

PREVENTION  
GAP  
REPORT

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UNAIDS | 2016



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# INTRODUCTION

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Tremendous progress against AIDS over the last 15 years have inspired a global commitment to end the epidemic by 2030. The United Nations General Assembly agreed in June 2016 that ending AIDS by 2030 requires a Fast-Track response to reach three milestones by 2020:

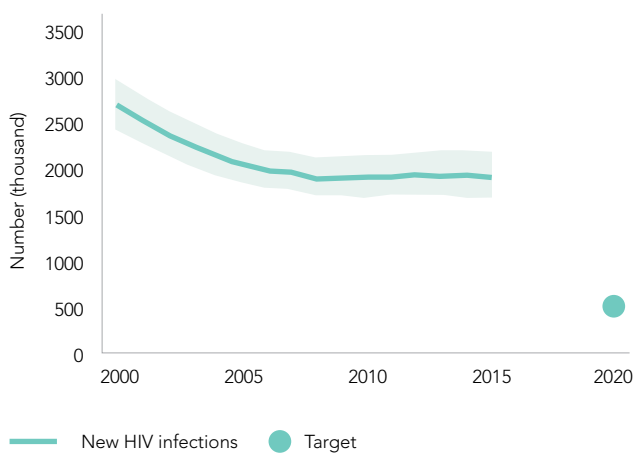
- Reduce new HIV infections to fewer than 500 000 globally by 2020.
- Reduce AIDS-related deaths to fewer than 500 000 globally by 2020.
- Eliminate HIV-related stigma and discrimination by 2020.

Remarkable scale up of antiretroviral therapy has put the world on track to reach the target on AIDS-related deaths. Intensive efforts to eliminate mother-to-child transmission of HIV have achieved steep declines in the annual number of new HIV infections among children, from 290 000 [250 000–350 000] in 2010 to 150 000 [110 000–190 000] in 2015.

However, problems remain with HIV prevention. Declines in new HIV infections among adults have slowed, threatening further progress towards the end of the AIDS epidemic. Since 2010, the annual number of new infections among adults (15+) has remained static at an estimated 1.9 million [2015 range of 1.7 million–2.2 million].

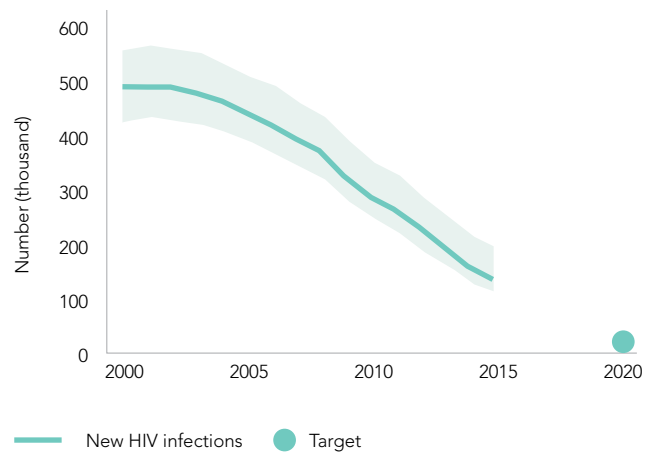
Efforts to reach fewer than 500 000 new HIV infections by 2020 are off track. This simple conclusion sits atop a complex and diverse global tapestry. Data from 146 countries show that some have achieved declines in new HIV infections among adults of 50% or more over the last 10 years, while many others have not made measurable progress, and yet others have experienced worrying increases in new HIV infections.

### New HIV infections among adults (aged 15 years and older), global, 2000–2015



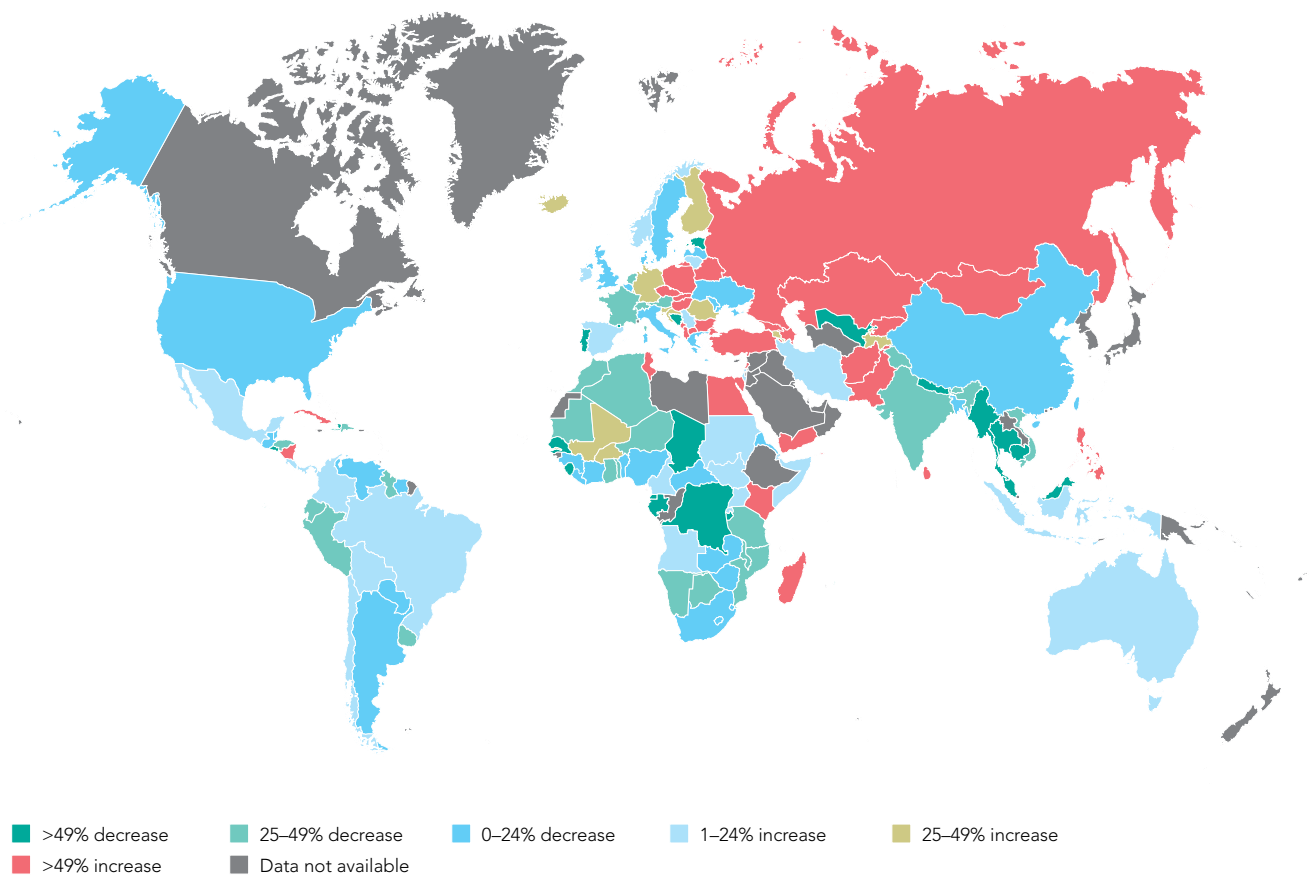
Source: UNAIDS 2016 estimates.

### New HIV infections among children (aged 0–14 years), global, 2000–2015



Source: UNAIDS 2016 estimates.

### Percent change in new HIV infections among adults (aged 15 years and older), from 2005 to 2015

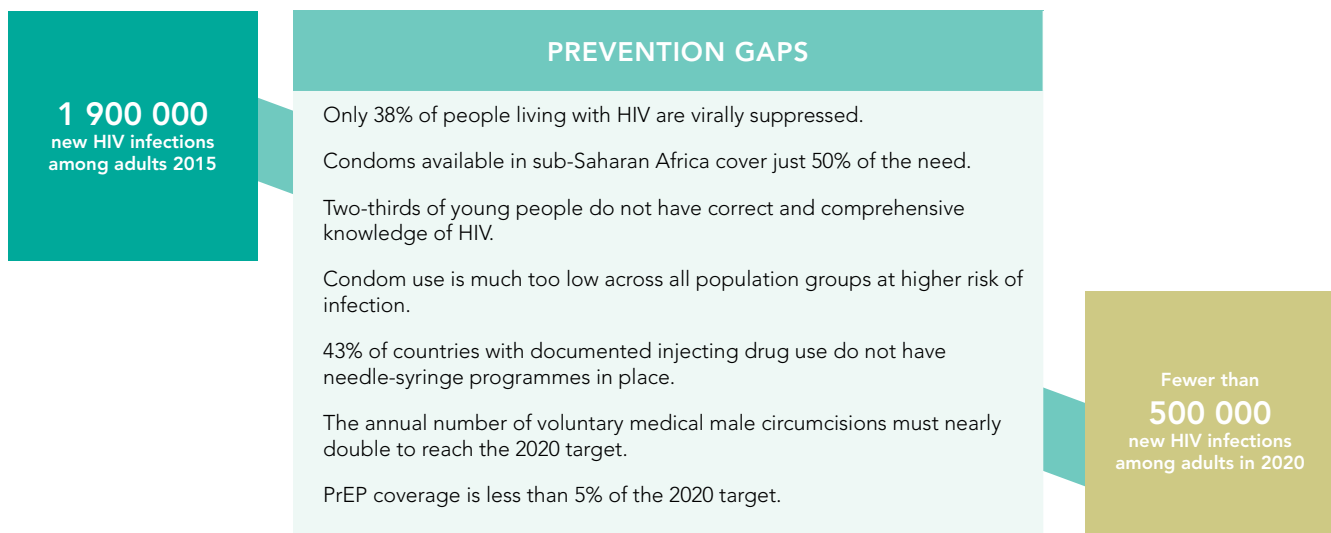


Sources: UNAIDS 2016 estimates; European Centre for Disease Prevention and Control (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden, United Kingdom, Albania, Andorra, Bosnia and Herzegovina, Macedonia, Israel, Montenegro, San Marino, Serbia, Switzerland and Turkey); Centers for Disease Control and Prevention. HIV Surveillance Report, 2014; vol. 26. <http://www.cdc.gov/hiv/library/reports/surveillance/>. Published November 2015. Accessed [10 July 2016]. Russian Federation 2016 Global AIDS Response Progress Reporting submission. China 2016 Global AIDS Response Progress Reporting submission.

## Gaps in coverage of key prevention services

Programmatic progress is also varied. The scale up of services to prevent mother-to-child transmission of HIV has not been matched in other key prevention areas, leaving sizable gaps in services. Progress in the provision and use of condoms has largely stalled; the gap in sub-Saharan Africa alone is about 3 billion male condoms a year, or 50% of the estimated need. Voluntary medical male circumcision has been rapidly expanded—reaching almost 11.7 million men in 14 priority countries in just a few years—but the annual numbers of circumcisions performed within eight of these countries declined in 2015 compared to 2014. Key harm reduction services are unavailable in most of the countries where injecting drug use has been documented. The promise of one of the newest tools in the HIV prevention arsenal—pre-exposure prophylaxis (PrEP)—is only just beginning to be seen as a handful of countries move forward from successful demonstration projects to full regulatory approval and programme rollout.

Meanwhile, the preventative effect of antiretroviral therapy has been limited because 43% [38–47%] of people living with HIV do not know their HIV status and 62% [59–65%] of people living with HIV are not virally suppressed—well shy of the 90–90–90 target. Reaching the third 90—which translates to 73% of people living with HIV virally suppressed—can only achieve up to 50% of the incidence reduction required to end the AIDS epidemic by 2030 (1). In the past, present and far into the future, primary prevention is an essential component of the response.





## Populations and locations in greatest need

The heterogeneity of the HIV epidemic underscores the importance of a location–population approach to efficient planning and programming of HIV prevention services.

Many populations continue to be left behind. Young women aged 15–24 years are at particularly high risk of HIV infection, accounting for 20% of new HIV infections among adults globally in 2015, despite accounting for just 11% of the adult population. In sub-Saharan Africa, young women accounted for 25% of new HIV infections among adults and women accounted for 56% of new HIV infections among adults. Gender inequalities, including gender-based violence, exacerbate women’s and girls’ physiological vulnerability to HIV and block their access to HIV services. Young people are denied the information and the freedom to make free and informed decisions about their sexual health, with most lacking the knowledge required to protect themselves from HIV. The impact of these barriers is strongest in high-prevalence settings, predominantly in eastern and southern Africa.

Key populations—including sex workers, people who inject drugs, transgender people, prisoners and gay men and other men who have sex with men—remain at much higher risk of HIV infection. Recent studies suggest that people who inject drugs are 24 times more likely to acquire HIV than adults in the general population, sex workers are 10 times more likely to acquire HIV and gay men and other men who have sex with men are 24 times more likely to acquire HIV. In addition, transgender people are 49 times more likely to be living with HIV and prisoners are five times more likely to be living with HIV than adults in the general population (2).

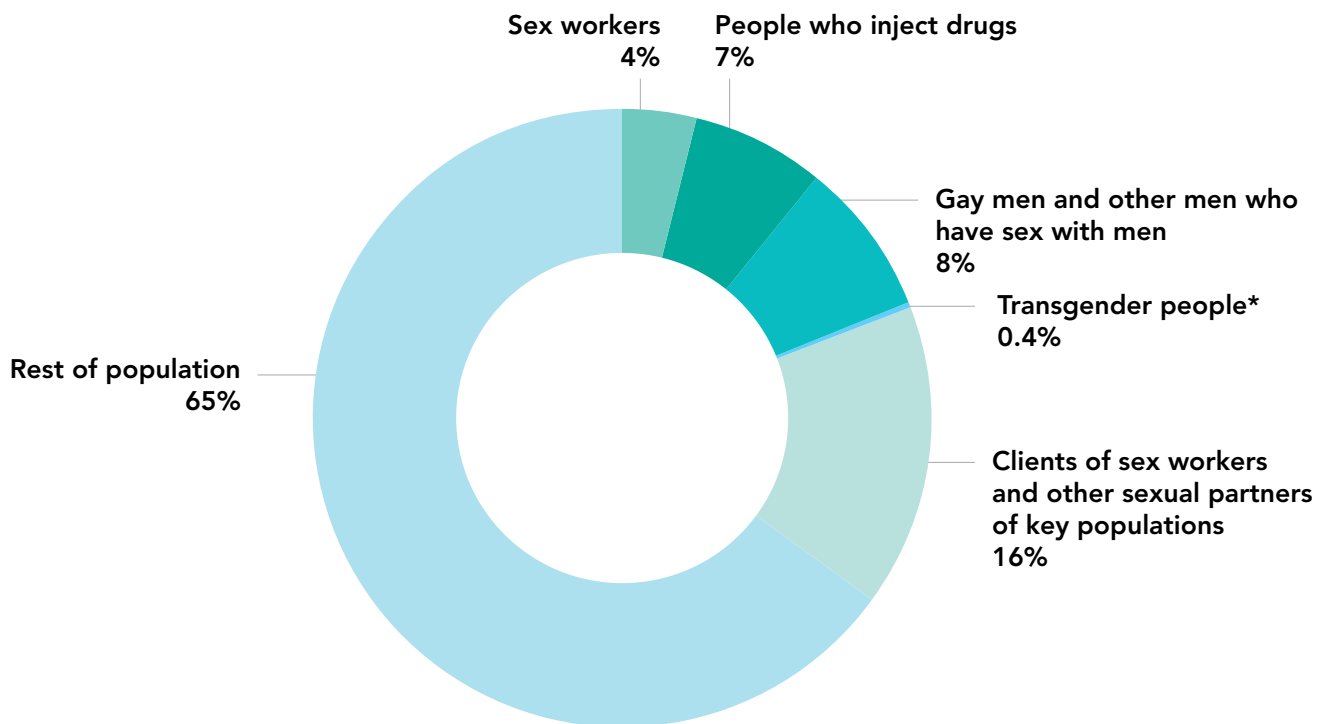
### The risk of HIV acquisition compared to adults (aged 15 years and older) in the general population



Globally, new infections among key populations and their sexual partners accounted for 36% of all new HIV infections in 2015. Criminalization and stigmatization of same-sex relationships, cross-dressing, sex work and drug possession and use block access to HIV prevention services and increases risky behaviours. Homophobia drives gay men and other men who have sex with men away from HIV testing and HIV prevention activities and is associated with lower adherence to treatment. Women in key populations face specific challenges and barriers, including violence and violations of their human rights.

The people in greatest need vary by location. Key populations tend to migrate to cities in search of safer and more secure communities (3). The incidence of HIV among adolescent girls and young women in eastern and southern Africa is highest in parts of South Africa and southern Mozambique, plus the whole of Swaziland and Lesotho.

### Distribution of new HIV infections by population, global, 2014

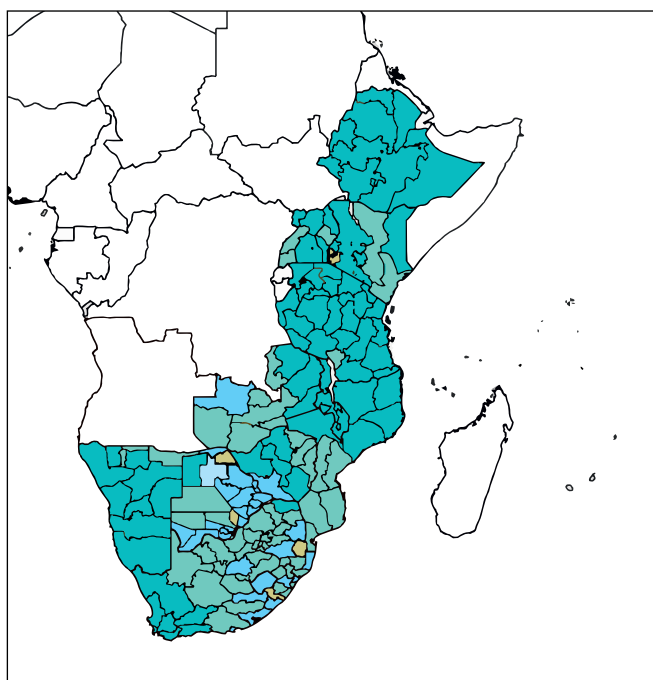


\* Reflects only Asia and Pacific and Latin America regions.

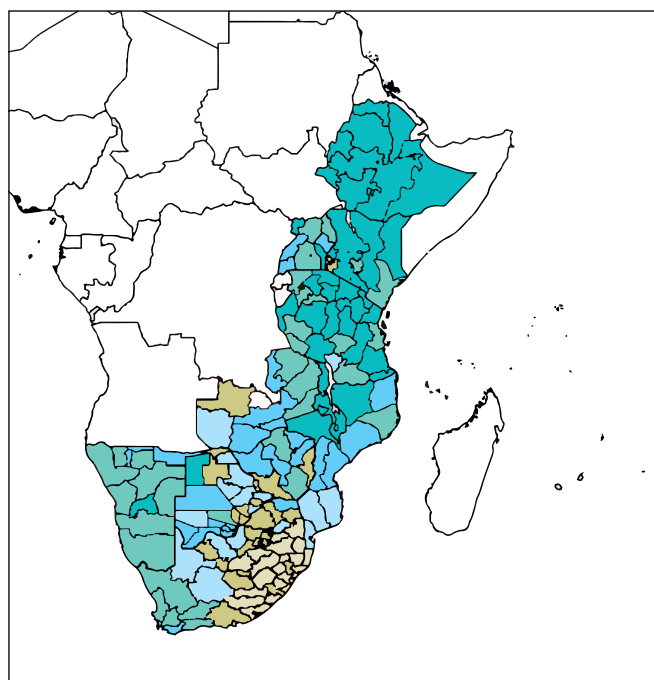
Source: UNAIDS special analysis, 2016; for more details, see annex on methodology.

## Subnational HIV incidence (%) among young women (aged 15–24 years), by age group, eastern and southern Africa, 2014–2015

YOUNG WOMEN 15–19 YEARS OLD



YOUNG WOMEN 20–24 YEARS OLD



### Sub-national HIV incidence (%)



Source: UNAIDS estimates, 2014–2016 plus additional source. See annex on methods for details.

The location–population approach also means that local stakeholders—including local government, local civil society organizations and local communities—are at the centre of their own local responses. Analysis of local data on the level and trends in the epidemic, on the coverage of local programmes, and on bottlenecks created by local policies and practices, is critical to efficient and effective service delivery.

## Combination HIV prevention

Continued HIV testing and treatment scale up must be accompanied by a much stronger primary prevention response. Individual countries have shown that barriers to services can be removed and that prevention programmes can be brought to scale within a few years. South Africa built the world’s largest condom programme in just a few years and doubled the amount of condoms distributed per male, per year in at least seven of nine provinces (4). Mozambique has

increased the number of voluntary medical male circumcision performed from just 100 in 2009 to almost 200 000 in 2015, and India has showed the world how location–population approaches that engage beneficiaries in their design and implementation can result in a marked decrease in new infections when brought to scale (5).

However, few countries have consistently applied a combination HIV prevention approach, which provides packages of services—including behavioural, biomedical and structural components—tailored to priority population groups within their specific local contexts. For example, young people in high prevalence countries need more than condoms and behaviour change communications. They also require comprehensive sexuality education and access to effective HIV and sexual and reproductive health services without economic barriers, such as prohibitive costs, or structural barriers, such as parental consent laws. A combination package for gay men and other men who have sex with men should include easy access to condoms, lubricant and PrEP, as well as efforts to address homophobia; a package for people who inject drugs should feature comprehensive harm reduction services, including needle-syringe programmes and opioid substitution therapy (6).

All programmes require a strong community empowerment element and specific efforts to address legal and policy barriers, as well as the strengthening of health systems, social protection systems and actions to address gender inequality and stigma and discrimination.

## Five pillars for achieving less than 500 000 new infections by 2020

Getting back on track to reducing new infections to 500 000 by 2020 requires continued progress towards the 90–90–90 target and intensive focus on five prevention pillars delivered through a people-centred, combination approach:

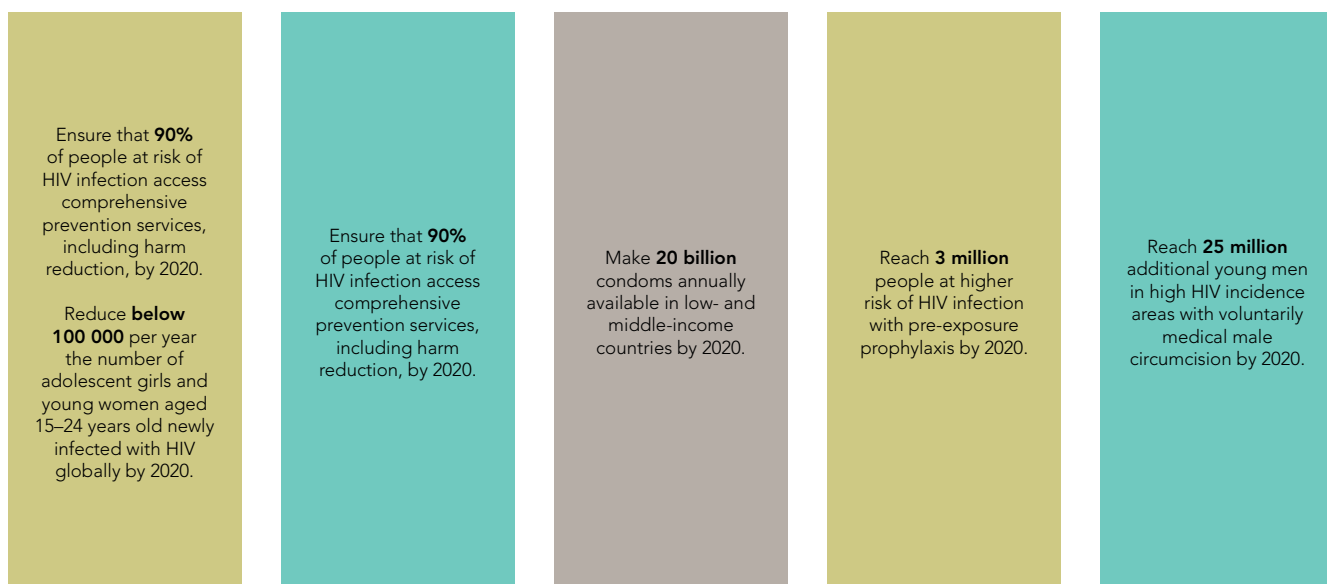
1. Combination prevention, including comprehensive sexuality education, economic empowerment and access to sexual and reproductive health services for **young women and adolescent girls and their male partners** in high-prevalence locations.
2. Evidence-informed and human rights-based prevention programmes for **key populations**, including dedicated services and community mobilization and empowerment.
3. Strengthened national **condom programmes**, including procurement, distribution, social marketing, private-sector sales and demand creation.
4. **Voluntary medical male circumcision** in priority countries that have high levels of HIV prevalence and low levels of male circumcision, as part of wider sexual and reproductive health service provision for boys and men.
5. **Pre-exposure prophylaxis** for population groups at higher risk of HIV infection.

