2002 through 2016. The most recent update of these data suggested an increase in the proportion of children under two years of age starting on treatment and a small reduction to the proportion of children older than 10 years of age starting on treatment. This has a small impact on both the number of children living with HIV and on AIDS-related deaths among children.

### Retention on treatment of pregnant women

Many countries do not have robust data available on the retention of women on treatment during pregnancy. An analysis conducted for the UNAIDS Reference Group on Estimates, Modelling and Projections suggested that at the time of delivery, only 80% of women were retained on treatment. This estimate was used as a default value for women already on treatment before the pregnancy and for those women who started treatment during the pregnancy. Most of the high-burden countries in eastern and southern Africa updated this assumption to reflect available data. Previously, the default assumption was that 75% of women were retained on treatment at delivery before the pregnancy.

### Changes to case surveillance and vital registration model

The age range of requested model inputs of new diagnoses, CD4 count at diagnosis and AIDS-related mortality was changed from all ages to 15 years and older. It was recommended that AIDS-related death estimates (adjusted for incomplete reporting and misclassification) rather than raw AIDS-related deaths from the vital registration system be used in the fitting process. A new function was added to estimate new diagnosis based on age, sex and year. Also, a new r-logistic fitting approach was added. Complementing this new model is another function that provides the user with the ability to determine which model best fits the inputs.

### Surveillance data entered into the model

In 2018, Nigeria conducted a large household survey to improve the precision of the estimate of HIV prevalence in the country. The Nigeria AIDS Indicator and Impact Survey (NAIIS) found lower HIV prevalence than previous household surveys. The new survey estimates were included in the Nigeria Spectrum models and previous survey data were removed, resulting in a shift in HIV prevalence to a lower level over the full history of the epidemic. This change also shifted the estimated prevalence in western and central Africa to slightly lower levels.

At the global level, trends in new HIV infections, AIDS-related deaths and people living with HIV are similar to previous estimates, although there are shifts within regions. The number of AIDS-related deaths has shifted downward in all regions due to changes in the models. New HIV infections are slightly flatter than estimated in 2018 in Asia and the Pacific and in eastern Europe and central Asia. Lower estimates of people living with HIV in western and central Africa were offset by higher estimates in Asia and the Pacific.

More detailed information on revisions to the 2019 model and Spectrum generally can be found at [www.epidem.org](http://www.epidem.org).

## PUBLICATION OF COUNTRY-SPECIFIC ESTIMATES

UNAIDS aims to publish estimates for all countries with populations of 250 000 or more (according to the United Nations Population Division 2017 World Population Prospects). For the countries with populations of 250 000 or more that did not submit estimates, UNAIDS developed estimates using the Spectrum software based on published or otherwise available information. These estimates contributed to regional and global totals but were not published as country-specific estimates.

In countries with low-level epidemics, the number of pregnant women living with HIV is difficult to estimate. Many women living with HIV in these countries are sex workers or people who use drugs—or they are the sexual partners of people who use drugs or gay men and other men who have sex with men—making them likely to have different fertility levels than the general population. UNAIDS does not present estimates of mother-to-child HIV transmission, including estimates related to children in some countries that have concentrated epidemics, unless adequate data are available to validate these estimates. UNAIDS also does not publish estimates related to children for countries where the estimated number of pregnant women living with HIV is less than 50.

With regard to reporting incidence trends, if there are not enough historical data to state with confidence whether a decline in incidence has occurred, UNAIDS will only publish data for the most recent year. This is done to prevent users from making inaccurate inferences about trends. Specifically, incidence trends are not published if there are fewer than four data points for the key population or if there have been no data for the past four years for countries using repeated survey or routine testing data. Trends prior to 2000 are not published for countries using case surveillance models if there are no early case surveillance or mortality data available.

Finally, UNAIDS does not publish country estimates when further data or analyses are needed to produce justifiable estimates. More information on the UNAIDS estimates and the individual Spectrum files for most countries can be found in the UNAIDS website. Data from the estimates can be found in the AIDSinfo section of the UNAIDS website (<http://aidsinfo.unaids.org>). ■

# PART II.

# METHODS FOR

# DERIVING THE

# 90–90–90 TARGETS

## INTRODUCTION

Since 2015, UNAIDS has reported estimates of global, regional and country-specific progress against the 90–90–90 targets. Progress toward these targets is monitored using three basic indicators:

- ▶ Indicator 1 (the first 90): The percentage of people living with HIV who know their HIV status.
- ▶ Indicator 2 (the second 90): The percentage of people living with HIV who know their status and are accessing treatment.