These pillars are reflected in the bold prevention targets for 2020 set by the United Nations General Assembly within the 2016 Political Declaration on HIV and AIDS to ensure that 90% of people at risk of HIV infection access comprehensive prevention services, including harm reduction; to reduce below 100 000 per year the number of adolescent girls and young women aged 15–24 years newly infected with HIV globally; to make 20 billion condoms available annually in low- and middle-income countries; to reach 25 million additional young men in high HIV incidence areas with voluntarily medical male circumcision and to provide three million people at higher risk of HIV infection with PrEP.

### FIVE PREVENTION PILLARS



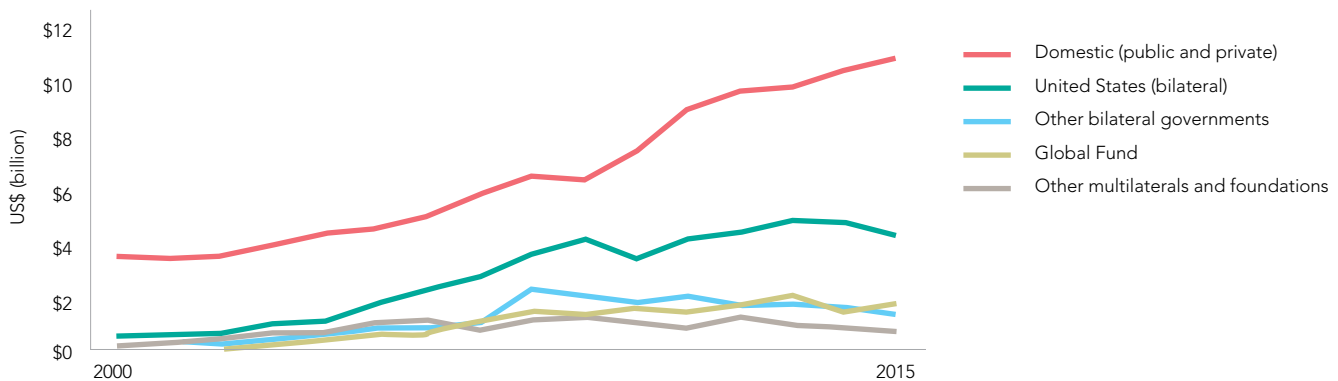
### United Nations General Assembly prevention targets



## Investment in effective prevention

Strengthened global political commitment to HIV prevention must be followed by strengthened financial commitment. The successes of the global AIDS response to date have been fuelled by extraordinary investment. The total amount of financial resources for AIDS responses in low- and middle-income countries<sup>1</sup> reached an estimated US\$ 19 billion in 2015, double the amount of resources available in 2006. However, international funding for in-country services in 2015 declined for the second year in a row to US\$ 8.2 billion—a 7% reduction from the US\$ 8.7 billion in 2014<sup>2</sup>. Public and private domestic investment increased by US\$ 0.4 billion over the same period, resulting in approximately similar total resource availability in 2014 and 2015.

### Resources available for HIV by source of funding, 2000–2015



Source: UNAIDS estimates, June 2016; UNAIDS-Kaiser Family Foundation reports on Financing the Response to AIDS in Low- and Middle-Income Countries till 2015, OECD CRS last accessed June 2016.

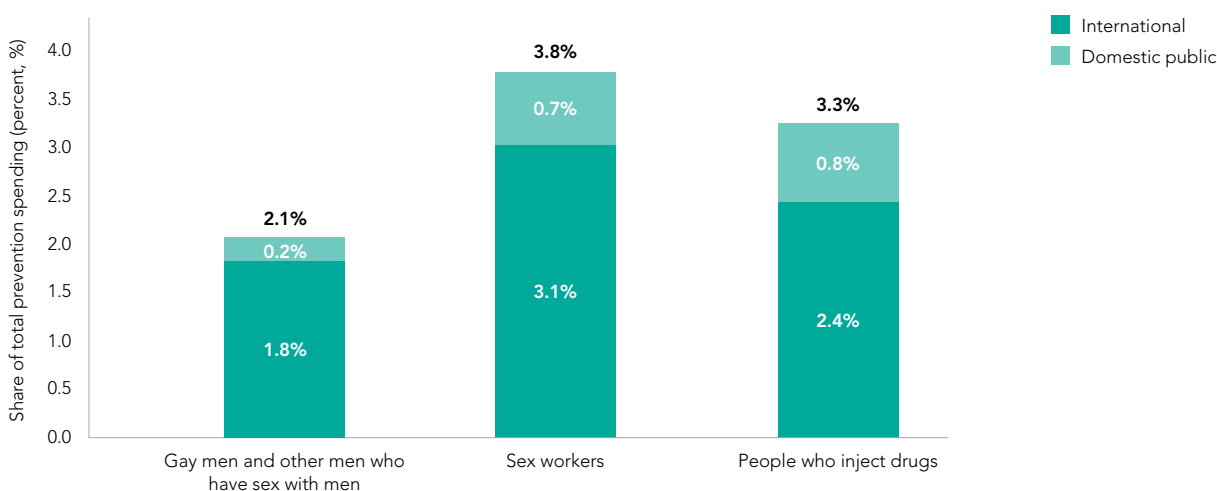
Available data show that investments in HIV prevention have slightly increased over time in a number of countries. However, more rapid increases in expenditures for HIV treatment translate to a declining trend in the percentage of total resources dedicated for a wide range of prevention services, including the prevention of mother-to-child transmission, reaching about 20% in recent years—short of the commitment made within the 2016 Political Declaration on HIV and AIDS to ensure that financial resources for HIV prevention are adequate and constitute no less than a quarter of AIDS spending globally.<sup>3</sup>

<sup>1</sup> Excluding the following countries that recently transitioned into high-income brackets and remaining classified as high income at the time of this report: Argentina, Equatorial Guinea, Chile, Hungary, Latvia, Lithuania, Russian Federation, St. Kitts and Nevis, Seychelles, Uruguay and Venezuela. The domestic and international investments in the AIDS responses of these countries have been included in previous UNAIDS estimates and global targets. Updates are expected pending the annual revisions by the World Bank on the income level classification of countries.

<sup>2</sup> The decline in international funds is partially driven by the appreciation of the US dollar. However, when assessed in the currencies of origin, most donors decreased their funding. On the other hand, the Global Fund for AIDS, Tuberculosis and Malaria (Global Fund) partially recovered from a 2014 decrease attributable to the roll out of its new funding model. PEPFAR has noted that a portion of US funds that were initially expected to be available in 2015 were rescheduled during annual planning and are expected to be used in 2016 partially to fund the DREAMS project and other initiatives such as the recent commitment of US\$ 100 million for services for key populations.

<sup>3</sup> The percentage required for prevention varies by country. It might be lower than 25% in high-prevalence countries with large numbers of people needing antiretroviral therapy, and higher than 25% in countries with epidemics highly concentrated among key populations and low treatment needs. (Stover J, Bollinger L, Izazola JA, Loures L, DeLay P, Ghys PD, et al. (2016) 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 11(5):e0154893).

## Spending on programmes specifically for key populations as a percentage of total prevention spending by source, 2010–2014



Source: Global AIDS Response Progress Reporting, 2010-2014.

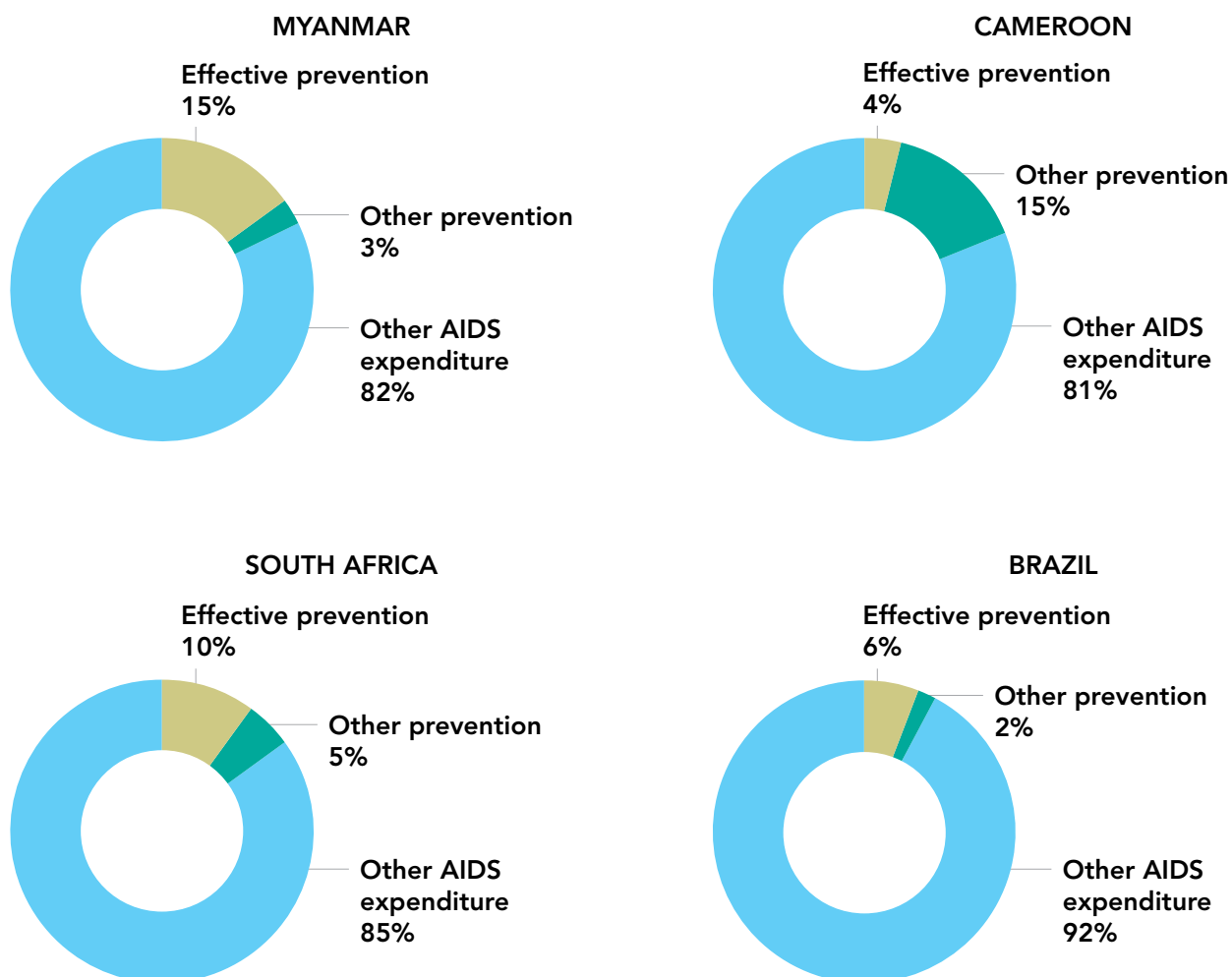
For example, HIV prevention services accounted for 20–23% of the total resources provided by the United States President’s Emergency Plan for AIDS Relief (PEPFAR) from 2012 to 2014 (7). If expenditures for the prevention of mother-to-child transmission and voluntary HIV testing and counselling are excluded, the prevention share was 13–16% of the total, including 4% for services focused on key populations (8). Additional central funding for voluntary medical male circumcision or prevention among young women and girls through the DREAMS partnership is not fully accounted for in this analysis. PEPFAR remains the largest international donor of effective prevention. While a detailed expenditure analysis by the Global Fund to Fight AIDS, Tuberculosis and Malaria was not available, a preliminary analysis conducted by the Global Fund Secretariat for this report indicates that about 14% of Global Fund expenditure in 2014 was on primary prevention.

As well as increased, investments must be rebalanced to address the limited amount number of resources currently available for the five pillars of effective and proven primary prevention. For example, HIV prevention for key populations in low- and middle-income countries accounted for less than 2% of total HIV resources in 2015, or around 9% of the resources for prevention. The majority of resources for services focused on key populations come from international donors, barring exceptions such as Brazil, Mexico and a few countries in Asia and the Pacific. In June 2016, PEPFAR announced a special key populations investment fund of US\$ 100 million that will help fill the funding gap, but not address the need for sustainable, country-owned financing sources.

An analysis of four countries from different regions, and with different epidemic patterns, found that funding of effective and focused primary prevention was insufficient—6% in Brazil, 4% in Cameroon, 15% in Myanmar and 10% in South Africa.

<sup>4</sup> Effective prevention programmes were defined as those with proven efficacy and are included within five pillars programmes for key populations (sex workers and their clients, gay men and other men who have sex with men, transgender people, prisoners and people who inject drugs, including harm reduction); condom promotion and provision; voluntary medical male circumcision; pre-exposure prophylaxis; and comprehensive HIV prevention programmes focused on young women and adolescent girls, including cash transfers.

## Percentage of investments for effective prevention and other prevention categories, four countries, 2013–2014



Source: Global AIDS Response Progress Reporting.

### Closing the prevention gap

Building on the momentum established at the 2016 United Nations General Assembly High-Level Meeting on Ending AIDS requires translating the commitments within the Political Declaration into action. Global targets and milestones need to be translated into national and sub-national targets, as well as implementation plans to reach these targets that focus on the populations and locations in greatest need, and also address the legal, social and economic barriers to prevention service access and uptake. At the local level, stakeholders need to analyse and understand their local prevention needs and mount an appropriate combination prevention response.



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7. UNAIDS analysis of data from the PEPFAR dashboard (<https://data.pepfar.net/global>; accessed 1 July 2016).
8. PEPFAR submission for GARPR 2016.

# STRUCTURAL CHANGE

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Within the response to AIDS, leaving no one behind is both a moral and human rights imperative and a public health necessity. HIV-related vulnerabilities are fuelled by inequalities and prejudices entrenched within the legal, social and economic structures of society. Harmful cultural and social gender norms, criminalization of same-sex relationships, cross-dressing, sex work, and drug use, and laws that require third-party authorization for sexual and reproductive health services block HIV prevention and increase risky behaviour. Homophobia drives gay men and other men who have sex with men away from HIV testing and HIV prevention activities, and is associated with lower adherence to treatment.

Empowering women and girls, young people and key populations with the agency to claim their rights, receive a quality education, enjoy health lives and take measures to protect themselves from HIV is a requisite component of combination HIV prevention—structural change that reflects the interconnected nature of the Sustainable Development Goals.

## PREVENTION GAPS

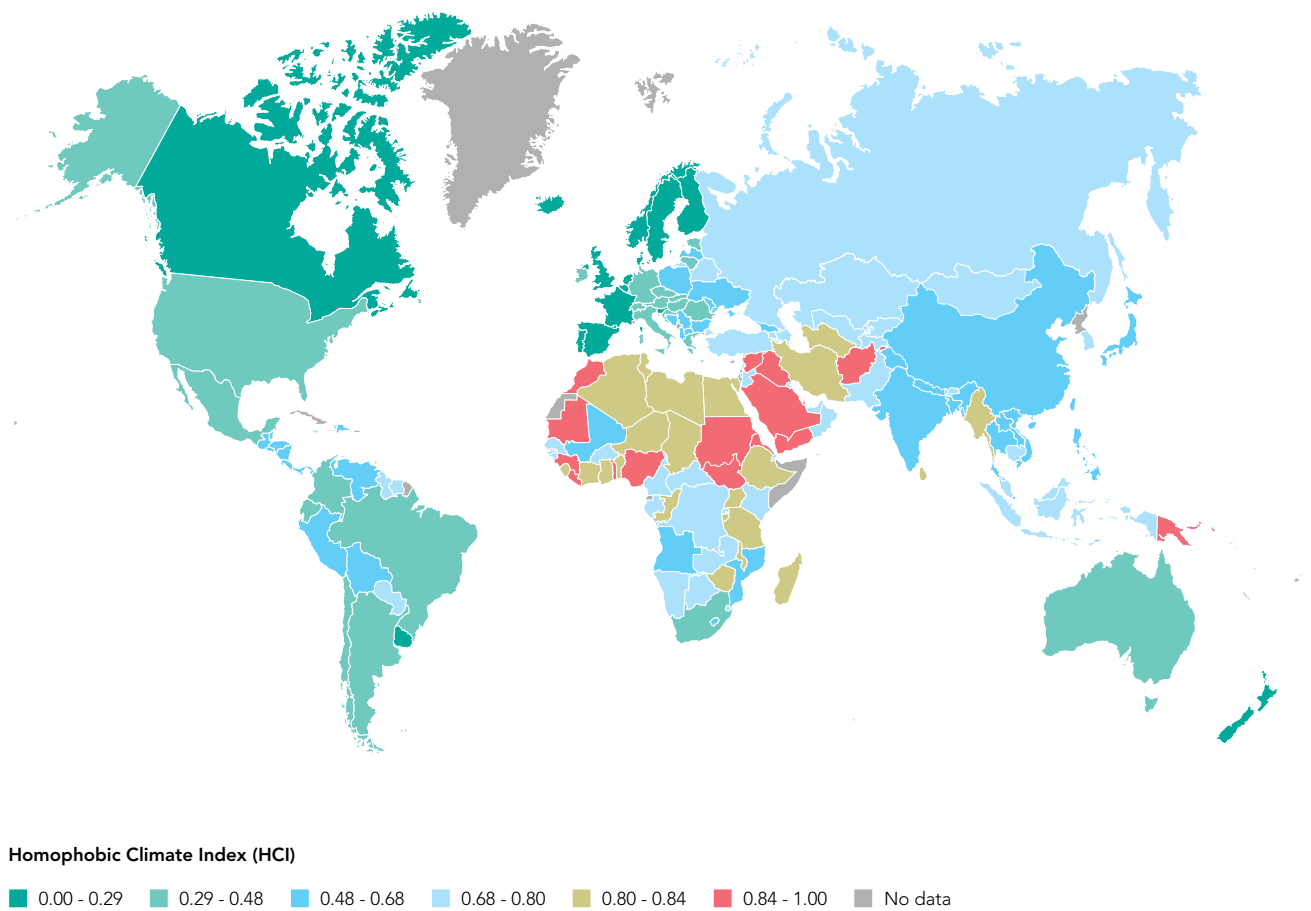
- Gender inequalities, including gender-based violence, exacerbate women and girls' vulnerability to HIV and block their access to HIV services.
- Third-party authorization requirements remain an important barrier to uptake of HIV and sexual and reproductive health services among adolescents and young people.
- Key populations face specific challenges and barriers, including violence and violations of their human rights, with women in key populations particularly affected.
- Homophobia is a barrier to HIV services for gay men and other men who have sex with men.
- Criminalization and stigmatization of same-sex relationships, cross-dressing, sex work and drug use blocks HIV prevention services and increases risky behaviours.
- Stigma and discrimination related to HIV and towards key populations in health-care settings undermine access to HIV prevention and other health services.

## WAY FORWARD

- Strengthen legislation, law enforcement and programmes to end intimate partner violence.
- Increase girls' access to secondary education.

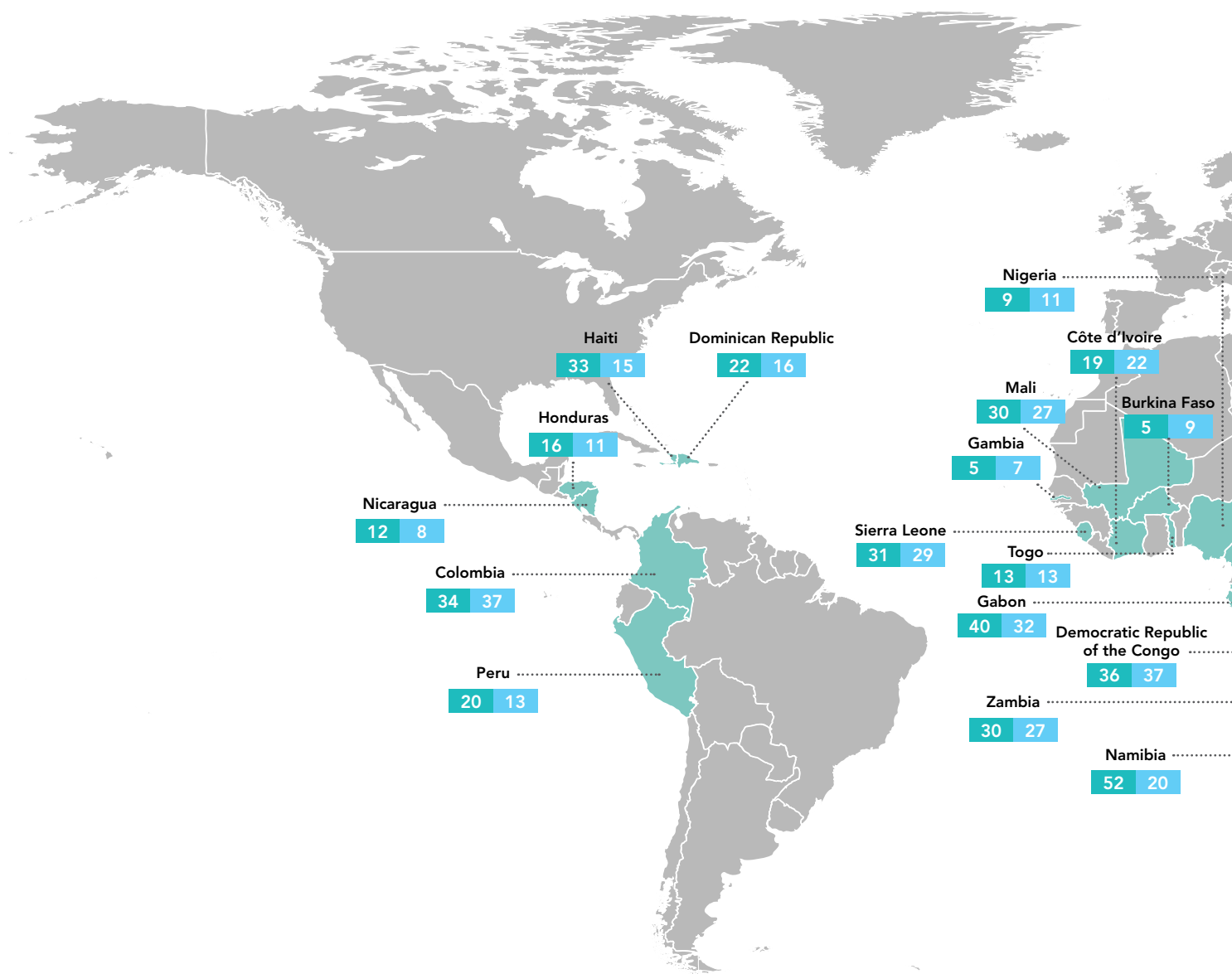
- Use cash transfers to empower women economically, to keep them in school and to enable them to make healthy partner choices.
- Remove third-party authorization requirements and other barriers to women and young people's access to HIV and sexual and reproductive health services.
- Decriminalize same-sex relationships, cross-dressing, sex work and drug possession and use for personal consumption.
- Bring to scale community empowerment and other programmes that have been proven to reduce stigma, discrimination and marginalization, including in health-care settings.

## THE HOMOPHOBIC CLIMATE INDEX, 2016

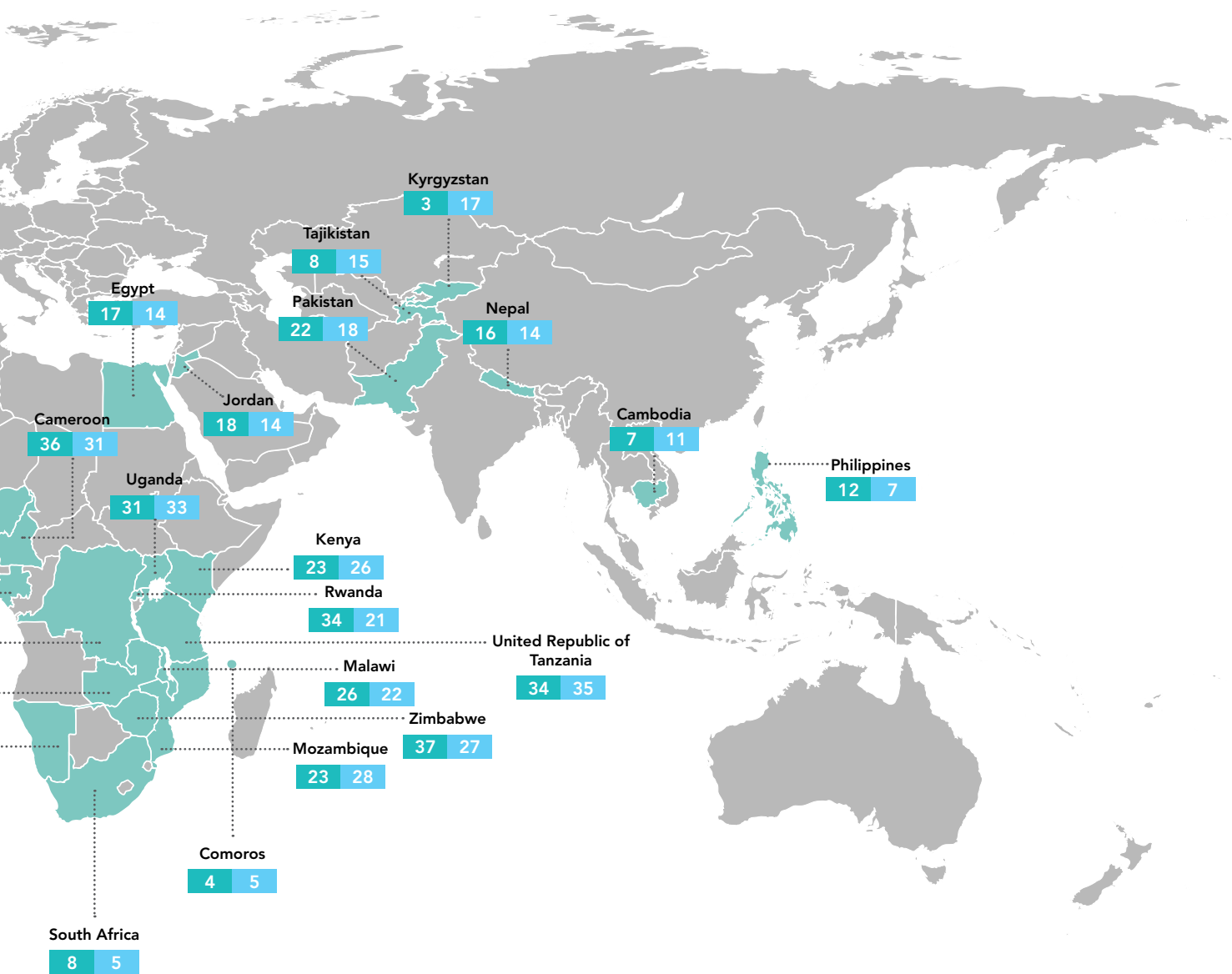


Source: Lamontagne et al, 2016.

**Prevalence of recent intimate partner violence among ever-married or partnered women, aged 15–19 years, compared to those aged 15–49 years, 32 countries, 2010–2014**



Reported by adolescent girls (aged 15–19 years)  
 Reported by women (aged 15–49 years)



Source: Population-based surveys, 2010–2014.

## Violence increases HIV risk for women

The fear of intimate partner violence has been shown to be an important barrier to the uptake of HIV testing and counselling, to the disclosure of HIV-positive status, and to treatment uptake and adherence, including among pregnant women living with HIV who are receiving antiretroviral therapy as part of services to prevent mother-to-child transmission (1). Experiences of physical and emotional intimate partner violence in settings with male controlling behaviour and HIV prevalence above 5% have been strongly associated with HIV infection in women (2). In some regions, women who experienced physical or sexual intimate partner violence were 1.5 times more likely to acquire HIV than women who had experienced violence (3).

Such violence can also disrupt HIV prevention services. For example, a study among African serodiscordant couples enrolled in a trial of oral daily PrEP suggests that recent intimate partner violence (physical, verbal and economic) reduces the seronegative partner's adherence to medication. Such recent intimate partner violence (within the previous three months) was associated with a 50% higher likelihood of low PrEP adherence, after adjusting for age, years of education, study site, any additional sex partners and time on study (4).

The 2016 Political Declaration on HIV and AIDS acknowledges the link between violence and HIV, and it calls for an end to all forms of violence and discrimination against women and girls. Globally, prevalence of recent intimate partner violence among ever-married or partnered women aged 15 to 49 years decreased between 2000 and 2014 in 12 of 17 countries that had data for more than one year. Despite these declines, however, global prevalence of recent intimate partner violence remained high, particularly in sub-Saharan Africa: the median prevalence of recent intimate partner violence among ever-married or partnered women aged 15 to 49 years in 21 sub-Saharan African countries was 26.1%.

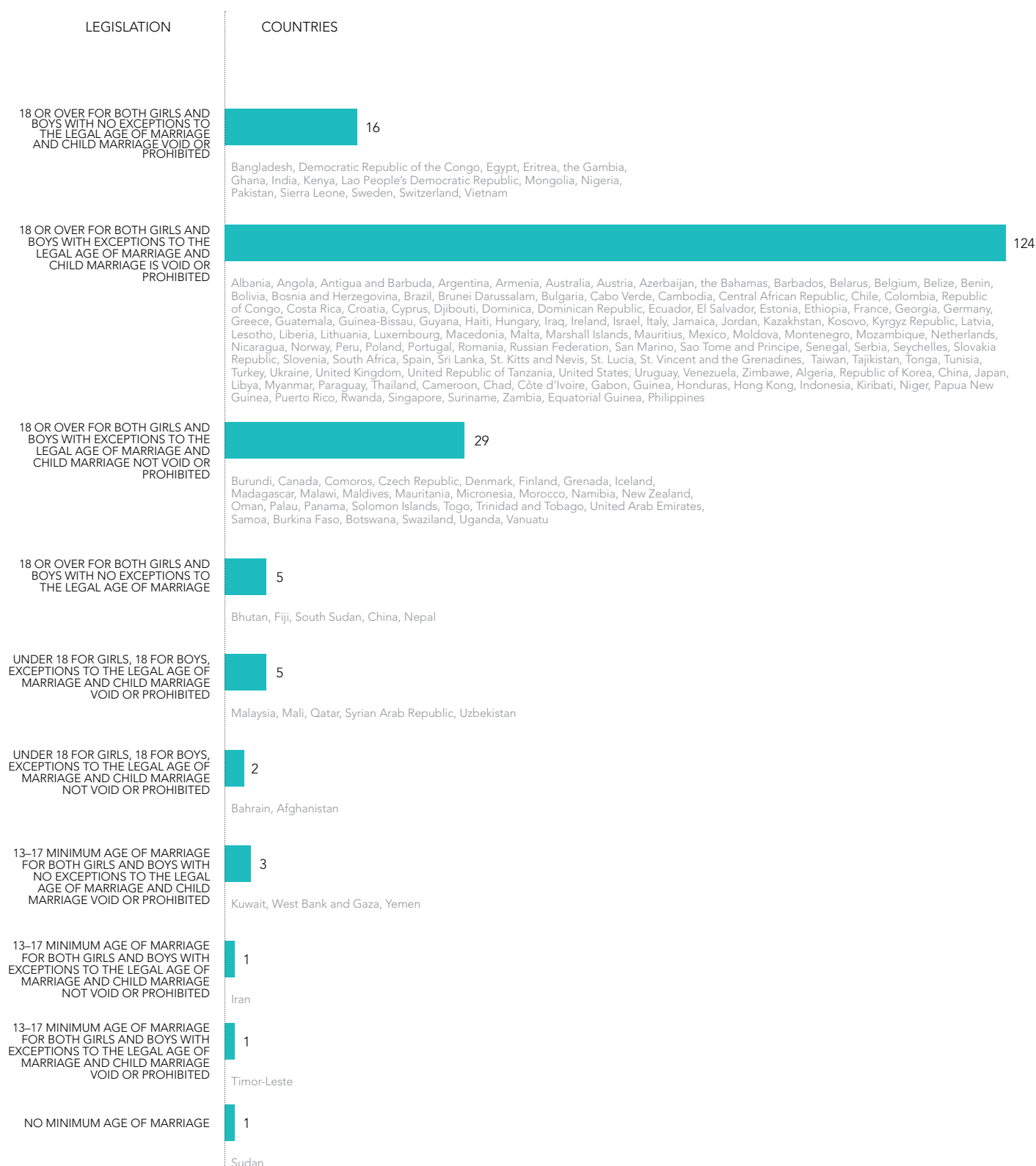
Adolescent girls are more vulnerable to intimate partner violence. In 22 of the 32 countries with available data, young women reported experiencing more recent intimate partner violence than women in older age groups (5). Some of the intimate partner violence experienced by young women occurs within the context of child marriage. A violation of fundamental human rights, child marriage can severely compromise a girl's development, result in early pregnancy and social isolation, interrupt her schooling, and limit her opportunities for a career and vocational advancement (6).

**Percent of ever-married or partnered women (aged 15–49 years) reporting experiences of physical and/or sexual violence by a former or current male intimate partner in the past 12 months, most recent data, 2010–2014**

20 – 40%	10 – 19%	0 – 9%
Cameroon	Cambodia	Burkina Faso
Colombia	Dominican Republic	Comoros
Côte d'Ivoire	Egypt	Gambia
Democratic Republic of the Congo	Haiti	Nicaragua
Gabon	Honduras	Philippines
Kenya	Jordan	South Africa
Malawi	Kyrgyzstan	
Mali	Nepal	
Mozambique	Nigeria	
Namibia	Pakistan	
Rwanda	Peru	
Sierra Leone	Tajikistan	
United Republic of Tanzania	Togo	
Uganda		
Zambia		
Zimbabwe		

Source: Population-based surveys, 2010-2014.

## Child marriage legislation, by country, 2015



Source: Women, business and the law 2016: getting to equal. Washington, DC: World Bank; 2016.



## Girls, education and HIV

Studies have shown that increasing educational achievement among women and girls is linked to better sexual and reproductive health outcomes, including lower rates of HIV infection, delayed childbearing, safer births and safer abortions, and other development outcomes (7, 8). The education and empowerment of women and girls also are fundamental to preventing gender-based violence (9). An analysis of data from 44 countries found that completing secondary education significantly reduces a woman's personal risk of partner violence (sexual or physical violence in the past 12 months), and that a girl's education is more strongly associated with reduced risk of partner violence in countries where spousal abuse is more common (10). Girls with at least six years of school education are more likely to be able to protect themselves from HIV and other diseases (11).

Cash transfers have been found to help girls remain in school, which in turn leads to reduced HIV prevalence and incidence. In several randomized control trials, school attendance and safer sexual health were directly incentivized through a cash transfer, and there was a positive effect on HIV outcomes (12).

A study in South Africa found that financial support augmented with social support from parents or teachers increased HIV-prevention benefits over cash alone, with reductions in incidence of multiple and concurrent partners and other HIV-risk behaviours for both boys and girls (13). A follow-up study found that combining cash transfers with free education and psychosocial support interventions led to cumulative reductions in HIV risk behaviours among adolescents (13).

## Ensuring a coherent policy and legal framework for young people and women

In many settings, parental and other third-party consent requirements for access to HIV and sexual and reproductive health services remain an important barrier to their uptake. Adolescents often are reluctant to seek services that require the consent of a parent or guardian. Similarly, laws that restrict people's access to health services—for example, by requiring third-party authorization for accessing sexual and reproductive health services or by criminalizing certain consensual sexual behaviours—exclude people from the health information and services they need (14).

Laws that foster the wide dissemination of objective comprehensive sexuality information improve knowledge not only of what protects or damages sexual health, but also where and how to seek further information, counselling and treatment. Further efforts are needed to ensure that the legal framework is responsive and sensitive to the challenges that young people face when attempting to access HIV and sexual and reproductive health services. This includes striking down requirements for parental or spousal consent, which poses additional challenges, particularly for adolescent girls and young women. Young key populations also must be ensured a protective legal environment where their identities and the behaviour pertaining to their populations are not criminalized, and where their rights are respected, protected and promoted.

## Parental consent for sexual and reproductive health and HIV testing services for young people, 2016

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Among 90 countries with available data:



require young people to receive the consent of parents or legal guardians in order to access one or more sexual and reproductive health service.



require young people to receive the consent of parents or legal guardians in order to access HIV testing.

Source: Sexual Rights Initiative. Sexual rights database (<http://sexualrightsdatabase.org/map/25/Age%20of%20sexual%20consent%20-%20different%20sex>, Accessed 23 June 2016).

## Criminalization, discrimination and marginalization of key populations

Punitive laws, policies and practices affecting key populations can block their access to HIV-related services. This is particularly true for the criminalization of drug use, sex work, same-sex sexual activity, cross-dressing or activities considered to be imitating the opposite sex. For example, when possession of injecting equipment or condoms is used by criminal justice systems as evidence of drug use or sex work, people at high risk of HIV infection are less likely to use these proven prevention tools (15–19).

As of June 2016, same-sex sexual acts were illegal in 73 countries and five entities. This is a decrease from 92 in 2006. The death penalty could be applied for same-sex sexual acts in 13 countries (or parts of countries), an increase from nine countries in 2006 (20)<sup>1</sup>. Such criminalization can deter men who have sex

<sup>1</sup>The 2006 figures are taken from the video found at <http://ilga.org/what-we-do/state-sponsored-homophobia-report/previous-editions/>.

with men from seeking out HIV prevention, testing and other services when they need them.

Across the world, many countries continued to criminalize some aspect of sex work in 2015 (21). The criminalization of drug use and people who use drugs also impedes access to HIV services (see the chapter on Harm reduction for more information). Transgender people are among the most marginalized people across the world, with many denied recognition of their gender and, by extension, the identity documents they need to access education, employment and appropriate health care. Cross-dressing or activities considered to be imitating the opposite sex also can be penalized. According to the activist organization Transrespect, 55 countries and territories (of 112 with available data) criminalized and/or prosecuted transgender people in 2015. A further seven countries and territories (of 110 with available data) criminalized cross-dressing, and 12 countries and territories (of 111 with available data) prosecuted cross-dressing (22). In some countries, laws that criminalize transgender people exist but are not currently enforced. In others, prosecution occurs without the existence of a criminalizing law through the application of other laws, or it occurs without a legal basis (22).

Overly broad criminalization of HIV non-disclosure, exposure or transmission deters people from seeking to know their own status or from accessing HIV services, including prevention services and commodities. Overly broad criminalization of HIV non-disclosure, exposure or transmission refers to the application of criminal law in relation to HIV that (i) is not guided by the best available scientific and medical evidence relating to HIV, (ii) fails to uphold the principles of legal and judicial fairness<sup>2</sup>, and (iii) infringes upon the human rights of those involved in criminal law cases. Such application of the criminal law can be based on HIV-specific criminal statutes, or it can rely on the application of general criminal law provisions (23). By 2015, 72 countries had laws that specifically allowed for HIV criminalization, an increase from 61 in 2014 (23)<sup>3</sup>. Prosecutions for HIV non-disclosure, potential or perceived exposure and/or unintentional transmission had been reported in 61 countries, an increase from at least 49 in 2014 (23).

The Global Commission on HIV and the Law has shaped global actions to improve the links between legal environments and HIV responses since 2012 (24). Despite this, punitive laws, policies and practices continue to deny people access to effective services. HIV Justice Worldwide is a new initiative made up of global, regional and national civil society organizations—most of them led by people living with HIV—that is working to build a worldwide movement to end HIV criminalization. The initiative seeks to end HIV criminalization by empowering people living with HIV and those who advocate on their behalf to convince policy-makers, criminal justice actors and other relevant stakeholders to abolish existing laws and to oppose the passage of proposed laws designed to regulate, control and punish people living with HIV on the basis of their HIV status (25).

<sup>2</sup>This includes key criminal law principles of legality, foreseeability, intent, causality, proportionality and proof.

<sup>3</sup>In 2014, UNAIDS reported 61 countries with laws allowing for HIV criminalization. Although this increase is partly due to methodological improvements, it is also due to new laws enacted in Botswana, Côte d'Ivoire, Nigeria and Uganda.

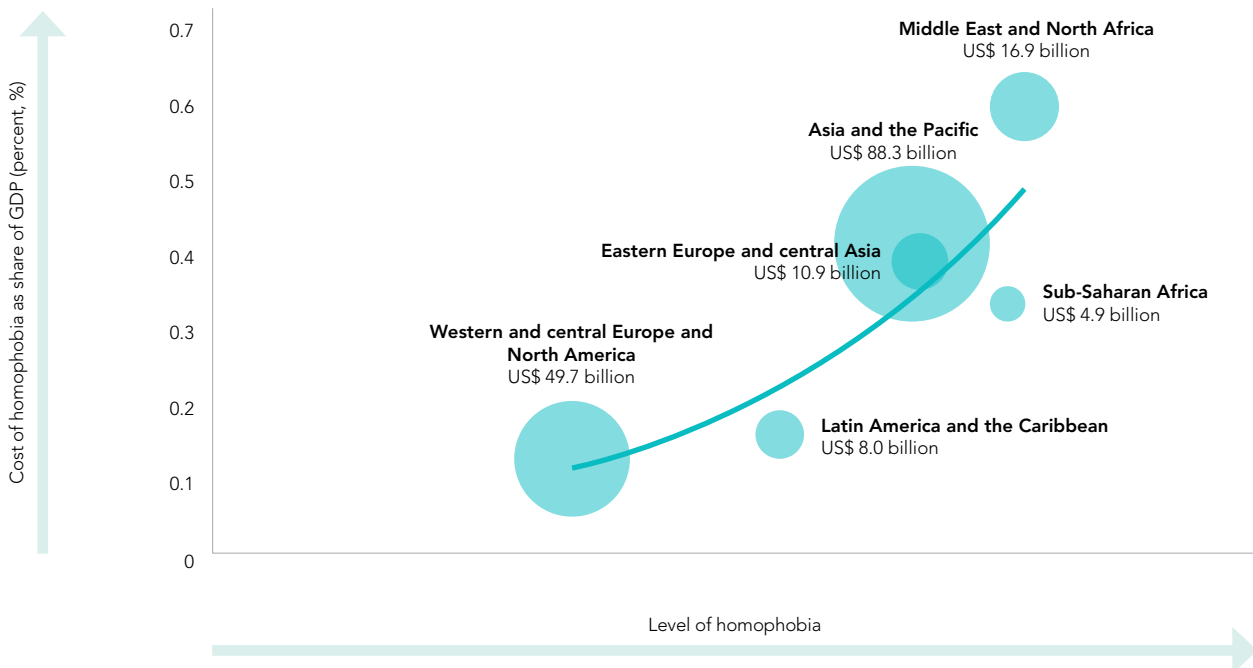
## The human and economic cost of homophobia

Despite recent progress in the acceptance of gay men and other men who have sex with men in society in many countries, homophobia and stigma and discrimination based on sexual orientation are still prevalent globally. This discrimination is a barrier to HIV services, lowers adherence to antiretroviral therapy and has a human and economic cost (26, 27).

A Homophobic Climate Index (HCI)—considering institutional, social and behavioural homophobia, and reflecting the laws and legislation and the level of acceptance in society—shows where efforts are needed to address homophobia and protect the rights of sexual minorities (see world map at the start of the chapter). The closer the HCI is to 1.0, the higher the homophobia, stigma and discrimination.

Stigma related to sexual orientation is also associated with lower economic output at country level (26, 28, 29). A recent country-by-country analysis found that the region with the highest cost of homophobia as a share of gross domestic product (GDP) in 2015 was the Middle East and North Africa, reaching 0.59% of GDP, and the lowest cost as a share of GDP was in western and central Europe and North America, at 0.13% of GDP. The highest total cost of homophobia was in Asia and the Pacific, at US\$88.3 billion annually.

### Cost of homophobia as a share of GDP and in value, per region, per year



The size of the bubble represents the total cost of homophobia, per year, in billions of US dollars, per region. Population of gay men and other men who have sex with men = 3% of males (aged 15–64 years). Elasticity of homophobia = 1.19; Regression fit curve  $R^2 = 0.82$ .

Higher levels of homophobia within a country resulted in more than proportionate higher costs as a share of national GDP (30). The economic cost of homophobia among the 10 countries with the highest HCI reached 0.2–0.6% of GDP, which is more than 10 times the share in the 10 countries with the lowest HCI. The study also found that a higher HCI was associated with higher levels of human rights violations, gender inequality and negatively associated with the overall life satisfaction index of its citizens. This quantification of the human and economic costs of homophobia reinforces the importance of inclusive laws and policies for sexual minorities within efforts to improve economic and social development.

## **Women in key populations: violence and access to services**

Women in key populations face specific challenges and barriers, including violence and violations of their human rights in health care settings and from uniformed personnel.

Violence is especially prevalent in the lives of sex workers, who (irrespective of gender) are frequently subject to sexual and physical violence, and who are likely to be working and living in environments that deprived them of basic rights and protections (31, 32). The criminalization of sex work facilitates these rights violations (33). A modelling study estimated that eliminating sexual violence against sex workers could avert 17% of HIV infections in Kenya and 20% in Canada (32).

Women who inject drugs faced higher levels of stigma, discrimination and vulnerability to harm than their male counterparts (34). Those who had experienced sexual violence were more likely to be living with HIV than other women who inject drugs (35). Despite such evidence, services for women who have experienced violence and for people who use drugs are often disconnected, leading to a protection gap for women who inject drugs and experience intimate partner violence (36).

## **Bringing proven approaches to scale**

In the past 15 years, global progress against HIV and AIDS has been significant, thanks to scientific advancements, treatment access, human rights activism, global solidarity and the mobilization and activism of civil society. These gains, however, have been uneven. Throughout the world, stigma, discrimination and exclusion—as well as power imbalances and unequal gender relations—continue to make women and girls, young people and key populations vulnerable to HIV, hindering access to HIV prevention, treatment and care services. As HIV cannot be addressed only through bio-medical approaches, the response requires simultaneous advancements in terms of sexual and reproductive health and rights, access to education and employment, social justice and gender equality. Moving forward, isolated successes require replication, and small-scale programmes that have been proven to work need to be scaled up with sustainable funding and political commitment.

For example, strategic litigation is effective in upholding rights and changing the course of the response. In March 2015, a legal provision that criminalized any act that exposes another person to HIV and obliged people living with HIV in Kenya to

disclose their HIV status was declared unconstitutional by the High Court of Kenya (37). It was the first time anywhere in the world that such a legal provision was held unconstitutional.

Social support, protective social norms and social capital (including participation and inclusion) can enable key populations to protect themselves from the effects of HIV and address it (38). Community empowerment-based approaches to addressing HIV among sex workers also have been associated with increases in consistent condom use and reductions in HIV infections (39). Rights- and law-oriented education can contribute to all of these benefits. HIV and harm reduction training for police officers can improve rates of referral to harm reduction services, and it can reduce the intent to extrajudicially confiscate syringes (40).



# CONDOMS

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Condoms are at the centre of a combination HIV prevention approach; they are also cost-effective tools for preventing other sexually transmitted infections and unintended pregnancies. An estimated 45 million HIV infections have been averted through condom use globally since 1990 (1). Achieving the global condom target for 2020 would avert 3.4 million new infections (1). The cost per infection averted would be approximately \$450, well below the lifetime cost of providing antiretroviral treatment (1).

## PREVENTION GAPS

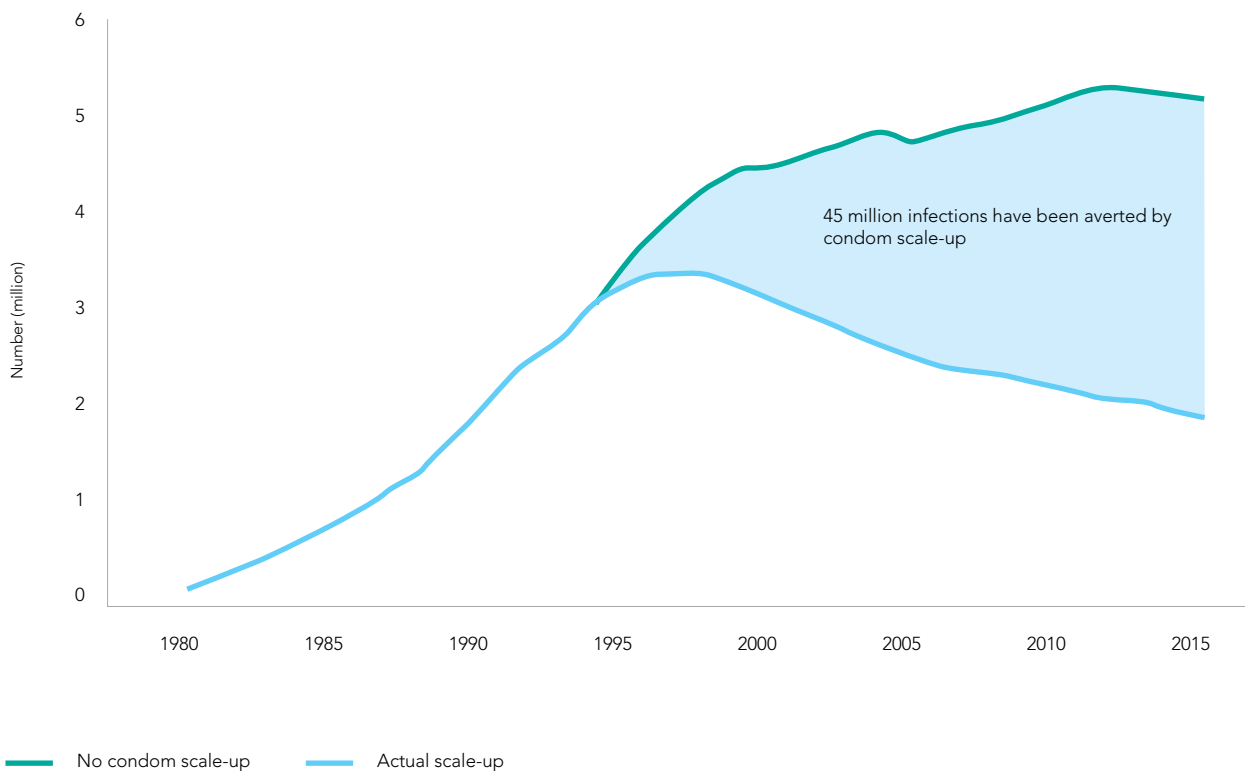
- Stagnation of international and domestic funds for condom procurement and programming.
- An annual gap of more than 3 billion male condoms in sub-Saharan Africa.
- Inconsistent condom use within many populations and locations in greatest need, including challenges for women to negotiate condom use.
- Insufficient availability of lubricants and female condoms.