- ▶ Indicator 3 (the third 90): The percentage of people living with HIV on treatment who have suppressed viral loads.

Indicators 2 and 3 can also be expressed as a percentage of all people living with HIV. When numbers or coverage of the treatment target are expressed relative to the total number of people living with HIV, this is called “the HIV testing and treatment cascade.”—therapy Annual estimates of antiretroviral therapy coverage among people living with HIV are available from the time when treatment was first introduced in countries.

## DATA SOURCES FOR CONSTRUCTING COUNTRY MEASURES

Country-level progress against the 90–90–90 targets was constructed using reported data from Spectrum, the Global AIDS Monitoring tool and (for selected countries in western and central Europe) the Dublin Declaration monitoring process. Estimates are published for all people and separately, by sex, for children (0 to 14 years) and for adults (15 years and older). Upper and lower ranges of uncertainty for country-level estimates were calculated from the range of estimated numbers of people living with HIV. This range may not fully capture uncertainty in the reported estimates.

A description of the target-related indicators that countries report against is provided in the UNAIDS 2019 Global AIDS Monitoring guidelines (1). Data sources are also briefly described. A summary of the number of countries that are publicly reporting on each measure is provided in Table 18.1, organized by region.

The final set of country measures of progress against the 90–90–90 targets for 2015 through 2018 are available at <http://aidsinfo.unaids.org>. Not all countries were able to report against all three prongs of the 90–90–90 targets: complete treatment cascades are published for 60 countries in 2018, up from 23 in 2015.

## Estimates of people living with HIV

All progress measures in this report are based on UNAIDS global, regional and country-specific modelled estimates from Spectrum of the numbers of people living with HIV. Estimates of people living with HIV in 2018 were available for 170 of 193 countries and territories and published for 137. Estimates of people living with HIV are developed for all countries with populations above 250 000.

More details about how UNAIDS derives estimates and uncertainty bounds around the number of people living with HIV can be found in Part 1 of this annex. Published country estimates of people living with HIV (available <http://aidsinfo.unaids.org>) represent 79% of the total global estimated number of people living with HIV in 2018.

## Knowledge of HIV status among people living with HIV

Estimates of the number of people living with HIV who know their status were derived using the most recent HIV surveillance, programme data and nationally representative population-based survey data, and from modelled 2018 estimates for 102 countries. Where data were available separately for children (aged 0–14 years) and adults (aged 15 years and older, by sex), the age- and sex-specific measures were first calculated and then aggregated to produce a national measure.

For 74 countries in 2018—primarily outside of eastern and southern Africa and western and central Africa—the number of people living with HIV who knew their HIV status is based on HIV surveillance case notification data, programme registers or modelled estimates derived from case surveillance data. If the estimate from these sources was lower than the number of people accessing antiretroviral therapy, the reported value was excluded. For countries using HIV surveillance or programme data, a country should have included this measure only if the HIV surveillance system had been functioning since at least 2013 and people who have died, emigrated or who otherwise have been lost to follow-up are removed.

Although HIV surveillance systems, including those based on programme registers, can be a reasonably robust source of data to estimate the number of people living with HIV who know their status, biases in the reported numbers may still exist. For example, a country's measure of the knowledge of status may be underestimated if not all people diagnosed are reported to the surveillance system in a timely manner;

the measure also may be overestimated if people are reported to the system or included on a register more than once and these duplicates are not detected. Similarly, if people die or emigrate but are not removed from the system, the number of people living with HIV who are reported to know their HIV status also will be overstated.

For 28 countries in eastern and southern Africa and western and central Africa, estimates of the numbers of people living with HIV who knew their status were derived using a new UNAIDS-supported mathematical model called the First 90 model. This model uses population-based survey and HIV testing service program data—together with country-specific HIV epidemic parameters from the standard UNAIDS Spectrum model—to produce outputs of knowledge of HIV status for adults, by sex. More details on the modelling approach are available in a forthcoming article (currently in press) (2).

Knowledge of HIV status from the First 90 model for eastern and southern Africa and western and central Africa has a number of strengths compared with UNAIDS' previously recommended approach to estimating knowledge of status relying on population survey data and programme treatment coverage data. Most importantly, the new model differentiates in the population survey data those who are aware of their HIV status and those who likely seroconverted after their last HIV-negative test based on national incidence trends. This approach constrains the upper bound of the proportion of people living with HIV ever tested in the survey who likely knew their HIV status at the time of the survey, thus producing a more accurate estimate of the first 90. Results of the proportion of people who know their HIV status from the model are also available by sex, assuming male-to-female testing ratios have remained relatively constant over time. Estimates of knowledge of status by sex for adults are also available since 2010.