## WAY FORWARD

- Increase resources for condom procurement, distribution and promotion.
- Provide male and female condoms in combination prevention packages.
- Diversify condom products, including provision of female condoms alongside male condoms and lubricants.
- Develop new approaches to increase condom use and to enhance the positive perception of condoms among the various populations in need.
- Engage communities in condom provision and use innovative service provision mechanisms.



## NUMBER OF HIV INFECTIONS AVERTED THROUGH CONDOM USE, GLOBAL, 1990–2015



Source: John Stover, Avenir Health, 2016. The Contribution of Condoms to HIV Prevention. Data for Fast-Tracking Condom Programmes. Presented at of the Global Condom Steering Group 21-23 March 2016, Geneva.

In 2015, an estimated 1.9 million [1.7 million–2.2 million] adults (15+) were newly infected with HIV—the vast majority through sexual transmission—and an estimated 357 million people acquired chlamydia, gonorrhoea, syphilis or trichomoniasis (2). Every year, more than 200 million women have unmet needs for contraception, leading to approximately 80 million unintended pregnancies. Condoms effectively prevent all of these conditions.

Optimal condom programming is a key part of the ambitious global targets to provide access to comprehensive prevention services to 90% of people at risk of HIV infection and to reduce new HIV infections to fewer than 500 000 globally. In recognition of this, countries agreed in the 2016 Political Declaration on ending AIDS to increase the annual availability of condoms to 20 billion by 2020. This includes approximately eight billion condoms for sub-Saharan Africa annually and 30–50 condoms per male, per year in high-prevalence countries.

## Condom availability

In 2015, international donor investment in condom programmes was between US\$ 75–100 million globally—a level of investment that has remained stagnant since 2011 (3). In some countries, donor investment in condoms declined. As a result, the total volume of condoms distributed by Population Services International, a leading condom social marketing organization, decreased from 1.3 billion in 2011 to 1.1 billion in 2015 (4).

In 2015, in sub-Saharan Africa (5), an average of 10 male condoms was available for every man aged 15–64 years and just one female condom per eight women aged 15–64 years (6). The number of female condoms distributed was only 1.6% of the total condom distribution. Condom availability varied between as many as 40 condoms per man aged 15–64 years in Namibia and South Africa to fewer than five condoms per man aged 15–64 years in Angola and South Sudan. Condom distribution was particularly low in some countries in western and central Africa, such as Burundi, Chad, Guinea and Mali (7).

The estimated condom need in 47 countries in sub-Saharan Africa in 2015 was 6 billion male condoms, with a range of needs from 55.4 condoms per man aged 15–64 years per year in Botswana to 13.2 condoms per man per year in Ethiopia and fewer than five per man per year in Liberia<sup>1</sup>.

The needs of sex workers and their clients accounted for 37.8% of the total need; those of non-regular partners for 20.3%; and other users of condoms for family planning for 14.6%; those of HIV-affected couples for 13.7%; and those of men who have sex with men for 7.6% (8).

However, an estimated 3 billion condoms were distributed in sub-Saharan Africa in 2015, indicating that approximately half of the condom need was not met. In individual countries, the gaps ranged from more than 75% in 17 countries to a 6.3% surplus in South Africa. An estimated US\$ 97.6 million per year is needed to close the procurement gap—US\$ 22 million in Nigeria alone (8).

<sup>1</sup> Based on a spreadsheet tool developed to generate national condom needs estimates by aggregating specific needs estimates for preventing HIV, sexually transmitted infections and unintended pregnancy for major sub-populations with exposure to infections, including sex workers, gay men and other men who have sex with men, people with non-regular partners, young people, people living with HIV and family planning clients who use condoms. For each sub-population, need is calculated using published data on population size, HIV prevalence, sexual behaviour and condom use targets (80–95%). Overlap between estimates for sub-populations are corrected and assumptions for wastage are included. The national condom gap is calculated using data on total annual male and female condom distribution.

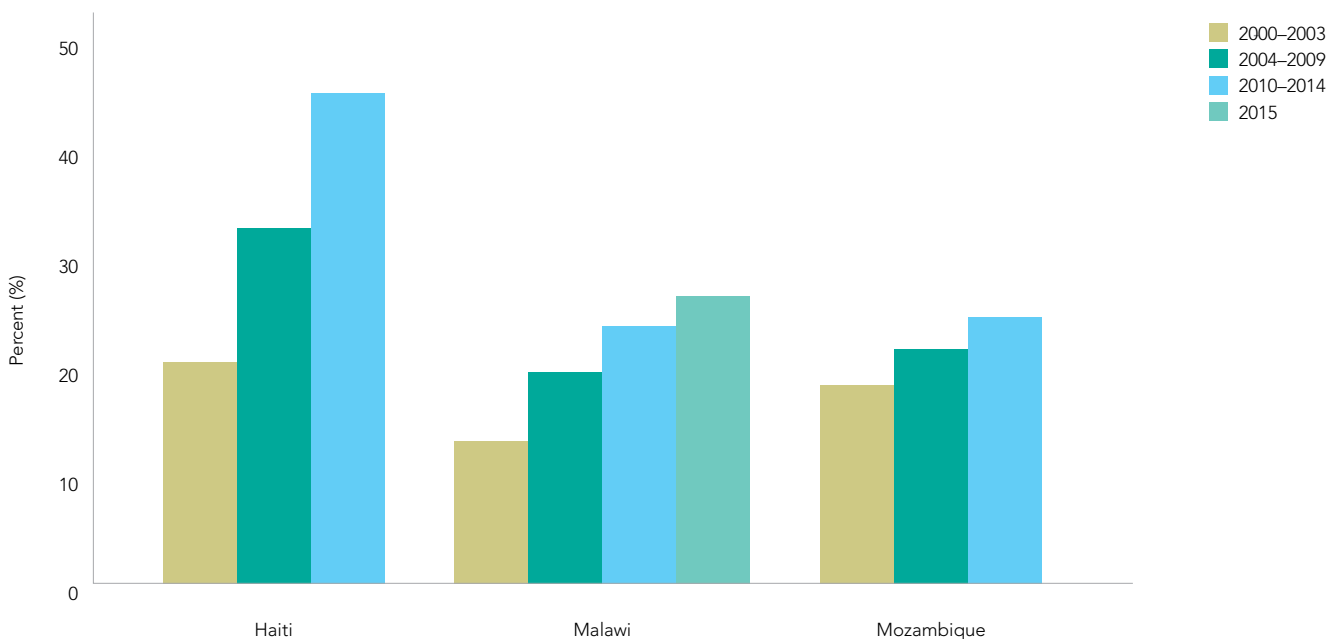
## Condom use

In three countries with more than a 30% decline in new HIV infections since 2005, nationally representative population-based survey data show steady increases in condom use among men with multiple sexual partners.

However, in sub-Saharan Africa, overall levels of condom use remain low. In 23 of 25 countries in sub-Saharan Africa with available data, condom use at last sex among men with multiple sexual partners was lower than 50% (9). In 13 of the 25 countries with available data, women with multiple partners in the 12 months preceding the survey were more likely to use condoms than their male counterparts.

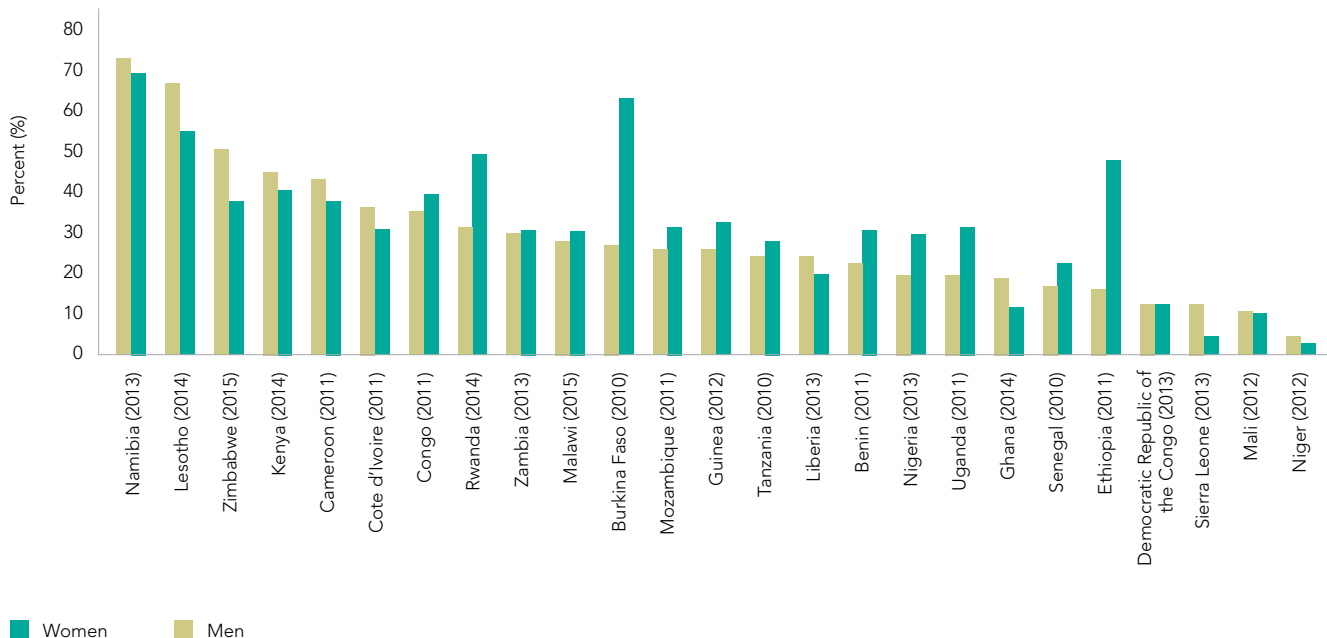
Among young people in sub-Saharan Africa condom use remained low. In 15 of 23 countries less than 60% of young men aged 15–24 with multiple partners used a condom during their last sexual intercourse. In 19 of 23 countries, less than 60% of young women with multiple partners reported condom use. In some countries, it is challenging for women, especially young women, to negotiate condom use with their male partners. Evidence from Asia suggests that women with greater autonomy in decision-making are more likely to negotiate safer sex, have higher HIV-related knowledge and to use condoms (10).

### Trends in the percent of men who report using a condom at last sexual intercourse among men with multiple partners, select countries, 2000–2015



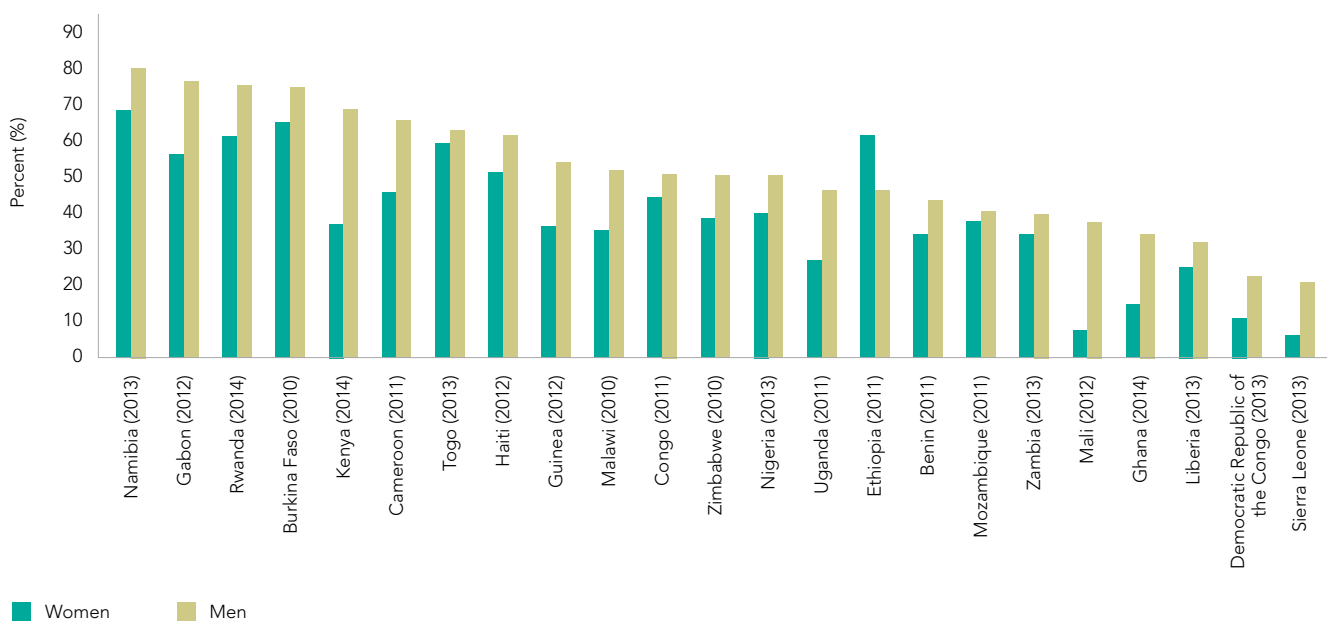
Source; Demographic and Health Surveys, 2000-2015.

**Percent of men and women (aged 15–49 years) who report using a condom at last sexual intercourse among those with multiple partners in the 12 months prior to the survey, sub-Saharan Africa, most recent data, 2010–2015**



Source: Demographic and Health Surveys, 2010–2015.

**Percent of young women and men (aged 15–24 years) reporting use of a condom at last sex among those with multiple partners in the 12 months prior to the survey, sub-Saharan Africa, 2010–2015**



Source: Demographic and Health Surveys, 2010–2015.

## Condom use among key populations

Condom use among sex workers and their clients and other sexual partners must be 100% or combined with pre-exposure prophylaxis (PrEP) to prevent HIV transmission. PrEP availability is currently extremely limited, with recent modelling suggesting that typical antiretroviral therapy coverage will not be sufficient to slow HIV incidence among sex workers, and that antiretroviral therapy coverage at approximately 80% must be accompanied by increased condom use (11). These data reinforce the importance of combination HIV prevention strategies, including the integration of condoms throughout the continuum of HIV services and increased linkages between HIV and sexual and reproductive health services and the use of combination prevention strategies.

Of the 89 countries reporting on condom use with the last client by sex workers, 32 reported greater than 90% coverage. Condom use reported by sex workers in Asia Pacific is 90% or greater in five countries, including the two largest, China and India. Elsewhere, countries with important epidemics among sex workers, such as the Philippines, Indonesia and Pakistan, condom use with last commercial partner was suboptimal and dangerously low in Pakistan. Most other regions show a similar pattern, with a few countries doing reasonably well, but many others falling short—and some far short. Lesotho, where HIV prevalence among female sex workers was 72%, condom use with the last client was only 65%. Countries in the Middle East and North Africa generally have inadequate condom use to prevent HIV transmission to and from sex workers.

Gay men and other men who have sex with men, and who have multiple sexual partners also require consistent condom use. However, condom use in many countries is not occurring at sufficient levels to reduce HIV transmission rates. Overall, many countries report levels of condom use which are insufficient to curtail HIV transmission among men who have sex with men. Only three of 104 countries with available data reported greater than 90% condom use at last sexual intercourse. Data on other sexually transmitted infections among gay men and other men who have sex with men are further evidence of the insufficient use of condoms (12). Low condom use in high-income countries—where antiretroviral therapy coverage and condom availability are high—is consistent with evidence of complacency or condom fatigue (13).

Condom use with the most recent sex partner among people who inject drugs is almost universally low. No countries were above 90% and only five of 60 countries reported between 70% and 89% coverage. In areas with high prevalence of injection drug use and HIV, such as Manipur, India, non-injecting female partners exhibit very high HIV prevalence, in large part due to low condom use (14,15). A study in Viet Nam, where HIV prevalence is extremely high among people who inject drugs—as high as 46% in some cities—shows that there are high rates of serodiscordance in couples with one partner who injects drugs. More than 40% of women in two cities where the study was conducted did not know that their male sexual partner who injected drugs was also living with HIV.

Data on condom use among transgender people are lacking, but there is evidence that condom use in this population is low. A study in Cambodia found that consistent condom use by transgender people was higher (40%) with female partners than with male partners (20–40%), with the lowest rates of consistent condom use with male partners when buying sex (16).

## Percent of sex workers reporting condom use with last client, most recent data, 2013–2015

>90%	70-89%	<70%
Antigua and Barbuda	Algeria	Bangladesh
Armenia	Angola	Belize
Benin	Belarus	Burundi
Botswana	Bosnia and Herzegovina	Comoros
Bulgaria	Burkina Faso	Democratic Republic of the Congo
Central African Republic	Cambodia	Djibouti
Chile	Cameroon	Egypt
China	Cape Verde	Indonesia
Colombia	Congo	Iran
Ecuador	Costa Rica	Lesotho
Eritrea	Côte d'Ivoire	Mauritius
Fiji	Cuba	Micronesia (Federated States of)
Finland	Czech Republic	Pakistan
Georgia	Guyana	Seychelles
Guinea	Jamaica	Sierra Leone
India	Malawi	Somalia
Kazakhstan	Malaysia	Sudan
Kenya	Mexico	Switzerland
Kyrgyzstan	Mongolia	Tunisia
Lao People's Democratic Republic	Montenegro	Uganda
Lebanon	Myanmar	Uzbekistan
Mali	Nicaragua	Vanuatu
Nigeria	Niger	Yemen
Panama	Philippines	Zimbabwe
Paraguay	Republic of Moldova	
Peru	Romania	
Portugal	Senegal	
Serbia	South Africa	
Sri Lanka	Swaziland	
The former Yugoslav Republic of Macedonia	Tajikistan	
Togo	United Republic of Tanzania	
Ukraine	Viet Nam	
	Zambia	

Source: 2016 Global AIDS Response Progress Reporting.

## Percent of gay men and other men who have sex with men reporting condom use with last male partner, most recent data, 2013–2015

>90%	70-89%	<70%	
Benin	Antigua and Barbuda	Angola	Malaysia
South Africa	Botswana	Armenia	Mauritius
Uzbekistan	Burkina Faso	Australia	Montenegro
	Cambodia	Bangladesh	Morocco
	Cameroon	Barbados	Netherlands
	China	Belarus	Nicaragua
	Costa Rica	Belgium	Nigeria
	Côte d'Ivoire	Bolivia (Plurinational State of)	Panama
	Democratic Republic of the Congo	Bosnia and Herzegovina	Paraguay
	Ecuador	Bulgaria	Philippines
	Haiti	Burundi	Poland
	Honduras	Cape Verde	Republic of Moldova
	India	Central African Republic	Romania
	Indonesia	Colombia	Samoa
	Jamaica	Comoros	Serbia
	Japan	Congo	Sierra Leone
	Kazakhstan	Cook Islands	Singapore
	Kenya	Croatia	Sri Lanka
	Kyrgyzstan	Cuba	Sudan
	Lebanon	Dominican Republic	Swaziland
	Mali	Egypt	Sweden
	Mexico	El Salvador	The former Yugoslav Republic of Macedonia
	Mongolia	Estonia	Togo
	Myanmar	Fiji	Tonga
	Nepal	France	Trinidad and Tobago
	New Zealand	Georgia	Tunisia
	Niger	Germany	Tuvalu
	Portugal	Guyana	Uganda
	Senegal	Ireland	United Republic of Tanzania
	Spain	Italy	United States of America
	Switzerland	Lao People's Democratic Republic	Uruguay
	Tajikistan	Lesotho	Vanuatu
	Thailand	Liberia	Viet Nam
	Ukraine	Madagascar	

Source: 2016 Global AIDS Response Progress Reporting.

## Percent of people who inject drugs reporting condom use with last partner, most recent data, 2013–2015

>90%	70-89%	<70%	
	Cambodia	Afghanistan	Latvia
	France	Armenia	Liberia
	India	Australia	Madagascar
	Kenya	Azerbaijan	Malaysia
	Nigeria	Bangladesh	Mauritius
		Belarus	Mexico
		Belgium	Montenegro
		Benin	Morocco
		Bosnia and Herzegovina	Myanmar
		Brazil	Nepal
		Bulgaria	Pakistan
		China	Philippines
		Colombia	Senegal
		Cook Islands	Serbia
		Côte d'Ivoire	Seychelles
		Democratic Republic of the Congo	Sierra Leone
		Dominican Republic	Sri Lanka
		Egypt	Sweden
		Estonia	Switzerland
		Georgia	Tajikistan
		Germany	Thailand
		Greece	The former Yugoslav Republic of Macedonia
		Hungary	Tunisia
		Indonesia	Ukraine
		Iran (Islamic Republic of)	United Republic of Tanzania
		Japan	Uzbekistan
		Kazakhstan	Viet Nam
		Kyrgyzstan	

Source: 2016 Global AIDS Response Progress Reporting.

In most countries laws, regulations or policies are obstacles for the distribution of condoms to people in prisons and other closed settings. In countries where they are available, condoms are often not easily accessible, lubricant is rarely provided and distribution is limited to a fraction of the prisons. Also, in many countries, access to condoms in prisons is limited to conjugal visiting rooms and not for use between prisoners. Access to female condoms is even lower.



## Female condoms in combination prevention

Female condoms are currently the only widely available method giving women and adolescent girls greater control over protecting themselves from HIV, other sexually transmitted infections and unintended pregnancy (17). A growing body of evidence shows that effective female condom promotion to both women and men can increase the proportion of protected sex acts. Studies conducted in a variety of contexts show that the female condom is widely acceptable and a realistic alternative to the male condom. Increasing method choice can increase uptake and use of contraceptives, including condoms, with one study showing that providing a choice of condoms successfully increased acceptability (18).

The promotion of female condoms can be paired with biomedical technologies, such as PrEP and other forms of microbicides, to reduce HIV, other sexually transmitted infections and unwanted pregnancies. Integrating male and female condom promotion into other services, such as family planning, HIV counselling, testing and treatment, voluntary medical male circumcision and prevention of mother-to-child transmission, can also help to increase the demand for this method. Female condoms should be promoted as an additional option for both men and women, rather than as a replacement for the male condom (18).

## A new generation of comprehensive condom programmes

The challenge ahead is to invest in, and scale up, a new generation of data-driven and people-centred comprehensive condom programmes, including demand creation, community mobilization, supply chain management, planning, programme management and monitoring and evaluation. Comprehensive condom programmes should use a total market approach that includes the public and private sectors and social marketing.

Condom programming needs to be predicated on sexual and reproductive health and rights and gender equality. It must integrate—and be integrated into—comprehensive sexuality education and efforts to promote respect for the right to the enjoyment of sex and to the expression of sexual identity. In order to be responsive to individual and context-specific needs, young people, people living with HIV, sex workers, men who have sex with men and people who inject drugs—alongside other vulnerable populations—will need to be involved in the planning and implementation of condom programming. These populations should also contribute to efforts to improve data and increase innovation through programme science, market research, needs estimates, costing and monitoring and evaluation. National and community leadership will be essential to increasing domestic funding and ownership of national condom strategies and to moving away from programmes that are primarily funded and managed by international donors.

# VOLUNTARY MEDICAL MALE CIRCUMCISION

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Voluntary medical male circumcision is a cost-effective, one-time intervention that provides lifelong partial protection against female-to-male HIV transmission. Modelling studies have suggested that achieving 80% circumcision prevalence among men aged 15 to 49 years by 2015—and then sustaining it—would avert 3.4 million HIV infections by 2025 (1).

Since 2007, tremendous efforts have been made to scale up voluntary medical male circumcision in 14 priority countries in eastern and southern Africa that have high levels of HIV prevalence and low levels of male circumcision. By the end of 2015, nearly 11.6 million men in these countries had been medically circumcised.

## PREVENTION GAPS

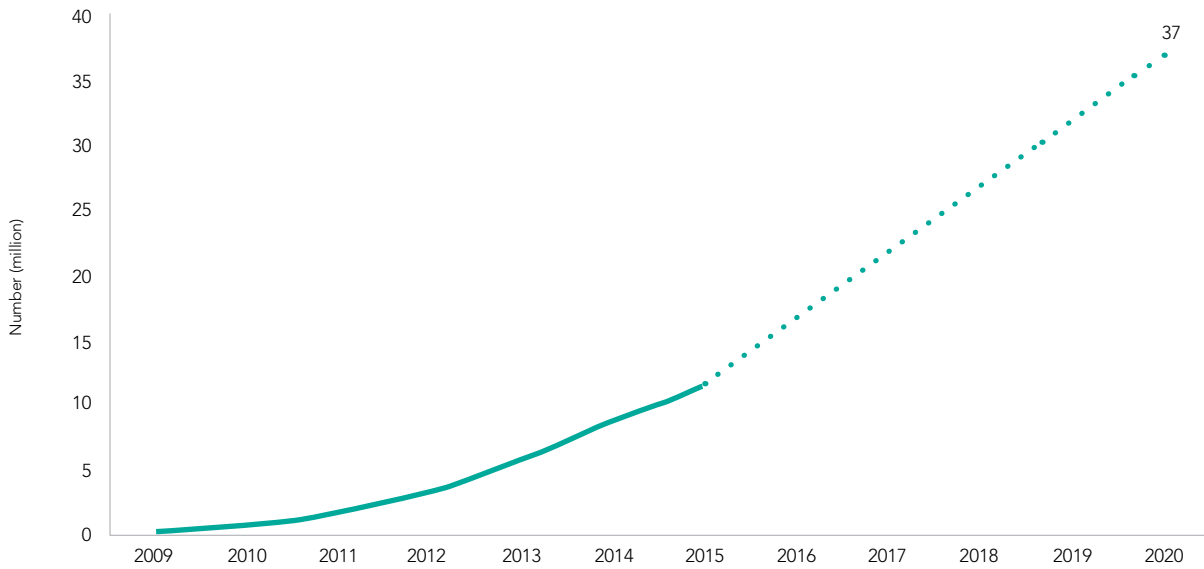
- Following years of rapid increase, annual numbers of circumcisions performed within eight of the 14 priority countries declined in 2015.
- The annual number of circumcisions performed in the 14 priority countries<sup>1</sup> must more than double to reach the 2020 target of 25 million additional young men in high-prevalence settings being circumcised.

## WAY FORWARD

- Integrate vertical programmes within national health systems.
- Promote voluntary medical male circumcision as part of a core package of health services for men and boys, using approaches that are tailored for various age groups and locations.
- Increase domestic funding to ensure sustainability.
- Widen the use of new non-surgical circumcision devices.
- Develop new approaches for adolescent and early infant circumcision.
- Break down myths and misconceptions about circumcision.

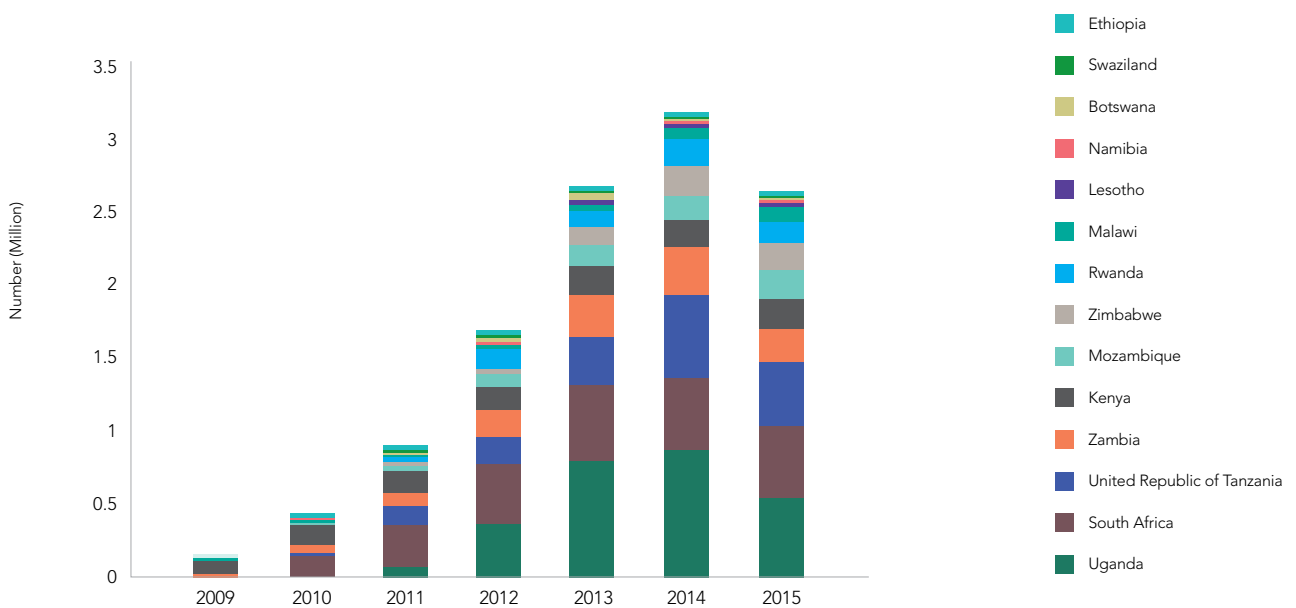
<sup>1</sup>The 14 priority countries include Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, United Republic of Tanzania, Uganda, Zambia, Zimbabwe. The 2020 target also includes South Sudan.

## CUMULATIVE NUMBER OF VOLUNTARY MEDICAL MALE CIRCUMCISIONS, 14 PRIORITY COUNTRIES, 2009–2015



Sources: 2016 Global AIDS Response Progress Reporting.

## ANNUAL NUMBER OF VOLUNTARY MEDICAL MALE CIRCUMCISIONS, 14 PRIORITY COUNTRIES, 2009–2015



Sources: 2016 Global AIDS Response Progress Reporting.

Progress among priority countries varied widely between 2009 and 2015. Ethiopia, Kenya and the United Republic of Tanzania had surpassed their national coverage targets, and Mozambique, South Africa, Uganda and Zambia had achieved between 50% and 70% of their coverage targets by the end of 2015. In Botswana and Swaziland, however, coverage was around 45%, and in Lesotho, Malawi, Namibia, Rwanda and Zimbabwe, coverage was under 35% in 2015.

The United Nations General Assembly set an ambitious target in the 2016 Political Declaration on HIV and AIDS to provide voluntary medical male circumcision to an additional 25 million young men in high HIV incidence areas between 2016 and 2020.

## **The drop in annual numbers of circumcisions is a cause for concern**

A steady increase in the annual number of men voluntarily circumcised between 2008 and 2014 was followed in 2015 by a worrying decline in annual circumcisions within eight of the 14 priority countries. The cumulative number of circumcisions among all 14 priority countries dropped to 2.6 million in 2015 (compared to 3.2 million in 2014). In Ethiopia, South Africa and Swaziland, however, the number of circumcisions remained stable in 2015; in Kenya, Malawi and Namibia, the annual number of circumcisions increased.

Programme managers in the priority countries are examining the causes of this decline. Potential reasons may include reporting challenges, temporary disruptions caused by changes in procedures, reductions in funding and a natural decline after early adopters had been reached (2).

Among the nine priority countries with age-disaggregated data (Botswana, Ethiopia, Kenya, Lesotho, Mozambique, Rwanda, Swaziland, Zambia, Zimbabwe), uptake of voluntary medical male circumcision was highest among those aged 10–14 years, followed by those aged 15–19 years and 20–24 years. The analysis of disaggregated data by age or age bands allows for more precise monitoring of progress in each age band, and for taking action as needed to improve services.

## **Getting circumcision back on track**

Achieving the 2020 target will require continued increases in the scale of programmes in the priority countries. Instead of less than 3 million male circumcisions annually, more than 5 million will need to be performed. In some countries, this will require the integration of vertical programmes within national health systems and the strengthening of the capacity of public health systems to manage these programmes at both the national and local levels. In addition, voluntary medical male circumcision should be part of a core package of health services for men and boys, using approaches that are tailored for various age groups and locations. Similarly, increases in domestic funding will be required to ensure the sustainability of programmes in countries that currently rely on international funding for the majority of their programme budgets.

Measures are already being taken to improve programme coverage and efficiency. In all 15 of the priority countries (including South Sudan), more nurses are being trained to provide voluntary medical male circumcision services. The introduction of male circumcision devices also is providing an alternative to conventional surgical circumcision methods that require greater surgical skill and clinical infrastructure, both of which are limited in resource-poor settings.

There also is a continuing need to break down myths and misconceptions about circumcision—and to navigate cultural sensitivities—through intensification of demand creation strategies. Innovation in service packages and provision also can address the concerns of potential clients. For example, male circumcision devices have been reported to increase the acceptability of voluntary medical male circumcision. As of the end of 2015, two such devices had been pre-qualified by the WHO for use.

Meanwhile, studies are underway to inform new approaches—including participatory ones—to provide comprehensive and sustainable services for adolescents, and to increase feasibility of early infant circumcision.

# HARM REDUCTION<sup>1</sup>

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People who inject drugs are among the key populations most at risk to acquire or transmit HIV. Yet they are also among those with the least access to HIV prevention, care and treatment services because their drug use is often stigmatized and criminalized.

The tools and strategies required to improve the health and lives of people who use drugs are well known and readily available. Needle–syringe programmes reduce the spread of HIV, hepatitis C and other bloodborne viruses. Opioid substitution therapy and other evidence-informed forms of drug dependence treatment curb drug use, reduce vulnerability to infectious diseases, and improve uptake of health and social services.

The overwhelming body of evidence on the effectiveness of harm reduction, including in prisons and other closed settings, is the basis for a comprehensive package of interventions recommended by the World Health Organization (WHO), the United Nations Office on Drugs and Crime (UNODC) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) for preventing the spread of HIV and reducing other harms associated with drug use. Few countries have achieved sufficient coverage of harm reduction services, however.

## PREVENTION GAPS

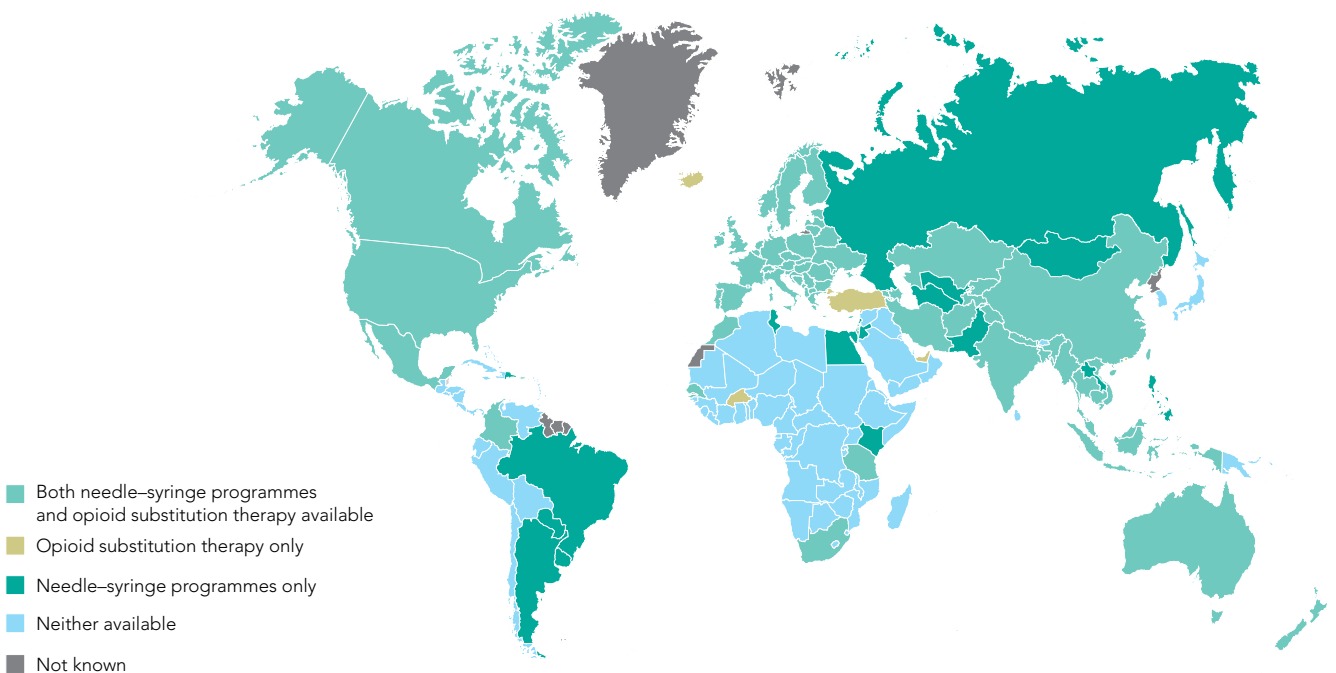
- Needle–syringe programmes are available in only 90 of the 158 countries where injecting drug use has been documented. Only 8 countries have at least one programme in prisons.
- Only 12 countries provide the recommended threshold of 200 clean needles per person who injects per year.
- Less than 80% of people who inject drugs reported injecting with a clean needle the last time they injected in 22 of the 59 countries with available data.
- At least one opioid substitution therapy site is available in only 80 of the 158 countries where injecting drug use has been documented. Only 43 countries have programmes in prisons.
- HIV prevalence among women who inject drugs is often greater than their male peers, highlighting a need for gender-sensitive harm reduction interventions. In 24 of 35 countries reporting to the 2016 Global AIDS Response Progress Report, median HIV prevalence among women was 50% higher, with a range of 2% to 530%.
- Criminalization of drug possession and use perpetuates risky forms of drug use, increases HIV risk, discourages people who use drugs from seeking health care, and reinforces the marginalization of people who use drugs. Presently, 11 countries have compulsory detention and 15 have death penalties for people who used drugs.

<sup>1</sup> This chapter contains excerpts from the UNAIDS report “Do no harm”, published in April 2016 (1). Some estimates, programme data and country examples have been updated to reflect the latest round of Global AIDS Response Progress Reporting (2).

## WAY FORWARD

- Ensure that all people who inject drugs, including people in prisons and other closed settings, have access to harm-reduction services to prevent HIV infection.
- Ensure that all people who inject drugs and are living with HIV and/or hepatitis C have access to lifesaving treatment.
- Ensure all people who use drugs have access to non-coercive and evidence-informed drug dependence treatment, including opioid substitution therapy, consistent with international human rights standards.
- Adapt and reform laws to ensure people who use drugs do not face punitive sanctions for the use of drugs or possession of drugs for personal consumption.
- Ensure widespread, community-based availability of naloxone as a lifesaving public health measure.
- Support and empower community and civil society organizations, including organizations and networks of people who use drugs, in the design and delivery of HIV prevention services.
- Combine treatment with other combination prevention approaches, e.g. pre-exposure prophylaxis and condom promotion for serodiscordant couples.

## AVAILABILITY OF NEEDLE-SYRINGE EXCHANGE PROGRAMMES AND OPIOID SUBSTITUTION THERAPY, 2014



Source: The global state of harm reduction 2014. London: Harm Reduction International; 2014 (<http://www.ihra.net/files/2015/02/16/GSHR2014.pdf>).

## Insufficient harm reduction coverage

Efforts to criminalize and aggressively police and sanction the use of narcotic drugs and psychotropic substances have had little or no impact on the number of people using drugs. Country data collected by UNODC show that the percentage of people who use illicit drugs has remained stable, fluctuating between 4.6% and 5.2% of adults, since at least 2006 (3). The rights-based public health alternative is harm reduction: services, programmes and policies that seek to reduce the health, social and economic harms of drug use to individuals, communities and societies.

In too many countries with large populations of people who inject drugs, however, harm reduction has not expanded beyond small-scale pilot schemes funded by external donors. In 2014 needle–syringe programmes were available in only 90 of the 158 countries where injecting drug use has been documented, and opioid substitution therapy was available in only 80 of these countries (4).

### Needle–syringe programmes

Decades of experience within dozens of countries supports the effectiveness of needle–syringe programmes (4–6). Across eight countries in eastern Europe and central Asia, a tripling of needle–syringe programme coverage between 2005 and 2010 reduced injecting risk behaviour related to HIV and hepatitis C and reduced new infections (7). Many individual programmes have achieved outstanding results. Ten years of needle–syringe programming in Australia reduced the number of cases of HIV by up to 70% and reduced the number of cases of hepatitis C by up to 43% (8). In New York a sharp decrease in new HIV infections among people who inject drugs between 1992 and 2012 has been attributed to the implementation and expansion of syringe exchange since 1992 (9).

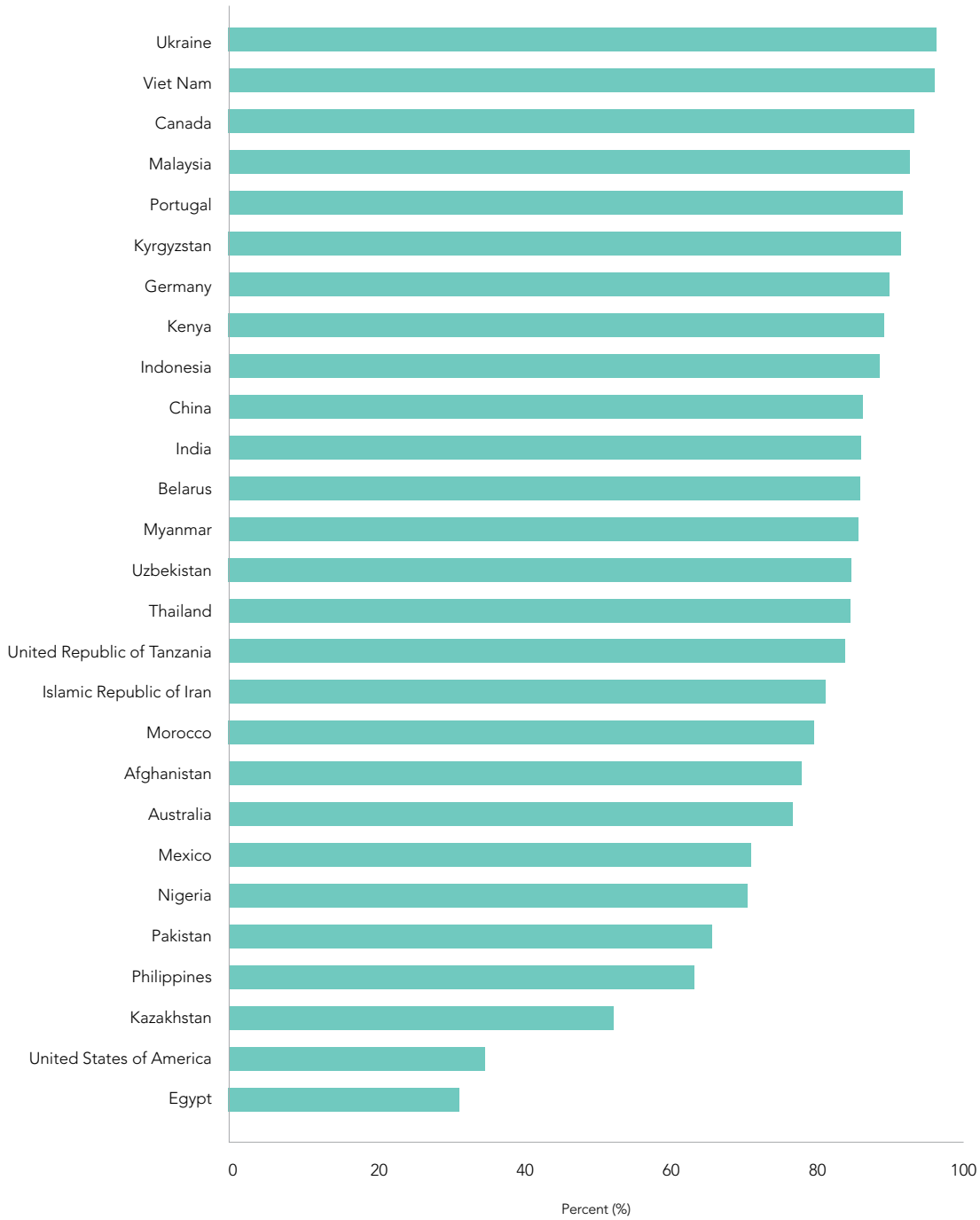
Costing US\$ 23–71 per person per year, needle–syringe programmes are relatively inexpensive to implement and are much more affordable than the lifetime health-care costs required to treat a person living with HIV (10). Conversely, the absence of needle–syringe programmes is a common feature in explosive increases in HIV incidence in communities that use drugs, for example in India, Philippines, and Indiana in the United States of America (11–13).

Of 60 countries that provided data on needle–syringe programming in 2015, however, only 13 reported more than the recommended threshold of 200 clean needles provided per person who injects per year (2).

In Asia and the Pacific, where distribution per country was the highest in the world, a regional median of 84% of people who inject drugs reported the use of sterile injecting equipment at last injection, and over 80% reported safe injecting practices in 9 of the 15 countries that reported (2).



**Percent of people who inject drugs who reported using a clean needle for last injection, select countries, most recent data, 2013–2015**



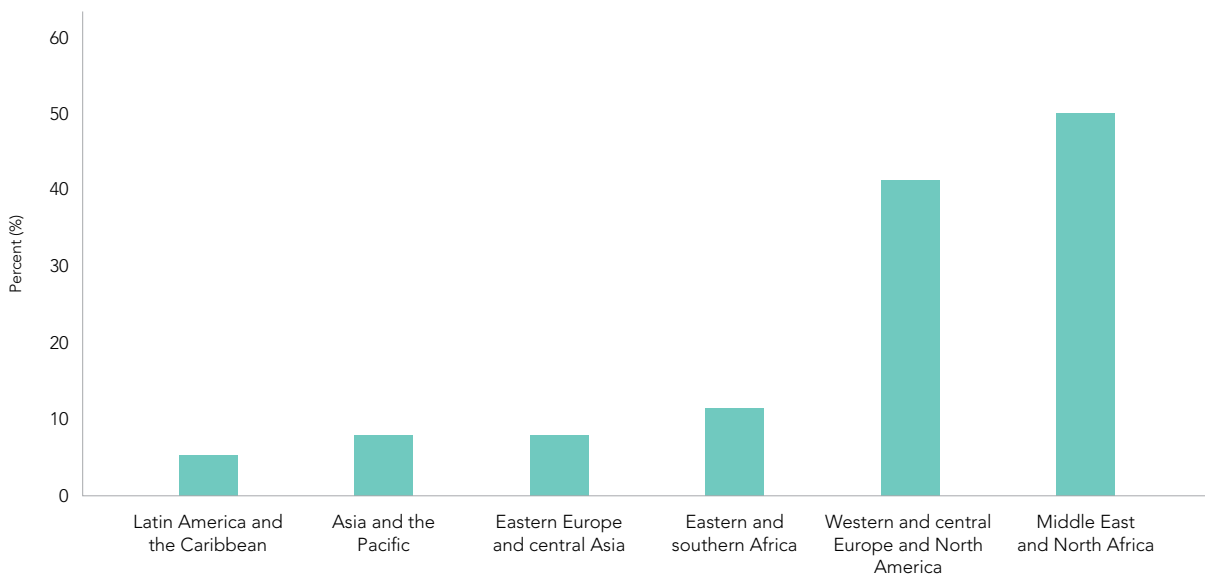
Source: 2016 Global AIDS Response Progress Reporting.

## Opioid substitution therapy

Drug dependence is a chronic health condition. As with other chronic conditions, long-term and continued treatment is often required, and affected people remain vulnerable to relapse throughout their lifetime (3). Despite these challenges, systematic reviews of opioid substitution therapy (mostly methadone or buprenorphine maintenance therapy) have demonstrated its effectiveness in the reduction or complete cessation of the use of heroin and other opioids (14,15). This in turn yields individual and public health dividends. Methadone maintenance therapy has been associated with a 54% reduction in the risk of HIV infection within populations of people who inject drugs (16). It has been calculated that providing sufficient access to this critical component of harm reduction could prevent 130 000 new HIV infections outside sub-Saharan Africa every year (17).

Substitution therapy has also been shown to decrease the risk of hepatitis C infection (18), to increase adherence to antiretroviral therapy for HIV (19), to lower out-of-pocket health expenditures (20), and to reduce opioid overdose risk by almost 90% (21). The scale-up of methadone maintenance therapy in diverse country contexts, including Portugal (20), Viet Nam (22) and New Zealand (23), has also been associated with a decrease in crimes committed by people who use drugs.

### Median percent of people with opioid dependence use receiving opioid substitution therapy, 2015



Source: 2016 Global AIDS Response Progress Reporting; UNODC. World Drug Report 2016.

Global coverage of opioid substitution therapy, however, remained inadequate to reduce injection and thereby reduce HIV transmission: among the 72 countries reporting opioid treatment data, median coverage was 17% of people who use drugs. In eastern Europe and central Asia, opioid substitution therapy was available in all countries except the Russian Federation, Turkmenistan and Uzbekistan but capacity to provide such therapy remained low in many settings.

Available data from Asia and the Pacific also indicated low coverage in 2015, with an estimated 120 000 people who used drugs enrolled in opioid substitution therapy and coverage in the 12 countries that reported data ranging from 0.5% of people who inject drugs in Afghanistan to 24% among people who inject drugs in Malaysia (2). In China a free voluntary methadone programme served more than 184 000 people (nearly 10% of the country's people who inject drugs) in 2015 (24). Combined with the national needle–syringe programme, this service has resulted in dramatic reductions in the proportion of new HIV diagnoses among people who inject drugs (25).

In the Middle East and North Africa, opioid substitution therapy was well-established in the Islamic Republic of Iran, Lebanon and Morocco. Over 24 000 of an estimated 200 000 people who inject drugs in the Islamic Republic of Iran received opioid substitution therapy in communities and prisons in 2015, and the number of newly reported cases of HIV among these people dropped significantly. In Morocco 820 people who inject drugs received treatment at new drug dependence treatment centres, including in one prison. In Lebanon more than 1500 people were receiving community treatment in 2015.

### Overdose treatment

Opioid overdose claims the lives of an estimated 70 000–100 000 people each year (21). Naloxone is an extremely effective treatment for opioid drug overdose (26). Naloxone is relatively inexpensive, and using it may result in a life saved. In most countries, however, naloxone is accessible only by prescription or through hospitals and ambulance crews, who may not reach a person in need until it is too late. WHO recommends that people likely to witness an opioid overdose including people who use opioids, and their family and friends, especially for people just released from prison, should have access to naloxone and be instructed in its use for emergency management of suspected opioid overdose.

### Barriers to harm reduction

The exclusion and marginalization of people who use drugs has been acknowledged as one of several unfortunate consequences of the international drug control system (27). Civil society organizations of people who use drugs describe pejorative terms such as “junkie” and “addict” commonly used in news media as hate speech that dehumanizes and stereotypes them as unpredictable, violent, and unable to exercise agency and self-determination (28). Such beliefs weaken human rights safeguards and create barriers to employment, health care and social services. These barriers are even larger when people who use drugs internalize societal stigma. Judgemental feelings among health-care providers have been linked to lower-quality health care and lower health outcomes (29,30).