An important model limitation, similar to the previously recommended approach, is that caution should be used in interpreting results when the last population-based survey was conducted more than five years ago or if there are concerns about the accuracy of self-reported testing history in the survey. Model results also are only for those aged 15 years and older. UNAIDS continues to recommend that countries conservatively estimate knowledge of status among children as the proportion of children living with HIV on treatment (unless other information from case surveillance data are available). Additional strengths and limitations of the model are described in the forthcoming article referenced earlier in this section.

## People accessing antiretroviral therapy

Global and regional measures of antiretroviral therapy numbers are abstracted from country-reported programme data through the UNAIDS-supported Spectrum software, the Global AIDS Monitoring reporting tool, and the Dublin Declaration reporting process. In 2018, 143 countries had publicly available estimates of the number of people on treatment, representing 85% of all people on treatment. For the small number of countries where reported numbers of people on treatment are not available in selected years—primarily in western and central Europe and North America, and in China, India and the Russian Federation—estimates of the number of people on treatment are developed either in consultation with the public health agency responsible for monitoring the national treatment programme or based on published sources.

In partnership with UNICEF, WHO, the Government of the United States, the Global Fund and other partners that support treatment service delivery in countries, UNAIDS annually reviews and validates treatment numbers reported by countries through Global AIDS Monitoring and Spectrum. UNAIDS staff also provide technical assistance and training to country public health and clinical officers to ensure the quality of the treatment data reported. Nevertheless, this measure may overestimate the number of people on treatment if people who transfer from one facility to another are reported by both facilities. Similarly, coverage may be overestimated if people who have died, disengaged from care or emigrated are not identified and removed from treatment registries. Treatment numbers also may be underestimated if not all clinics report the numbers on treatment completely or in a timely manner.

In 2016, UNAIDS completed a triangulation of data to verify the UNAIDS global estimate of people accessing antiretroviral therapy at the end of 2015. Since early 2017, UNAIDS and other international partners have supported more than 15 countries, primarily in sub-Saharan Africa, to verify that the number of people reported to be currently on treatment is accurate. For more details about how confident UNAIDS is in reported treatment numbers, please see *How many people living with HIV access treatment?*<sup>4</sup>

## People who have achieved viral suppression

Progress towards the viral suppression target among people on treatment and as a proportion of all people living with HIV was derived from data reported in Spectrum and through the online Global AIDS Monitoring reporting tool and the Dublin Declaration reporting process. For the purposes of reporting, the threshold for suppression is a viral load of less than 1000 copies per ml, although some countries may set lower thresholds or require persons to achieve an undetectable viral load. This guidance also specifies only a person's last test result from the reporting year be submitted, so the reported number suppressed among those tested should represent people and not tests performed.

UNAIDS 2019 Global AIDS Monitoring guidelines were revised from those of 2018 to clarify that countries should report viral load suppression outcomes, regardless of testing coverage. However, viral load testing results will only be published in countries where access to testing is for all or nearly all (>90%) people on treatment or nationally representative (typically 50–90% testing coverage). Table 1 shows the increase in the number of countries able to report on viral load suppression compared to previous years. In 2015, only 26 countries had reliable estimates; in 2018, there were 76 countries with reported data.

For countries with nationally representative but not universally accessible access to treatment, the estimate of viral suppression among those tested (i.e., the third 90) was multiplied by the number of people on treatment to obtain overall viral suppression levels in the country. Countries where testing coverage was 90% or higher reported only the number suppressed among all people on treatment.

A number of challenges exist in using country-reported data to monitor the viral load suppression target. First, routine viral load testing may not be offered at all treatment facilities, and those facilities that do offer it may not be representative of the care available at facilities without viral load testing. By assuming that the percentage of people suppressed among those accessing viral load testing is representative of all people on treatment countries that do not have complete access to testing, the measure may be overestimated or underestimated (depending on the characteristics of the reporting clinics).

4 The document is available at <http://www.unaids.org/en/resources/documents/2016/how-many-people-living-with-HIV-access-treatment>.