In many countries, laws, policies, practices and other structural barriers facilitate discrimination of people with a history of drug use and create barriers to HIV prevention services. Criminal justice systems that use possession of drug paraphernalia or drug residue within injecting equipment as evidence of illegal drug possession or use are particularly disruptive to needle–syringe programmes (31). Syringe confiscation has been associated with increases in HIV infection among female sex workers who inject drugs (32). In parts of eastern Europe and central Asia, nongovernmental organizations report that police may consider needle–syringe distribution as promotion of illegal drug use, which leads to a high rate of turnover among outreach workers who fear they may be arrested for carrying injecting equipment (32). Police crackdowns on drug use, random urine drug screens, and police surveillance of health-care and harm-reduction service providers discourage people who use drugs from accessing these services (31).

Laws and policies that make drug use a criterion for loss of child custody, forced or coerced sterilization or abortion, and denial of welfare benefits have a disproportionate impact on women who use drugs (33,34). In some countries, such as the Russian Federation, opioid substitution therapy is unavailable or illegal, and in other countries, even though it may be available, police reportedly target people accessing treatment for drug arrests (35).

The threat of being sent to a compulsory detention centre is a powerful deterrent to accessing harm reduction services in at least 17 countries in Asia and Latin America (36,37). The United Nations High Commissioner for Human Rights, the United Nations Special Rapporteur on Torture and the United Nations Special Rapporteur on the Right to Health have raised serious concerns regarding the decision-making process for sending people to compulsory drug detention facilities, the conditions within the centres, and the forms of treatment provided (38-40).

Legislation that criminalizes possession and use of drugs for personal consumption is one of the most formidable barriers to the provision of harm-reduction services. Criminalization has been shown to perpetuate risky forms of drug use, to increase the risk of illness (including from HIV infection) among people who use drugs, to discourage people who use drugs from seeking health care, and to reinforce the marginalization by society of people who use drugs (38).

### **Decriminalization and depenalization**

A large body of evidence shows that alternatives to incarceration such as community-based drug dependence treatment are more cost effective at reducing health, social and economic harms of drug use (41). Several countries are moving away from criminalization of drug use. Armenia, Belgium, Chile, the Czech Republic, Estonia, Mexico and Portugal are among the countries that have adopted some form of decriminalization policy since 2000 (41).

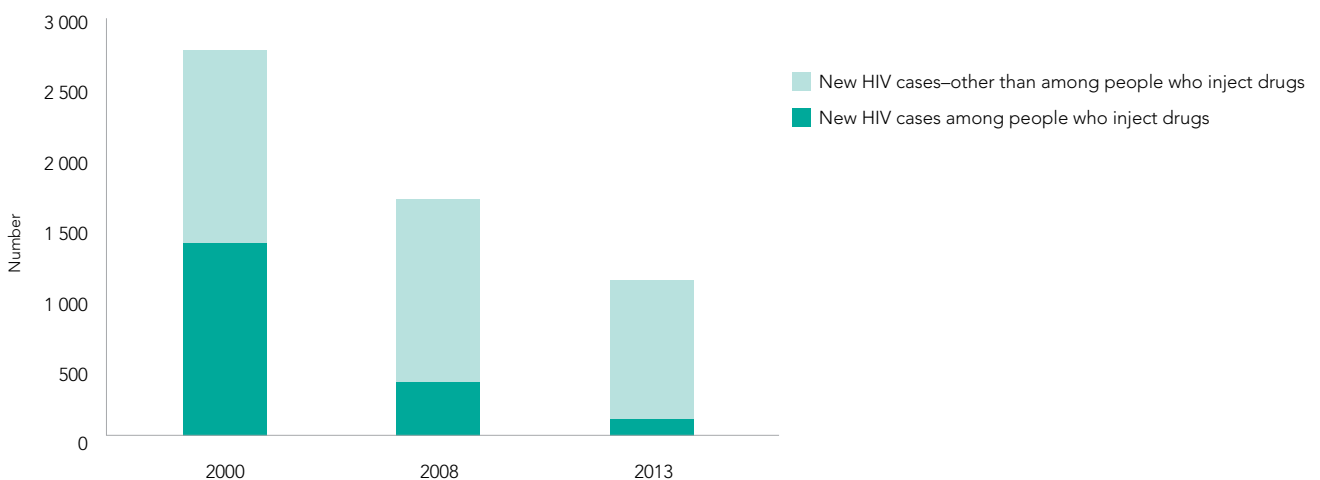
The Czech Republic’s decriminalization of the use and possession of small quantities of drugs combined with relatively high coverage of needle–syringe programmes and opioid substitution therapy have been credited with the country’s remarkably low rates of HIV among people who inject drugs, especially when compared with other countries in central and eastern Europe (42). HIV

prevalence among people who inject drugs in 2012 was estimated to be 0.1% in the Czech Republic (43).

Among the best-documented policy changes is Portugal's. In 2000 Portugal passed a new drug law that downgraded purchase, possession and consumption of small amounts of narcotic drugs from criminal to administrative offences. Under the law an individual can possess a 10-day supply of drugs before facing criminal charges as a drug dealer. The law also put in place a wide range of drug use prevention measures focused on high-risk groups and areas and systematic application of harm-reduction measures, including needle-syringe distribution and drug dependence treatment (44).

The 10 years after Portugal's law was enacted saw a decline in the rate of crimes related to drug consumption, especially petty thefts (45). There is evidence of reductions in problematic drug use, drug-related harms and criminal justice overcrowding, and the number of people entering drug dependence treatment programmes in Portugal increased from just over 5000 in 2008 to 40 000 in 2010 (45). Since 2000 there has been a steady decrease in the number of people who inject drugs being newly infected with HIV in Portugal, and a huge decrease in the percentage of people who inject drugs representing new HIV infections (45). In 2013 a total of 78 new HIV cases were related to drug use, compared with 1430 in 2010 (46). A similar downward trend has been observed for hepatitis C and hepatitis B among people attending drug treatment centres, despite an increase in the number of people seeking treatment (46).

## Number of people newly diagnosed with HIV in Portugal since the decriminalization of drug use, 2000–2013



Source: Domoslawski A. Drug Policy in Portugal: the benefits of decriminalization drug use. Warsaw: Open Society Foundations; 2011.

### The combination approach

Individual harm reduction approaches are successful in reducing the harms related to drug use, but they are even more effective when delivered as a package, not only together but combined with other prevention services such as condom programmes and treatment (10). Condom provision within harm-reduction programmes can help to reduce the transmission of HIV from people who inject drugs to their sexual partners (47). Ensuring HIV tests are offered routinely to people who access needle-syringe services and opioid substitution therapy helps to identify people living with HIV as soon as possible after infection and the immediate initiation of antiretroviral therapy (1). People living with HIV who inject drugs are more likely to remain on antiretroviral therapy if they are also accessing opioid substitution therapy; in addition, early initiation of treatment contributes to the suppression of viral load and maximizes the prevention benefits of such treatment (16, 48). Increasing the provision of such combined approaches—including those that incorporate pre-exposure prophylaxis for people who inject drugs at particularly high risk, and for their sexual partners—will enhance the benefits of harm reduction.

### Community engagement

Peer- and community-driven provision of harm-reduction services has been proven to increase uptake of services. These approaches provide a vital way to ensure that people who inject drugs can access programmes, and the approaches should be scaled up and expanded.

In one district in Viet Nam where 75% of the people living with HIV were people who inject drugs, programming moved from a traditional approach (using behaviour change communication, commodities provision and voluntary counselling and testing referral) to a peer-driven intervention approach with web-based outreach. Two outreach workers (one from an HIV outpatient clinic and one from a methadone maintenance therapy clinic) recruited people who inject drugs, providing them with “coupons” and other incentives and referrals for HIV testing services (and, where necessary, care and treatment). These initial recruits (or “seeds”) pass coupons to other people in their own networks, including other people who inject drugs and their sexual partners. The programme resulted in improvements in tracking people through the cascade of services, and increases in testing and diagnosis—from 94 people tested (3.2% of whom tested positive) in 2013 to 483 people (6.8% of whom tested positive) in 2015. In 2016, of the 10.9% of people tested who were living with HIV, 41.6% were enrolled in treatment (49).

In Ukraine community outreach workers increased the uptake of methadone maintenance therapy and antiretroviral therapy among people who inject drugs by 36% (almost 200 and 1000 people, respectively) in 10 months (50). The Government of Belarus plans to directly contract nongovernmental organizations to provide HIV services (51). In the Islamic Republic of Iran nongovernmental organizations provide comprehensive harm-reduction services—including needle exchange, methadone maintenance, general medical care, voluntary counselling and testing for HIV, and the provision of food, clothes and other basic needs—through drop-in centres and referrals to public health care facilities (52).



# VIRAL SUPPRESSION

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Strong adherence to antiretroviral therapy suppresses viral load to undetectable levels within people living with HIV, greatly reducing the risk of transmitting the virus to others (1–3). When large proportions of people living with HIV within a community are on treatment, it has been shown to have a preventive effect within that community (4, 5). This preventive effect of treatment has been heralded as a game-changer within the global response to HIV. Achievement of the 90–90–90 target by 2020 alongside high coverage of other HIV prevention interventions can make the end of the AIDS epidemic a reality by 2030 (6).

## PREVENTION GAPS

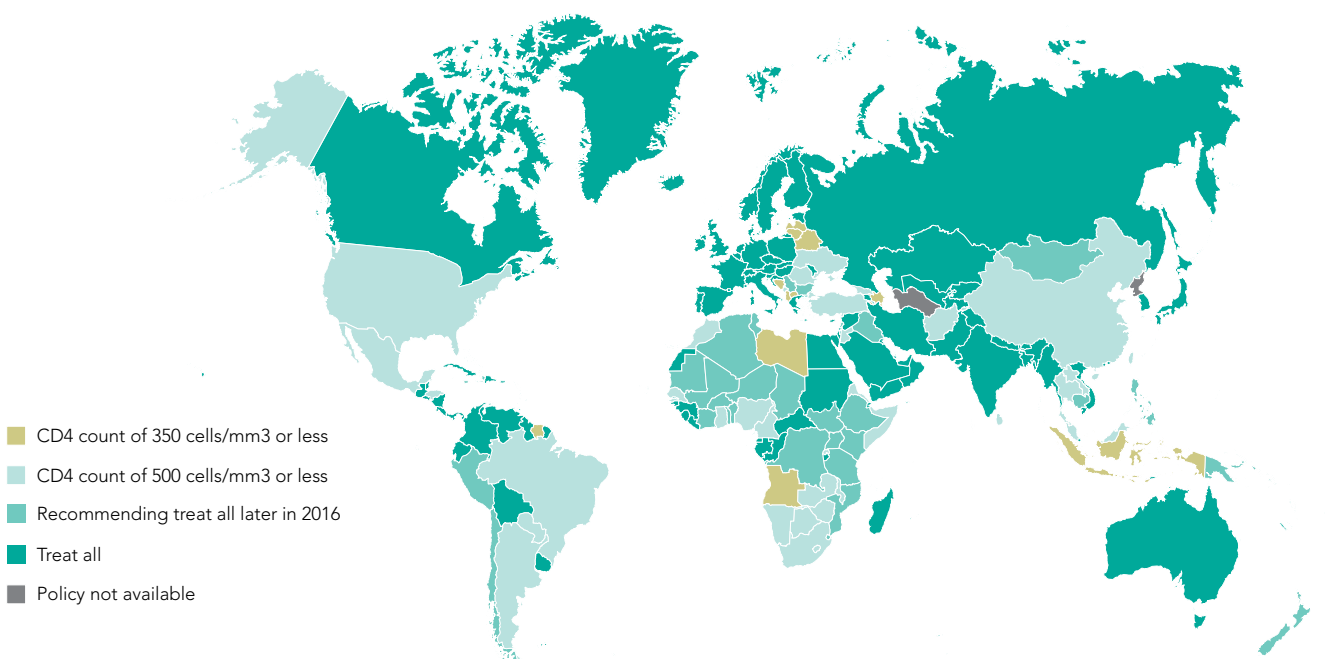
- An estimated 38% [35–41%] of people living with HIV worldwide are not virally suppressed.
- More than 15.6 of the 36.7 million people living with HIV do not know their HIV status.
- Access to treatment and viral suppression levels are lower among key populations compared to the general population in many countries, and lower among men compared to women.
- Gaps in access to HIV testing and treatment are largest in western and central Africa and the Middle East and North Africa.
- Stigma, discrimination and other human rights violations deter people from seeking testing and treatment and compromise sustained adherence to antiretroviral treatment.
- The preventative benefits of treatment are not being realized fully due to failure to reach people soon after infection, when viral load levels are high.
- Disruptions of viral suppression of those on treatment, due to lack of adherence or viral resistance, limit the potential gains of treatment.

## WAY FORWARD

- Expand innovative HIV testing strategies, such as self-testing and partner-supported testing services.
- Use cash transfers to increase HIV testing uptake and treatment adherence.
- Increase community engagement in HIV testing and treatment programmes.
- Implement human rights programmes to remove structural barriers to testing and treatment.
- Adopt the 2015 WHO guidelines that call for the immediate offer of antiretroviral therapy following diagnosis.
- Reduce cost and increase coverage of viral load testing.
- Combine treatment with other combination prevention approaches, including pre-exposure prophylaxis and condom promotion for serodiscordant couples.

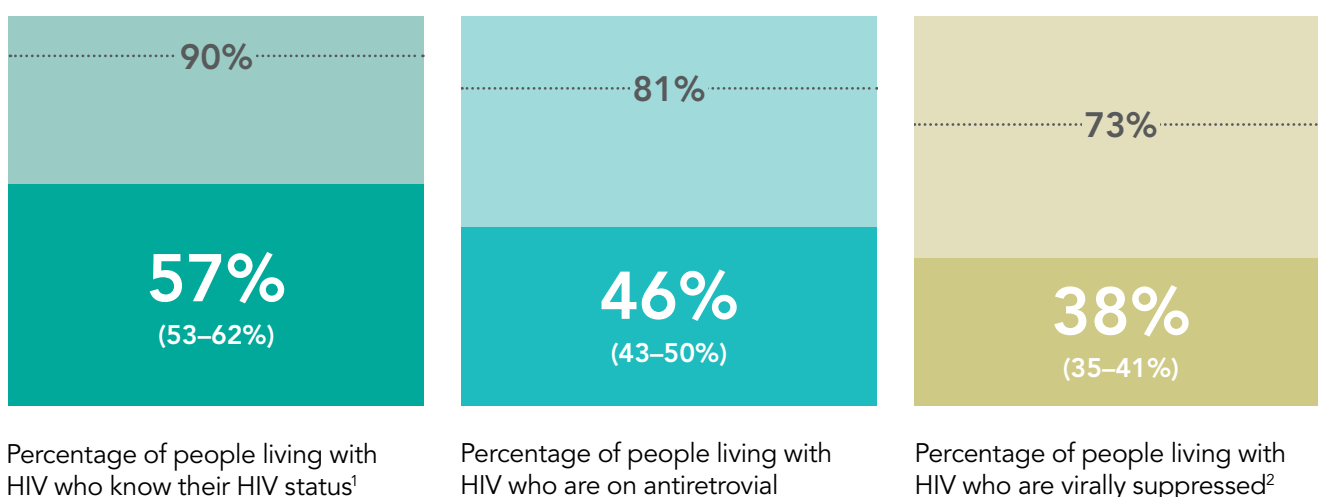


## RECOMMENDED ANTIRETROVIRAL TREATMENT INITIATION THRESHOLD AMONG PEOPLE LIVING WITH HIV PER MINISTRY OF HEALTH GUIDELINES, MID-2016



Source: World Health Organization, 2016.

## PROGRESS TOWARDS 90–90–90 TARGET, GLOBAL, 2015



<sup>1</sup> 2015 measure derived from data reported by 87 countries, which accounted for 73% of people living with HIV worldwide.

<sup>2</sup> 2015 measure derived from data reported by 86 countries. Worldwide, 22% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

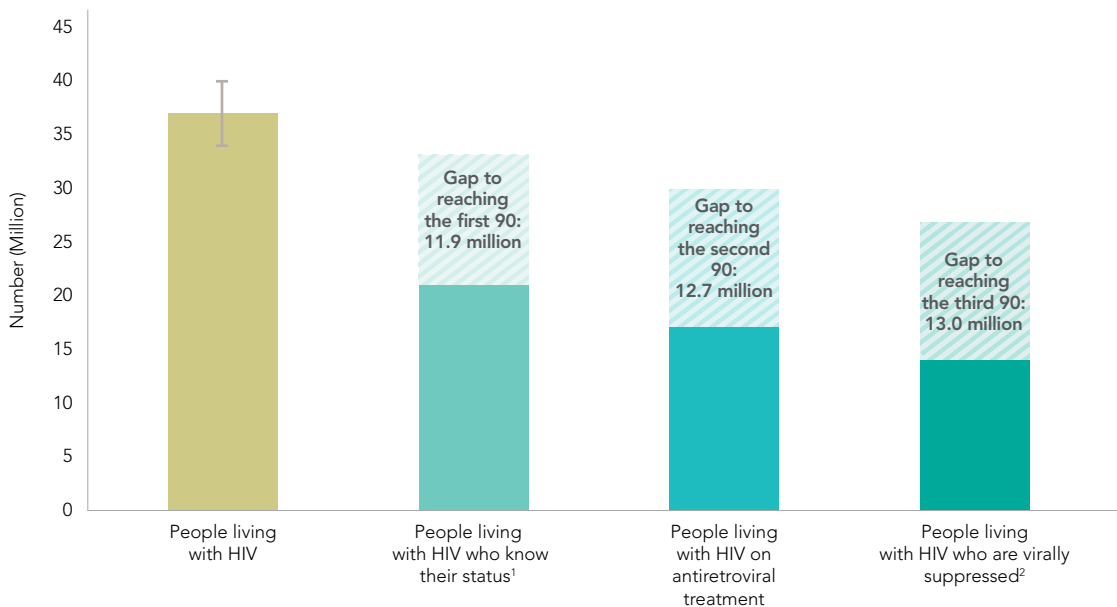
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

The scale-up of treatment is among the greatest successes of the global AIDS response to date. In the past two years the number of people living with HIV on antiretroviral therapy has increased by about a third, reaching 17.0 million people. These gains are largely responsible for a 26% decline in AIDS-related deaths globally since 2010, from an estimated 1.5 million [1.3 million–1.7 million] in 2010 to 1.1 million [940 000–1.3 million] in 2015. In the world’s most affected region, eastern and southern Africa, the number of people on treatment has more than doubled since 2010, reaching nearly 10.3 million people, and AIDS-related deaths have decreased by 36% since 2010.

Analysis of the available data validated by UNAIDS in partnership with UNICEF and WHO,<sup>1</sup> however, suggests that much greater progress in the areas of testing and treatment is required to reach the 2020 target of fewer than 500 000 new HIV infections in 2020. In 2015, of the 36.7 million [34.0 million–39.8 million] people living with HIV globally, an estimated 57% [53–62%] knew their HIV status, 46% [43–50%] were on antiretroviral therapy, and 38% [35–41%] had achieved viral suppression.

The global gap to achieving the 90–90–90 target in 2015 was around 11.9 million people living with HIV who did not know their status, 12.7 million people in need of antiretroviral therapy, and 13.0 million people living with HIV who were not virally suppressed.

## 90–90–90 target cascade, global, 2015



<sup>1</sup> 2015 measure derived from data reported by 87 countries, which accounted for 73% of people living with HIV worldwide.

<sup>2</sup> 2015 measure derived from data reported by 86 countries. Worldwide, 22% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

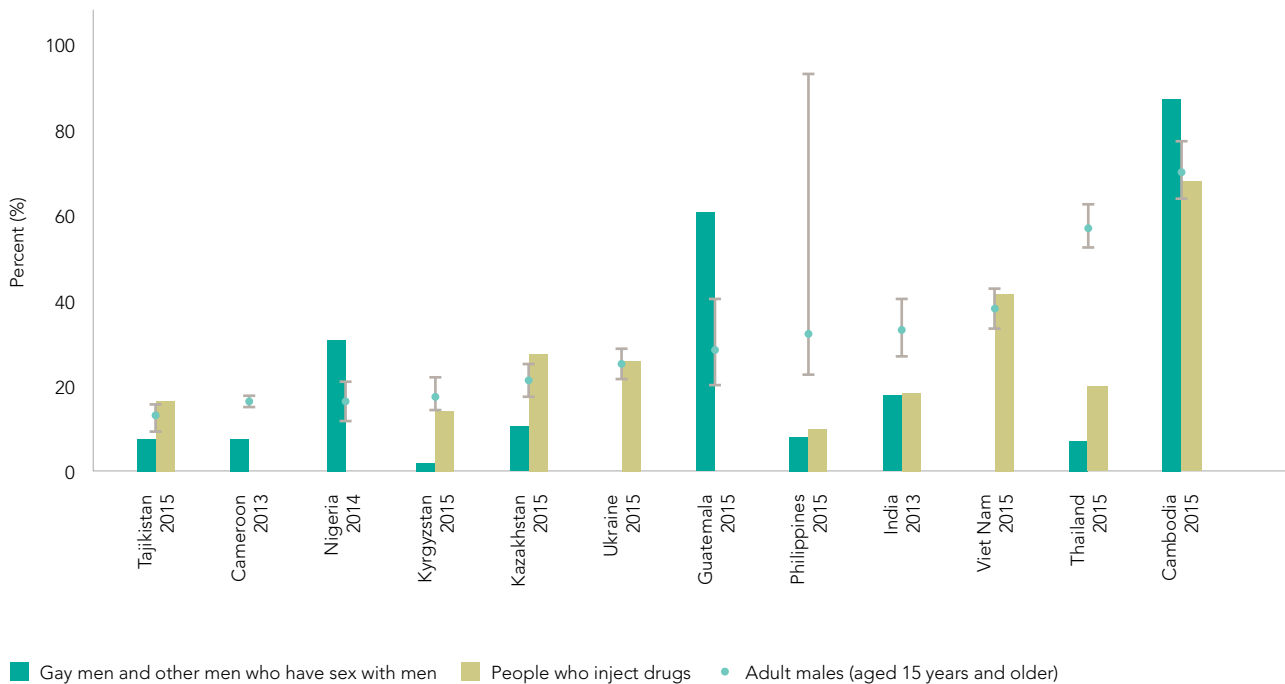
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

<sup>1</sup> A full description of the methods for deriving the 90–90–90 measures are provided in the annex to this report.

## Access to treatment among key populations remains a challenge

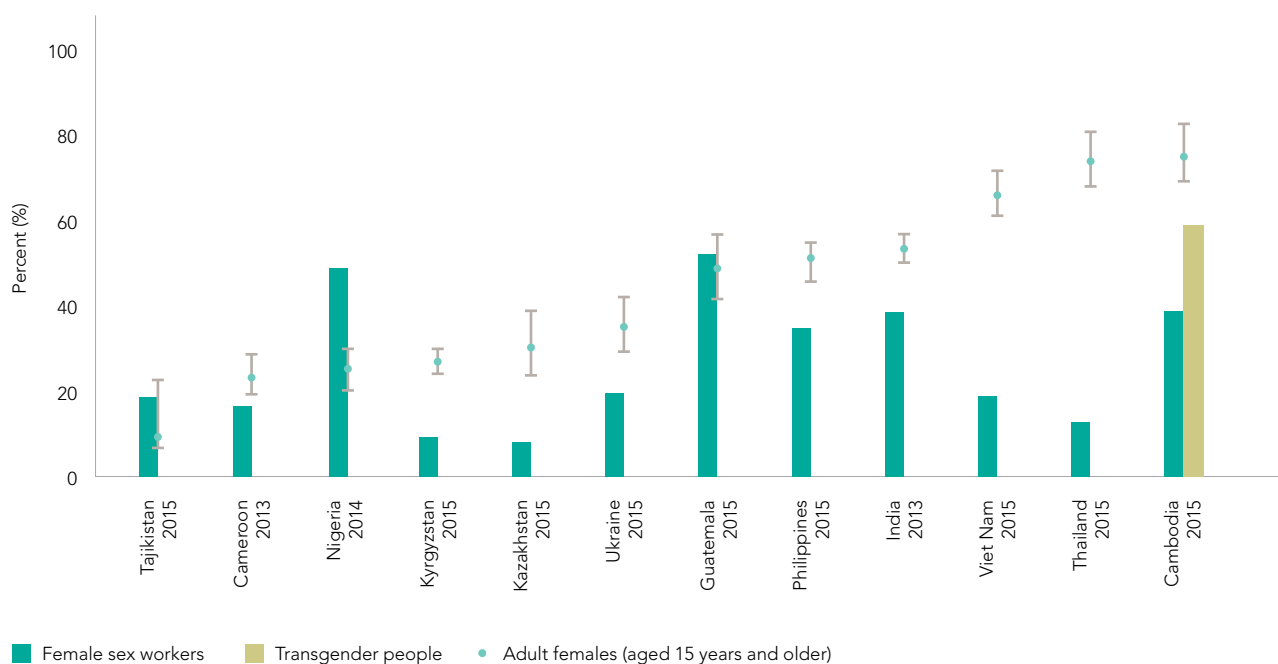
Studies indicate that access to antiretroviral therapy coverage among key populations compared to the general population continues to be lower in many countries, with uptake hampered by punitive legal environments, the stigma surrounding HIV testing and fear that a diagnosis of HIV may be disclosed to others without consent. Among gay men and other men who have sex with men, in 7 of 10 countries with available data, treatment coverage was considerably lower than coverage among all men living with HIV. Treatment coverage levels among people who inject drugs were more similar to coverage among men generally, but differences were still observed in 4 of 8 countries. Female sex workers were also less likely to access treatment than the general adult female population, with just 3 of 12 countries having similar levels of coverage. In Cambodia, transgender people had higher treatment coverage than female sex workers but lower than the general adult female population.

### Antiretroviral therapy coverage among select key population groups and the general adult male population (aged 15 years and older), matched by survey year, 2013–2015



Source: UNAIDS, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the World Health Organization. Key Population Atlas. In press. 2016.

## Antiretroviral therapy coverage among select key population groups and the general adult female population (aged 15 years and older), matched by survey year, 2013–2015



Source: UNAIDS, the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the World Health Organization. Key Population Atlas. In press. 2016.

### Regional cascades reveal variations in progress

Western and central Europe and North America were the closest to achieving the first 90, with 86% [78–95%] of people living with HIV knowing their status, followed by Latin America and the Caribbean at 75% [64–87%]. Coverage of antiretroviral therapy in western and central Europe and North America was similarly highest at 59% [54–66%] of all people living with HIV, closely followed by Latin America at 55% [47–64%] and eastern and southern Africa at 55% [50–58%]. These regions also made measurable progress toward achieving high viral load suppression coverage in the population. Nearly half, or 47% [43–52%] of people living with HIV in western and central Europe and North America were virally suppressed. Coverage was 45% [42–49%] in eastern and southern Africa and 41% [35–47%] in Latin America and the Caribbean.

Considerable work remains in the other regions to reach the 90–90–90 target by 2020. In the Middle East and North Africa and western and central Africa regions, just over a third of people living with HIV are aware of their status, and nearly 9 in 10 people living with HIV have not achieved viral suppression. Viral suppression levels in Eastern Europe are also very low at 19% [17–20%], explained in part by the fact that only 1 in 5 people living with HIV are on antiretroviral treatment.

Of note, the availability of reported data on viral load testing and suppression in 2015 was extremely limited in many regions, especially in western and central Africa and in eastern and southern Africa, with test results available for around 2% and 14%, respectively, of the population on antiretroviral therapy. As a result, it is difficult to generalize results to the overall population in these regions in particular.

## Progress toward the 90–90–90 target, by region, 2015



Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Improving knowledge of HIV status

Rapid increases in the proportion of people living with HIV who have been diagnosed requires expansion of innovative testing strategies. Self-testing kits are both discreet and convenient for people who may be reluctant to take a test at a health facility or who live in places where health facilities are inaccessible. Self-testing may be particularly valuable for members of key populations, who may fear HIV-related or behaviour-related stigma and discrimination in health care settings, and other vulnerable groups, such as adolescents and young people who may require parental permission to access sexual and reproductive health services (7, 8).

Self-tests are a screening tool, however, and results need to be confirmed by a health worker (7). The accuracy and sensitivity of some self-test kits is high (over 90% for saliva-based tests), but because they are used by untrained people the level of user error can also be high (0.37–5.4%) (7).

Self-testing services are increasingly being used by countries throughout the world, including Australia, Brazil, France, Moldova, the United Kingdom of Great Britain and Northern Ireland and the United States of America. In 2015 Kenya announced plans to introduce self-test kits and began evaluating distributors. A two-year project to scale up self-testing in Malawi, Zambia and Zimbabwe

was launched by UNITAID and PSI in 2015, focused on places and people where access to testing is restricted (in rural and peri-urban areas and among female sex workers and gay men and other who have sex with men) (9).

There is evidence that incentivizing people, including with monetary incentives, for HIV and sexually transmitted infection testing can lead to higher rates of uptake of HIV counselling and testing (10). In rural districts in Malawi the retrieval of test results was on average 43% points higher among participants in a study who were offered door-to-door HIV testing and who received a voucher for up to US\$ 3 when they went to a clinic to collect their results. For every additional dollar of incentive provided, there was an increase of 9% (11). At an urban clinic in the United States, monetary incentives of US\$ 5 and US\$ 10 increased test acceptance rates by 12% and nearly 13%, respectively, although lower incentives (US\$ 1) had no impact. Incentives were particularly successful among people reporting HIV risk factors, with increased acceptance rates from 62% to 66% (12). In South Africa a food voucher worth US\$ 5 for households increased the probability of HIV testing consent during home visits by 29% (13).

Assisting people diagnosed with HIV to inform their sexual partners of the result may also increase the uptake and yield of HIV testing services. “Assisted partner services” used within a randomized control trial in Kenya led to a four-fold increase in the rates of testing of the sexual partners of people living with HIV, and a similar increase in the number of people testing positive and enrolling into HIV care (14). A partner-referral study in the United Republic of Tanzania enrolled 390 index clients who were diagnosed with HIV through self-initiated and provider-initiated voluntary testing services. Of the 438 sexual partners identified by the index clients, 238 were tested for HIV following referral from either the index client or a health-care provider, and 147 tested positive for HIV (15).

## Community-led services

In 2015, the LINKAGES project, funded by the United States Agency for International Development, introduced a number of innovative approaches to their traditional, group-based “hot-spot” outreach model in order to improve HIV testing, care and treatment services for gay men, other men who have sex with men and transgender women in four high-prevalence provinces of Thailand.

Using an enhanced outreach model, community-based supporters conduct structured outreach focused on individual risk assessments. Clients are registered, offered monetary incentives to act as peer mobilizers and asked to recruit and refer their friends and sexual partners for rapid HIV testing at community-led drop-in HIV service delivery centres. People who test positive are provided with point-of-care CD4 testing and referred for immediate treatment initiation, with ongoing support and follow-up by community-based supporters and case managers. People who test negative but are at high risk of infection can access free pre-exposure prophylaxis, and they are contacted regularly for repeat HIV testing.

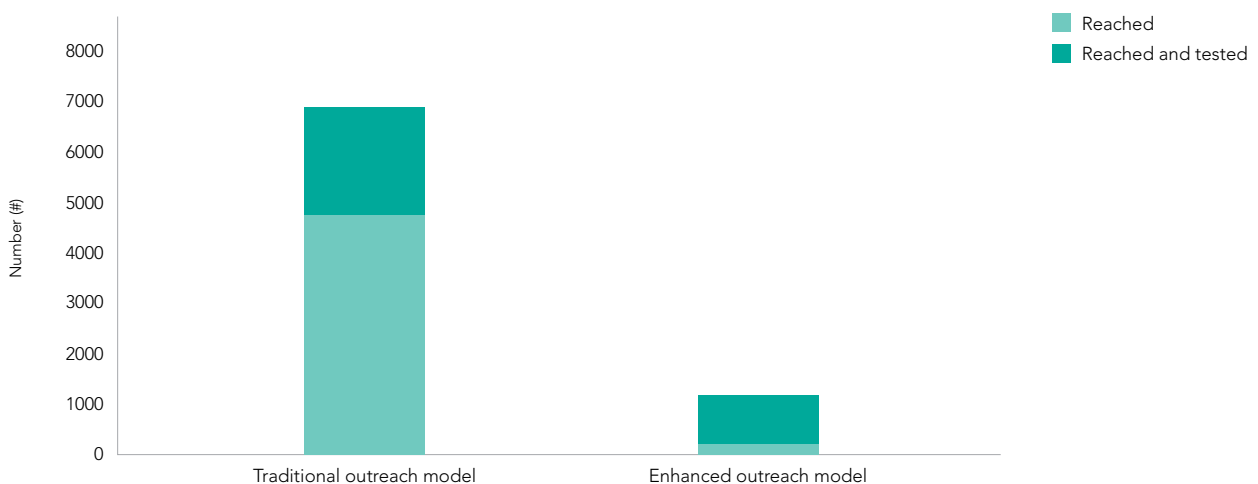
The enhanced model also includes a mobile data-collection platform, eCascade, which links outreach activities to community-based HIV testing to clinic-based

antiretroviral therapy via a smartphone application and a cloud-based database. This platform enables implementing partners to track referrals across services in real time, respond to client drop-out, adapt outreach approaches to target efforts where they are needed, and follow-up with clients via SMS messaging.

Programme data from the first nine months of implementation in the city of Chiang Mai—between July 2015 and March 2016—indicated that the enhanced model can lead to significantly higher rates of HIV testing uptake (77%) compared with traditional group-based outreach (31%), although overall numbers of people reached was lower.

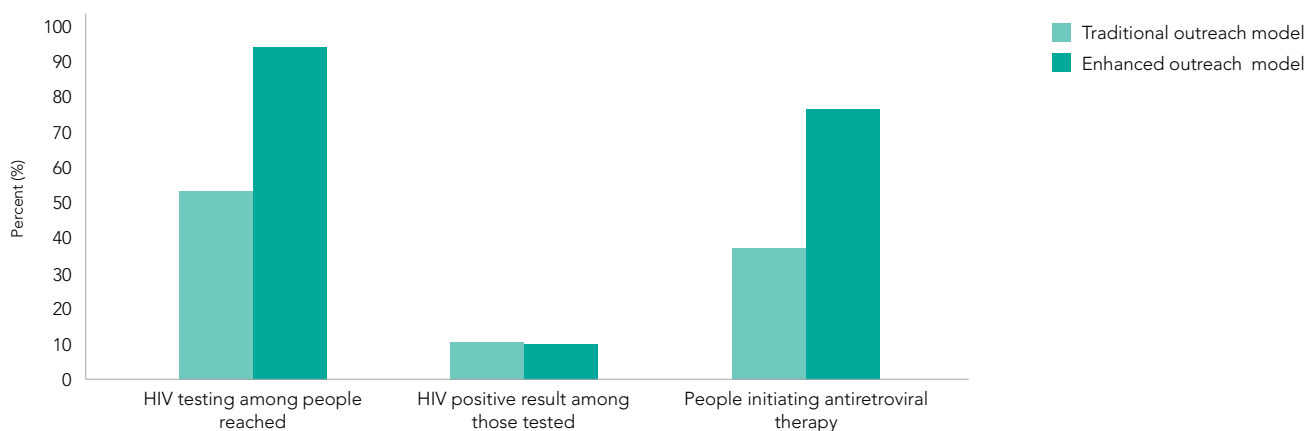
The data also showed that a relatively small number of motivated peer mobilizers can contribute significantly to project reach and improved health outcomes: 115 peer motivators successfully recruited 608 new clients. Clients reached via this method were more likely to receive an HIV test (94%) than those reached with traditional “hot-spot” recruitment (54%). In addition, among clients who tested positive for HIV, those reached via social network recruitment were more likely to initiate antiretroviral therapy (77% compared with 38%).

## Comparison of models to reach gay men and other men who have sex with men and transgender women with HIV testing, Chiang Mai, Thailand, July 2015–March 2016



Source: LINKAGES Thailand, 2016.

## HIV testing and treatment initiation by outreach model type, all sites, Thailand, July 2015–March 2016



Source: LINKAGES Thailand, 2016.

### Adoption of World Health Organization treatment guidelines

Earlier initiation of treatment could be made through wider adoption of World Health Organization (WHO) treatment guidelines that call for the immediate offer of antiretroviral therapy following diagnosis. Of the 148 countries with information about national treatment policies or plans, approximately one-quarter have already adopted a “treatment for all” approach and 44 countries plan to do so by the end of 2016. Of the remaining countries, 11 continue to limit treatment to people living with HIV who have a CD4 count of 350 cells/mm<sup>3</sup> or lower.

### Increased access to and use of routine viral load testing

The goal of antiretroviral therapy is viral suppression—a viral load that is so low that it cannot be detected by viral load tests. A person living with HIV who is virally suppressed is not only less prone to HIV-related illness but also much less likely to transmit the virus.

Periodic viral load tests are the most accurate way of determining whether antiretroviral therapy is working to suppress replication of the virus. A low viral load in a person on treatment indicates that treatment is effective; a high viral load indicates either that the medication is not being taken properly or that the virus is becoming resistant to the medication. Regular viral load testing helps health-care workers to identify these challenges early and to intervene to provide adherence support in the first instance, potentially delaying the need to switch people to more costly second- and third-line medicines. Continued high viral loads despite this support may indicate the need to change medication.



Viral load testing is far more sensitive than CD4 tests and therefore more likely to detect treatment failure early. As a result, people living with HIV on antiretroviral therapy with routine viral load monitoring have better health outcomes than people monitored with CD4 testing alone, including lower rates of loss to follow-up and death and may be more motivated to stay in care and adhere to treatment. In 2013 WHO recommended viral load testing as the preferred monitoring tool for diagnosing and confirming antiretroviral therapy failure, and early infant diagnosis with a viral load test four to six weeks after birth for infants born to mothers living with HIV.

Unfortunately, the cost and complexity of currently available technologies limit the availability of viral load testing in resource-poor settings. In 2015 the national guidelines of 47 out of 54 low- and middle-income countries recommended routine viral load monitoring for people on treatment. In reality, however, viral load testing was available only in Cameroon, Kenya, Malawi, Namibia, South Africa, Swaziland, Thailand and Uganda (16). South Africa discontinued routine CD4 monitoring for people living with HIV who are virally suppressed in 2013, with anticipated savings of US\$ 68 million by 2017 (17).

Viral load testing systems are rapidly becoming cheaper, more robust and simpler to use. The UNAIDS Diagnostic Initiative has an agreement with Roche Pharmaceuticals to establish a price ceiling for viral load tests in 83 low- and middle-income countries (18), while in 2015 the Global Fund announced framework agreements with seven manufacturers that were expected to lower all-inclusive prices for viral load tests (19). Point-of-care viral load testing technologies and increases in volume are expected to lower costs further (20). The widespread implementation of routine viral load testing may result in overall cost savings for HIV programmes because people may be able to stay on first-line therapy longer (21).

Greater political will and funding are needed to scale up capacity in low- and middle-income countries, and civil society has a major role to play in advocacy—for the scale-up of viral load testing, affordable testing systems, and research and development.

## **Enabling prevention through human rights programmes**

Stigmatizing attitudes and behaviours on the part of health workers have been widely documented and found to constitute an important barrier to seeking, using and adhering to HIV prevention services and treatment, as well as disclosure of HIV status (22). A programme designed specifically to address prejudice among health workers toward gay men and other men who have sex with men in Kenya has shown that a number of participants felt the training helped them to normalize their interactions with gay men and other men who have sex with men or “compartmentalize” their fears and prejudices to provide good care to this population; they also felt that other health workers needed similar training to overcome denial and prejudice (23). An additional assessment undertaken two years later showed that some participants felt the training helped them greatly in their work, and they said that similar training should be provided to all health workers, police, religious leaders and others in the community (24).

# PRE-EXPOSURE PROPHYLAXIS

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Pre-exposure prophylaxis (PrEP) is the latest addition to efforts to expand combination prevention options for people at high risk of HIV infection. The number and scope of PrEP activities is increasing globally, while the scale and coverage outside the United States of America remain limited. In June 2016 an estimated 60 000 people were enrolled on PrEP, the majority of whom were in the United States. A significant but unquantifiable number of people are accessing PrEP through less regulated means, for example via the internet. The rapid establishment of government-regulated programmes will improve the monitoring and evaluation of PrEP's use and its impact on the epidemic. Considerable additional effort will be needed to attain the new global target of reaching three million people at substantial risk of HIV infection with PrEP by 2020.

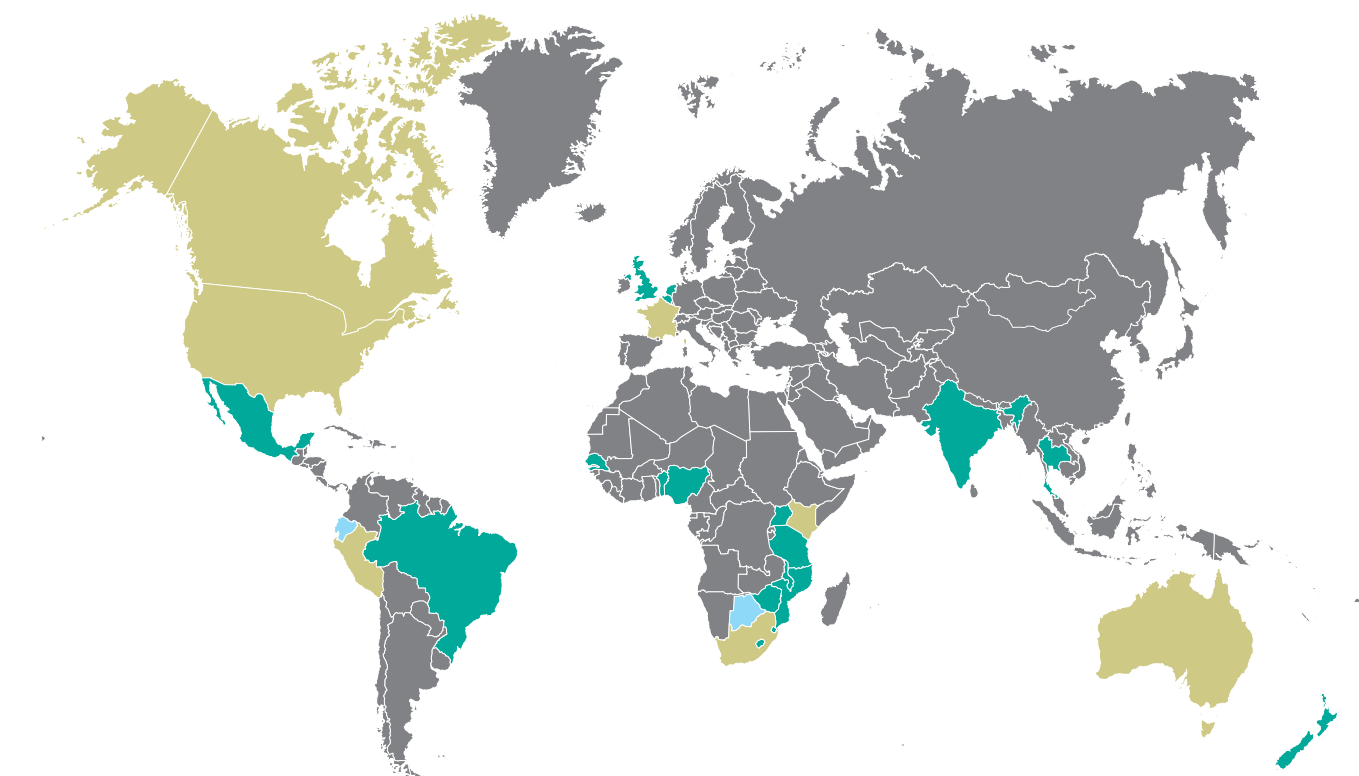
## PREVENTION GAPS

- PrEP is just getting off the ground: progress towards the 2020 PrEP target stands at 2%.
- Availability and awareness is limited.
- Regulatory approval is limited to seven countries.
- PrEP provision should be sensitive to the context of the populations at risk including stigmatization, criminalization and intimate partner violence.

## WAY FORWARD

- Regulatory approval in all countries with optimal use of TRIPS flexibilities and price negotiation to improve access.
- National guidelines and roll-out of national programmes.
- Awareness-raising among populations at higher risk of HIV
- Advocacy for PrEP in collaboration with the priority populations and sensitive to their legislative environment and health seeking options.
- Integration of PrEP provision to strengthen combination prevention programmes.

## COUNTRIES THAT HAVE DEMONSTRATION PROJECTS OR HAVE APPROVED TENOFOVIR DISOPROXYL FUMARATE/EMTRICITABINE FOR PRE-EXPOSURE PROPHYLAXIS, AS OF JUNE 2016



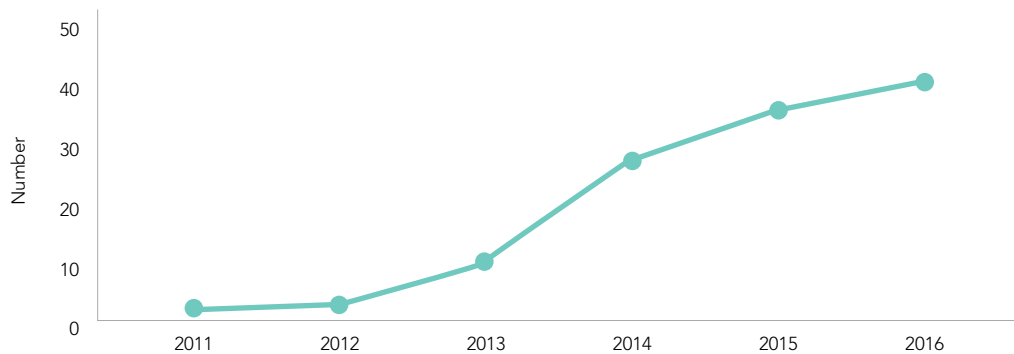
- Regulatory approval of PrEP\*
- Ongoing and planned demonstration projects\*\*
- Completed demonstration projects

\*These countries also have completed, ongoing and/or planned demonstration projects.

\*\* These projects investigate different aspects of PrEP provision and impact including acceptability, safety, adherence, effect, appropriate service delivery, integration in combination prevention services, costing and associated behavioural aspects. Their aim is to increase access to PrEP for those people who could benefit most from it, especially in situations of stigma, marginalization and criminalization.

Sources: AVAC, Ongoing and Planned PrEP Open Label, Demonstration and Implementation Projects, as of June 2016 ([http://www.avac.org/sites/default/files/resource-files/PrEP\\_Trials\\_Demonstration\\_Projects\\_June\\_2016.pdf](http://www.avac.org/sites/default/files/resource-files/PrEP_Trials_Demonstration_Projects_June_2016.pdf)); <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm312210.htm>; Registrar of Medicines, Medicines Control Council, Department of Health, Republic of South Africa. Press release: Medicines Control Council approves fixed-dose combination of tenofovir disoproxil fumarate and emtricitabine for pre-exposure prophylaxis of HIV. 3 December 2015; <http://ansm.sante.fr/S-informer/Points-d-information-Points-d-information/L-ANSM-etablit-la-RTU-de-Truvada-dans-la-prophylaxie-pre-exposition-au-VIH-Point-d-information>; [http://www.mccza.com/documents/2e4b3a5310.11\\_Media\\_release\\_ARV\\_FDC\\_PrEP\\_Nov15\\_v1.pdf](http://www.mccza.com/documents/2e4b3a5310.11_Media_release_ARV_FDC_PrEP_Nov15_v1.pdf); <http://www.hc-sc.gc.ca/dhp-mpps/prodpharma/rds-sdr/drug-med/rds-sdr-truvada-187173-eng.php>; <https://www.avert.org/news/peru-latest-country-approve-prep>; AVAC. South Africa and Kenya Approval of Oral PrEP Should Spur Rollout. 17 December 2015 (<http://www.avac.org/blog/south-africa-and-kenya-approval-oral-prep>); Australian Government Therapeutics Goods Administration, Prescription medicines: new or extended uses, or new combinations of registered medicines, 7 July 2016 (<https://www.tga.gov.au/prescription-medicines-new-or-extended-uses-registered-medicines>)

## Cumulative number of completed, ongoing and planned PrEP open-label, demonstration and implementation projects, 2011–2016



Source: AVAC, Ongoing and Planned PrEP Open Label, Demonstration and Implementation Projects, as of June 2016 ([http://www.avac.org/sites/default/files/resource-files/PrEP\\_Trials\\_Demonstration\\_Projects\\_June\\_2016.pdf](http://www.avac.org/sites/default/files/resource-files/PrEP_Trials_Demonstration_Projects_June_2016.pdf)).

PrEP empowers individuals with limited personal prevention options to discreetly take control of their own HIV risk. Randomized control trials have confirmed the efficacy of daily oral PrEP. Demonstration projects, offering PrEP as a choice through user-friendly services, have shown its potential value in diverse settings, as well as strong demand and adherence among people at high risk of HIV infection, including HIV-negative partners within serodiscordant couples, gay men and other men who have sex with men, and some young women and female sex workers.

Based on the evidence, the World Health Organization (WHO) recommends offering the use of daily oral PrEP containing tenofovir disoproxil fumarate as an additional prevention choice for all population groups at substantial risk of HIV infection as part of a combination HIV prevention programme. Priority populations for PrEP rollout should be people at substantial risk of HIV infection, broadly identified as populations with an HIV incidence of about 3 per 100 person-years or higher (1).

The United States approved the use of PrEP in 2012 and clinical guidelines were issued in 2014 (2). France began offering PrEP within its national health-care system in January 2016, following the issue of a temporary recommendation for use in November 2015 (3). By mid-2016, 60 clinics were offering the service in France and 437 people had started taking PrEP through the public health system (4). In December 2015 South Africa became the first country in sub-Saharan Africa to issue full regulatory approval of PrEP (5) and to include PrEP in the national HIV programme followed swiftly by Kenya (6). Regulatory authorities in Australia, Canada and Peru have also approved PrEP. At least 26 countries have planned or ongoing demonstration projects for PrEP (7), and in some countries

<sup>1</sup> The use of a medicine for a purpose other than what is indicated on its label—in this case, the use of tenofovir disoproxil fumarate-based pills labelled for antiretroviral therapy for PrEP.\* Please see the original text sent for layout.