**TABLE 18.1** Data availability for constructing UNAIDS measures of progress against the 90–90–90 treatment targets

		Asia and the Pacific	Caribbean	Eastern Europe and central Asia	Eastern and southern Africa	Latin America	Middle East and North Africa	Western and central Africa	Western and central Europe and North America	Global
Number of countries		38	16	16	21	17	20	25	40	193
Number of countries in UNAIDS global estimates		28	10	16	20	17	19	24	36	170
Number of countries with publicly available data on estimates of people living with HIV	2015	20	9	12	20	16	15	24	23	139
	2016	20	9	12	20	16	15	24	24	140
	2017	20	9	12	20	16	15	24	23	139
	2018	20	9	12	20	16	15	24	21	137
Number of countries with publicly available data on knowledge of HIV status	2015	8	6	7	20	6	6	18	9	80
	2016	9	6	8	20	8	6	18	18	93
	2017	12	7	9	20	8	6	18	18	98
	2018	15	6	12	20	9	9	18	13	102
Number of countries with publicly available data on treatment	2015	20	9	13	20	16	15	24	21	138
	2016	20	9	13	20	16	15	24	23	140
	2017	21	9	13	20	16	15	24	24	142
	2018	22	9	14	20	16	17	24	21	143
Number of countries with publicly available data on people with suppressed viral load	2015	5	0	5	3	4	4	1	4	26
	2016	5	2	5	8	7	4	1	13	45
	2017	7	4	8	7	8	6	3	12	55
	2018	9	7	11	13	11	9	6	10	76

Source: UNAIDS special analysis, 2019.

Another challenge in measuring the accuracy of viral load suppression estimates is that UNAIDS guidance requests routine (i.e., annual) viral load testing results only for people who are on treatment and eligible for testing. If people newly initiated on treatment achieve viral suppression but have not yet been offered viral load testing, they will be incorrectly counted as not suppressed, and the resulting viral suppression estimate will be understated. UNAIDS also requests countries to only report results from routine viral load testing: if countries report test results primarily

performed because of suspected treatment failure, the number of people virally suppressed in these countries will be underestimated. UNAIDS validates country submissions for quality, but it is not always possible to identify cases where both routine and other types of testing are occurring. Finally, UNAIDS guidance recommends reporting viral load test results only for people on antiretroviral therapy; persons who are not on treatment and naturally suppress the virus will not be included in this measure.

## METHODS FOR CONSTRUCTION THE 90–90–90 TREATMENT TARGET AT THE REGIONAL AND GLOBAL LEVELS

All programme data submitted to UNAIDS were validated by UNAIDS and its partners prior to publication. Country-submitted data that did not meet the required validation checks for quality either at the indicator level or across the treatment cascade were not included in the composite regional or global measures.

To estimate regional and global progress against the 90–90–90 targets, UNAIDS imputed missing country data for the first and third 90 targets using a Bayesian hierarchical model with uncertainty based on regional trends, sex differences and country-specific data for those countries reporting data for some but not all years. Additional details on the modelling approach are available in a forthcoming article (4). The proportion of data on knowledge of status and viral load suppression that was imputed by region from 2015 to 2018 are shown in Table 18.2.

Due to large differences in the proportion of people virally suppressed in western and central Europe and the United States for the years in which data were available, sub-regional estimates for North America and western and central Europe were separately calculated and then combined to estimate the western and central Europe and North America regional results at large. Upper and lower ranges of uncertainty around the global and regional estimates of the HIV testing and treatment cascade are provided that reflect uncertainty in the number of people living with HIV and uncertainty (from missing country data) in the number of people who know their HIV status and the number of people who are virally suppressed. Based on reports from data quality reviews prior to 2017, uncertainty from possible overreporting or underreporting of treatment numbers of 0.88 and 1.04 for the lower and upper bounds, respectively, was added to the bounds of treatment

coverage among people living with HIV and the second and third 90s. Upper and lower ranges of uncertainty for the 90s do not capture uncertainty in the reported or missing programme data on the numbers of people who know their HIV status or the number of people on treatment who are virally suppressed.

As in previous years, results of global and regional progress towards the 90–90–90 treatment target presented in this report supersede all previously published estimates. The new approach to modelling the global and regional estimates of the first and third 90s builds on the previous UNAIDS approach, which was to calculate missing -data for countries using the ratio of knowledge of status and treatment for the first 90 and the ratio of the number of people suppressed among those on treatment in the region for countries where data were available. One of the benefits of the new approach is that it can use reported data when they are available to estimate trends in and across the region. Also, it is now possible to measure progress separately among adults by sex.

As with the previous approach, one primary drawback to the model is that it is difficult to quantify the extent to which progress in countries that reported data to UNAIDS is similar to that of countries without data in the region. This is particularly true for viral load suppression estimates, where reported data in some regions—especially in 2015 and 2016—are limited. For example, no countries in the Caribbean in 2015 were able to meet the threshold coverage of 50% testing coverage for reporting estimates of viral load suppression. In Asia and the Pacific, national-level estimates of viral load suppression are not available in any year for India and prior to 2018 for China. As access to viral load testing improves over time, the accuracy of the estimates of the third 90 will improve. ■

**TABLE 18.2** Proportion of imputed data used to estimate the regional and global measures of the percentage of people living with HIV who know their HIV status and the percentage of people living with HIV on treatment who are virally suppressed

	Estimates of people living with HIV where knowledge of status is imputed (%)				People living with HIV on treatment where viral suppression is imputed (%)			
	2015	2016	2017	2018	2015	2016	2017	2018
Asia and the Pacific	12	8	10	51	83	84	85	56
Caribbean	7	5	5	18	100	96	63	51
Eastern Europe and central Asia	65	69	68	5	77	76	75	4
Eastern and southern Africa	0	0	0	0	58	33	46	21
Latin America	24	21	20	22	33	29	28	28
Middle East and North Africa	21	25	19	28	63	63	46	37
Western and central Africa	2	2	0	2	99	99	98	47
Western and central Europe and North America	29	4	82	95	33	6	87	98
Global	8	6	10	15	62	46	60	35

Source: UNAIDS special analysis, 2019.

# PART III.

# DATA ON KEY

# POPULATIONS

## DISTRIBUTION OF NEW HIV INFECTIONS BY SUBPOPULATION

The distribution of new HIV infections among subpopulations globally and by region was estimated based on data for 177 countries using five data sources.

For countries that model their HIV epidemic based on data from subpopulations, including key populations, the numbers of new infections were extracted from Spectrum 2019 files. This source provided data for sex workers from 59 countries, for people who inject drugs from 37 countries, for gay men and other men who have sex with men from 61 countries, and for transgender people from 19 countries (all of which were located in Latin America, the Caribbean and Asia and the Pacific). Additionally, 22 countries (mostly from Asia and the Pacific) had data from clients of sex workers.

The second source was mode of transmission studies conducted in countries between 2006 and 2012. The proportions of new infections estimated for each subpopulation, calculated by modes of transmission analyses, were multiplied by the number of total new gender-specific adult infections (among those aged 15–49 years) to derive an estimated number of new infections by subpopulation. This source provided data for sex workers from 18 countries, for people who inject drugs from 25 countries, and for gay men and other men who have sex with men from 22 countries.

New HIV infections for European countries with neither of the aforementioned data sources were derived from the European Centre for Disease Prevention and

Control (ECDC) and WHO Regional Office for Europe HIV/AIDS surveillance in Europe 2017–2018 data (4). The proportions of new diagnoses for each region in Europe (western, central and eastern) were applied to UNAIDS estimates of new infections in each country for people who inject drugs, gay men and other men who have sex with men, and transgender people. Data for sex workers were not available from the ECDC report. New HIV infections in China, India, the Russian Federation and the United States were taken from the most recent available national reports of new diagnoses.

New HIV infections among countries without a direct data source were calculated from regional benchmarks. The benchmarks were set by the median proportion of new infections in the specific subpopulation in all available countries in the same region. The majority of these countries were located in sub-Saharan Africa. There were 112 countries that used benchmark values for the sex work estimate, 92 countries for the people who inject drugs estimate, 69 countries for the gay men and other men who have sex with men estimate, and 82 countries for the transgender people estimate.

The calculated proportions of infections for each key population include the sex partners of members of key populations. New infections among sex partners of key populations were estimated using the number of sex partners and transmission probabilities from the literature.

## QUALITY OF POPULATION SIZE ESTIMATES

The regional sections of this report include tables on the estimated size of key populations. These data are based on values reported through Global AIDS Monitoring in 2018. A comprehensive review of the data was conducted during this reporting round and therefore estimates should not be compared with data presented in previous UNAIDS' reports. As a result of this process, the estimates reported can be categorized as follows:

- ▶ “National population size estimate” refers to estimates that are empirically derived using one of the following methods: multiplier, capture-recapture, mapping/enumeration, network scale up method (NSUM) or population-based survey, or respondent driven sampling–successive sampling (RDS-SS). Estimates had to be national or a combination of multiple sites with a clear approach to extrapolating to a national estimate.
- ▶ “Local population size estimate” refers to estimates that are empirically derived using one of the before mentioned methods but only for a subnational group of sites that are insufficient for national extrapolation.
- ▶ “Insufficient data” refers either to estimates derived from: expert opinions, Delphi, wisdom of crowds, programmatic results or registry, regional benchmarks or unknown methods or estimates derived prior to 2010. Estimates may or may not be national. ■

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