“off-label use”<sup>1</sup> is facilitated by the health system or individual health-care providers.

## Key evidence on PrEP

- Randomized controlled trials of the effectiveness of oral PrEP have been conducted among serodiscordant couples, heterosexual men, women, gay men and other men who have sex with men, people who inject drugs and transgender women (1).
- PrEP works—when taken. The level of protection was strongly correlated with adherence (1).
- PrEP has a very good safety profile. Rates of any adverse events did not differ between PrEP and a placebo (1).
- Risk of drug resistance is low when given to people not infected with HIV, occurring in approximately 1 in 1000 people using PrEP in clinical trials (1).
- No evidence for risk compensation in sexual practices, such as decreased condom use or more sexual partners, has emerged in any PrEP studies or programmes (1).
- PrEP can be used with hormonal contraception. Recommended PrEP regimens do not appear to alter the effectiveness of hormonal contraception (1).
- PrEP can be used during pregnancy. No increase occurred in adverse pregnancy-related events among women taking PrEP in early pregnancy (1).
- PrEP is acceptable when provided as a choice that is sensitive to the context of the population at risk of HIV. Various populations report that they find PrEP acceptable, and individuals have shown substantial interest in PrEP as an additional choice for HIV prevention (1).
- Adherence can be maintained. Demonstration projects and experience in everyday settings are proving that people can adhere to daily oral PrEP (1).
- Early efforts to monitor the scale-up of PrEP have been through tracking new prescriptions that have been filled and patient numbers reported by demonstration projects. Drug manufacturers have registered a total of 50 000 new PrEP starts in the United States from 2012 to the end of 2015 (11). Along with the demonstration projects being conducted around the world, the total global number of people registered on PrEP is estimated at 60 000, with the majority in the United States. Additional private off-label prescribing and other less regulated means, such as internet purchasing, obscure a significant but unquantifiable proportion of PrEP use. The establishment of additional government-regulated programmes will improve the monitoring and evaluation of the use of PrEP and its impact on the epidemic.

PrEP delivery is best integrated within combination HIV prevention services, including a comprehensive and non-stigmatising assessment of the risk of HIV acquisition, regular and quality-assured HIV testing, and tailored HIV prevention choices. Ensuring the full participation of communities is critical to developing

and implementing services, including the monitoring of adherence. Advocacy and awareness-raising for PrEP must be in collaboration with priority populations and must be sensitive to structural barriers and stigma and discrimination within their environment.

Different population groups require different types of PrEP service provision and adherence support. Several innovations in PrEP are being explored, including intermittent use—taking PrEP before and after sexual activity (8) and the use of a vaginal ring that slowly releases the antiretroviral dapivirine (9). Other PrEP formulations including long-acting injections and topical gels are under active research. (10).

The cost of PrEP is an important concern, even in high-income countries. A survey of 31 western and eastern European countries conducted by the European Centre for Disease Prevention and Control found that 21 countries considered the cost of PrEP drugs a highly important limiting factor; the second most important limiting factor was the cost of service delivery (4). Currently, 112 low- and middle-income countries can access generic TDF/FTC through voluntary licensing agreements that allow the marketing and purchase of the generic product. Approval of the use of antiretroviral medication as prevention is required at country level, possibly through sharing of approval data from stringent regulatory authorities. In the short term an off-label clinical approval could also be considered. The use of other PrEP regimens containing generic TDF, including the more widely available TDF/3TC and TDF alone, is currently under consideration. PrEP is expected to be cost-effective where the incidence of HIV is greater than 3 per 100 person-years and perhaps also at lower incidences (1). Ultimately the cost-effectiveness of PrEP will be determined by the cost of PrEP medication, how efficiently it can be delivered to the people in greatest need, and its impact.



# SOCIAL AND BEHAVIOUR CHANGE COMMUNICATION AND DEMAND GENERATION

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Behaviour change communication and demand generation form a basic component of combination prevention. They are an inclusive way of addressing the cultural contexts within which risk behaviours occur, and of stimulating uptake of HIV prevention services. These programmes entail a range of activities, from individual counselling to community awareness-raising to communications through mass media. They also feature intensive approaches involving a combination of activities to address multiple outcomes, including knowledge, risk perception, norms, skills, sexual behaviours and HIV service demand.

Multi-media, school-based and broader community mobilization activities complement the delivery of HIV services such as condom distribution, voluntary medical male circumcision, HIV testing and PrEP. As new biomedical tools are rolled out, effective social-behavioural and structural programmes help maximize their efficacy, for example by mitigating the potential emergence of risk compensation.

## PREVENTION GAPS

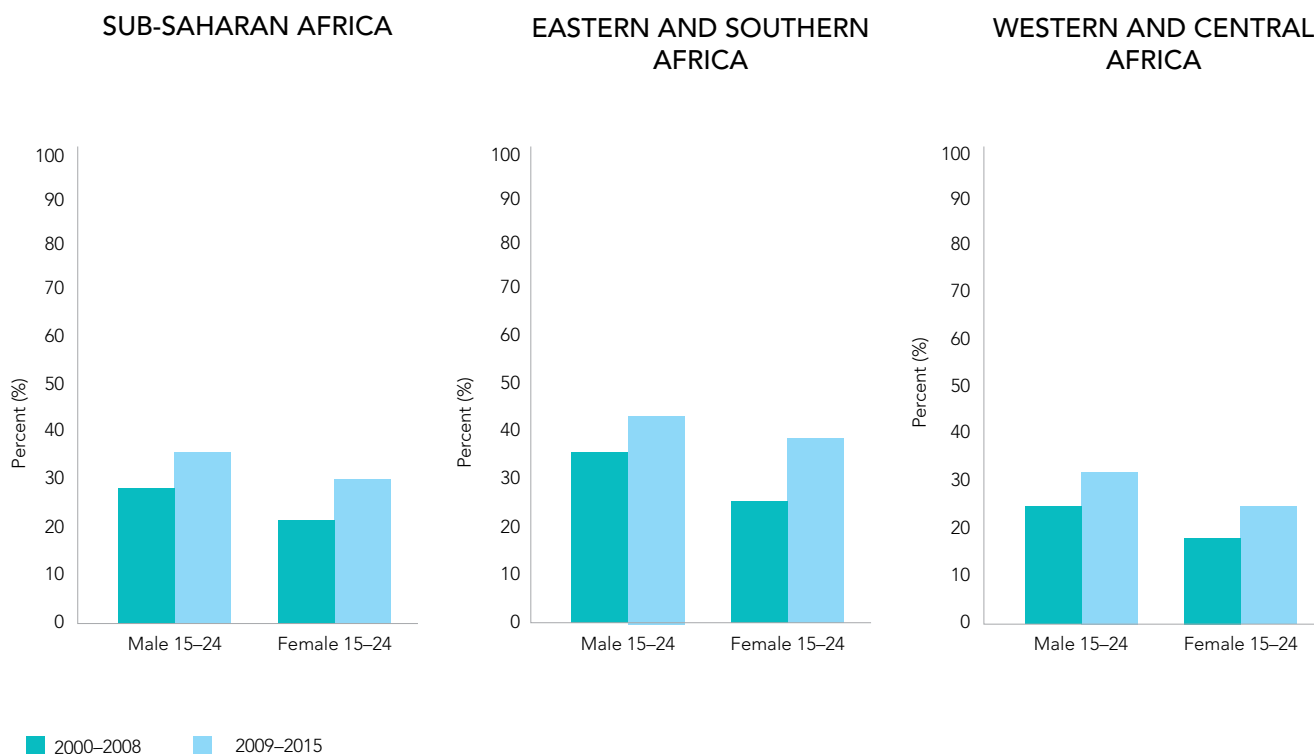
- Most young people lack the knowledge required to protect themselves from HIV.
- There has been little progress on partner reduction in sub-Saharan Africa.
- Investments in programmes that promote abstinence and faithfulness are not cost effective.
- Systematic implementation of behaviour and social change communication and demand generation has not taken place.

## WAY FORWARD

- Ensure that the design and implementation of behaviour change programmes are based on solid evidence of what works.
- Widely disseminate objective, comprehensive information on sexuality, including through comprehensive sexuality education.
- Leverage the global revolution in information and communications technology to improve behaviour change communications and link people at risk of HIV infection to services.



## CORRECT AND COMPREHENSIVE KNOWLEDGE ABOUT HIV AMONG YOUNG PEOPLE (AGED 15–24 YEARS), SUB-SAHARAN AFRICA, 2000–2008 COMPARED TO 2009–2015



Source: Population-based surveys, 2000–2015.

### Struggles to improve knowledge, risk perception and partner reduction

The latest available data show that most young people lack the knowledge required to protect themselves from HIV. In sub-Saharan Africa, survey data from 35 countries show that only 36% of young men and 30% of young women correctly identified ways of preventing the sexual transmission of HIV and rejected major misconceptions about HIV transmission (1). In 23 countries outside of sub-Saharan Africa, just 13.8% of young men and 13.6% of young women had correct and comprehensive knowledge about HIV (1).

Analysis of comparable surveys conducted in sub-Saharan Africa from 2000 to 2008 and from 2009 to 2015 show that rates of correct and comprehensive knowledge increased by 6.8 percentage points among young men and by 4.4 percentage points among young women. Knowledge of new interventions such as PrEP and voluntary medical male circumcision is not included in the above analysis, and may be lower (1).

There are also considerable gaps in comprehensive basic knowledge among adolescent girls and young women (2). Knowledge on specific risk factors such as transmission in sexual networks, risk of age-disparate sex and anal sex, newer biomedical prevention methods such PrEP or links between HIV and gender-based violence is also likely to be low. Furthermore, there are gaps in personal risk perception. In one survey, a significant proportion of young adults living with HIV who did not yet know their HIV status, said they did not perceive themselves at high risk of HIV (3). Similarly, young women at high risk of HIV participating in a clinical trial for PrEP did not take the medication regularly due to low risk perception (4). Conversely, perception of HIV risk has been shown to be associated with higher use of PrEP among young women at high risk of HIV (4), as well as two to five times higher use of condoms among adolescents aged 12–19 (5).

There has been no significant change in the number of sexual partners reported at the aggregate level in sub-Saharan Africa, suggesting that behaviour change communication programmes aiming at this particular outcome have largely failed. Population-based surveys show that the proportion of adults (aged 15–49 years) with multiple sexual partners in the 12 months prior to the survey has declined slightly among women and increased slightly among men. As with other aspects of combination prevention, aggregate data on partner reduction may not do full justice however, and a more granular analysis informing local responses may be required. Some countries, including prominently South Africa, have retained social and behaviour change communication within their national strategies to promote such changes.

Programmes that promote abstinence and faithfulness have not achieved population-level reductions in numbers of sexual partners reported in the last year, age at sexual debut and teen-age pregnancy (6). The results suggest that alternative funding priorities for HIV prevention—including the promotion of condom use, voluntary medical male circumcision and treatment, combined with structural approaches—may yield greater health benefits.

## **Reinvigorating behaviour and social change communication**

Although behaviour change communication programmes are difficult to evaluate, a range of evidence suggests that they can make a significant contribution to other prevention approaches if they are designed and implemented well. Early declines in HIV incidence in sub-Saharan Africa were associated with changes in behaviour. In Uganda in the early 1990s and in Zimbabwe in the late 1990s, incidence decline occurred before the emergence of effective biomedical prevention tools, at times when people started to intensively speak about HIV in their social networks and large increases in interpersonal communication about HIV were recorded (7, 8). A meta analysis demonstrated the effectiveness of social and behaviour change programmes in increasing condom use and other HIV-related outcomes (9). Large-scale multi-channel programmes that achieved high coverage and measurable effects on attitudes, condom use and uptake of HIV testing services included the LoveLife multi-media campaign in South Africa (10), Zimbabwe's national behaviour change programme and the multi-country One Love campaign in southern Africa (11, 12).

Intensive inter-personal communication approaches have also been shown to be effective. The SHARE<sup>1</sup> project in Rakai, Uganda, achieved reductions in HIV incidence and intimate partner violence and increases in disclosure of HIV status through the addition of a community-level mobilization intervention to change attitudes, social norms and behaviours related to intimate partner violence, and a screening and brief intervention to promote safe HIV disclosure and risk reduction in women seeking HIV counselling and testing services (13). The SASA! programme in Kampala, Uganda, combined community mobilization on HIV and intimate partner violence prevention, which reduced sexual concurrency reported by men by over 40% and changed norms around intimate partner violence (14). It has also been shown that school-based sex education is an effective strategy for reducing HIV-related risk. Students who received school-based sex education interventions had significantly greater HIV knowledge and condom use, fewer sexual partners and delayed sexual debut (15).

Despite the evidence, systematic implementation of behaviour and social change communication and demand generation has not taken place. On the contrary, there has been a worrying pattern of deprioritization and discontinuation of these programmes in recent years. However, the evidence from initiatives like SHARE, SASA! and Stepping Stones has rekindled interest in these programmes, with critical elements being incorporated into new, large-scale programmes, such as DREAMS<sup>2</sup>, which provides HIV services to young women and girls and addresses structural drivers that increase their HIV risk, including poverty, gender inequality, sexual violence and a lack of education, in 10 countries of eastern and southern Africa<sup>3</sup>.

## Comprehensive sexuality education

The objective of comprehensive sexuality education is to ensure that young people receive comprehensive, life skills-based sexuality education, and that they gain the knowledge and skills to make conscious, healthy and respectful choices about relationships and sexuality. Comprehensive sexuality education can therefore be considered a specific form of social and behaviour change communication programme involving young people in the school setting. It is firmly grounded in human rights, including the rights of the child and the empowerment of children and young people (16). There is clear evidence that comprehensive sexuality education can facilitate the adoption of safer sexual behaviours, such as delayed sexual debut and increased condom use, and thereby contribute to reducing sexually transmitted infections, HIV transmission and unintended pregnancy (15, 17–19). In addition, comprehensive sexuality education programmes that have an explicit focus on gender rights and gender power dynamics have been shown to be more effective than those that do not (20).

When governments do not provide comprehensive sexuality education, they limit the chances that young people have to acquire quality information and skills that could help them make informed decisions about their health and sexuality.

<sup>1</sup>Safe Homes and Respect for Everyone

<sup>2</sup>Determined, Resilient, Empowered, AIDS-free, Mentored and Safe women

<sup>3</sup>Kenya, Lesotho, Malawi, Mozambique, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

Some political and religious groups continue to oppose comprehensive sexuality education, and it has historically faced resistance from some governments in global decision-making forums. By 2015, however, many countries had embraced the concept of comprehensive sexuality education and were engaged in strengthening its implementation at the national level (16, 21). In 2015, UNAIDS and the African Union included comprehensive, age-appropriate sexuality education as one of five key recommendations to Fast-Track the HIV response and end the AIDS epidemic among young women and girls across Africa (22). Meanwhile, many countries in Asia and the Pacific, West Africa and Europe were revising their policies and approaches to scale up sexuality education (16). Despite this, a major gap remains between global and regional policies and the actual implementation of comprehensive sexuality education on the ground. Comprehensive sexuality education is also only effective if it allows increased knowledge, self-esteem and skills of sexually active young people to translate into access to HIV and sexual and reproductive health services.

## **New media**

The global revolution in information and communications technology, which has dramatically altered the ways in which people network, interact, communicate and share information, offers new opportunities to expand and reinvigorate social-behavioural and prevention demand creation programming. While stand-alone media approaches are unlikely to yield the desired results, the leveraging of new information tools, such as the integration of mobile telecommunications within health programmes, has been shown to improve service delivery.



# ELIMINATING NEW HIV INFECTIONS AMONG CHILDREN

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The steady scale up and improvement of services to prevent mother-to-child transmission of HIV has reduced the annual number of new infections among children globally by 56% since 2010 and by 70% since 2000. Since 1995, an estimated 1.6 million new HIV infections among children have been averted due to the provision of antiretroviral medicines to women living with HIV during pregnancy or breastfeeding. The vast majority of these infections (1.3 million) were averted between 2010 and 2015.

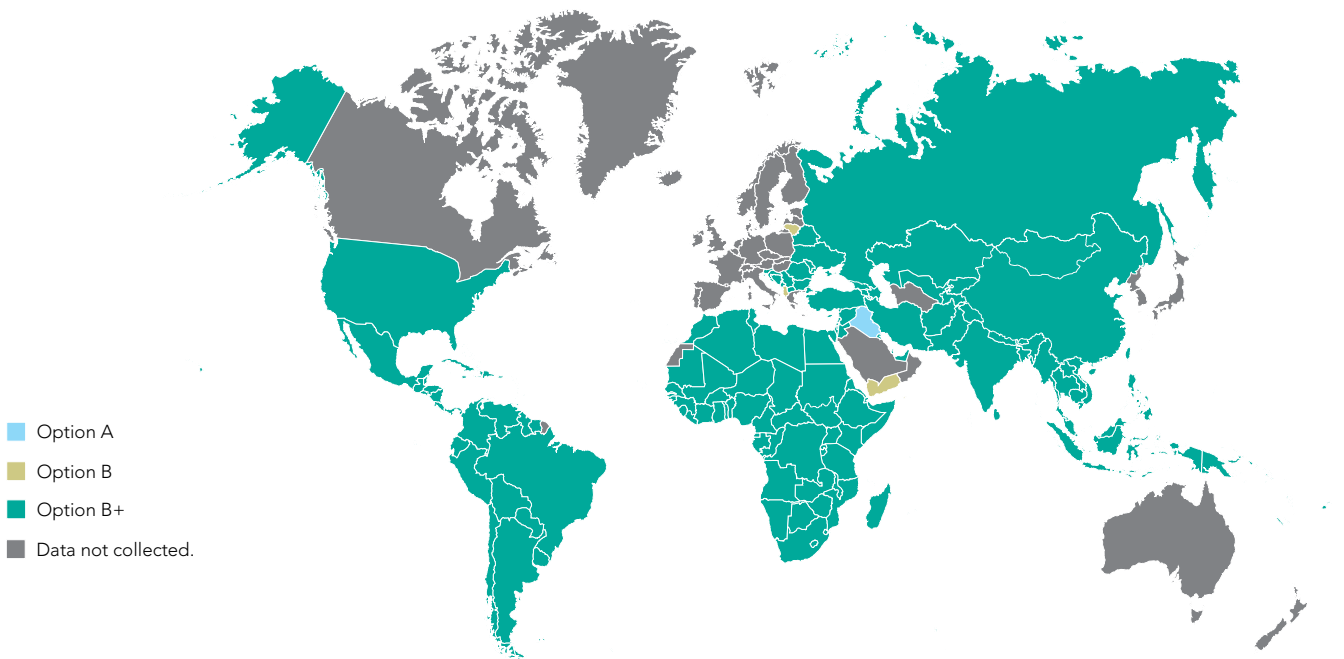
## PREVENTION GAPS

- The number of new infections among women of reproductive age (aged 15 to 49 years) has not declined over the past five years.
- A widespread unmet need for family planning exists in many countries.
- Over 300 000 women did not receive antiretroviral medicines to prevent mother-to-child transmission in 2015.
- Treatment drop-out rates among women who are pregnant and breastfeeding remain high, leading to increased risk of transmission to their children.

## WAY FORWARD

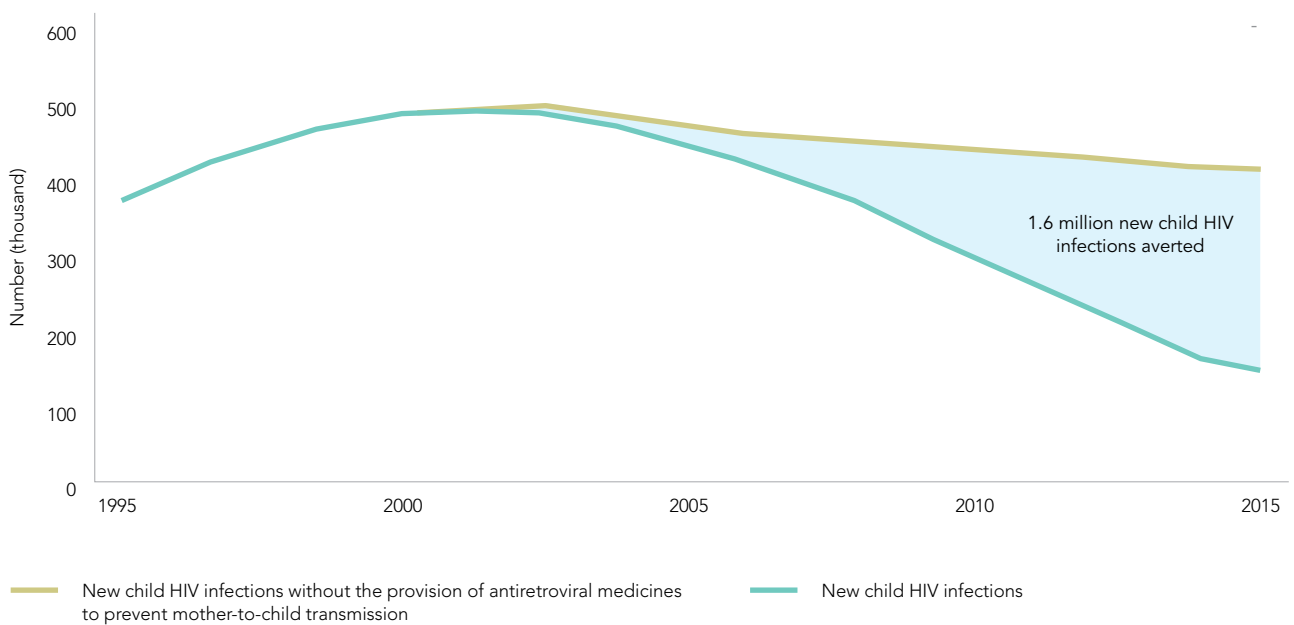
- Focus combination HIV prevention initiatives on women and girls in high-prevalence settings, including primary prevention among young women and identification and treatment for serodiscordant couples.
- Help women living with HIV avoid unintended pregnancies by ensuring they have access to sexual and reproductive health services, including contraception.
- Scale up programmes and initiatives that support and advocate for male and intimate partner engagement in the prevention of mother-to-child transmission.
- Strengthen community engagement, community service-delivery models and community support as well as rights-based approaches to prevention of mother to child transmission.
- Scale up the provision of early diagnosis, treatment and care for infants and children.

## NATIONALLY RECOMMENDED ANTIRETROVIRAL REGIMEN FOR PREVENTING MOTHER-TO-CHILD TRANSMISSION OF HIV, MID-2016



Source: World Health Organization, 2016.

New HIV infections among children (aged 0–14 years) with and without the provision of antiretroviral medicines to prevent mother-to-child transmission, global, 1995–2015

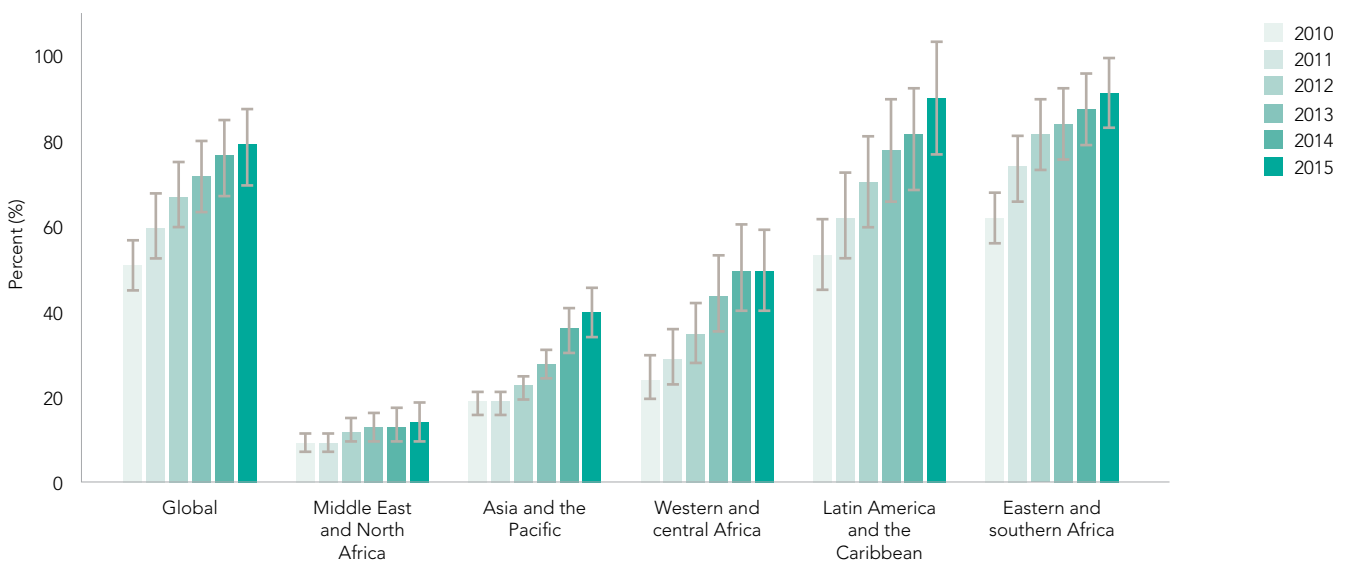


Source: UNAIDS 2016 estimates.

The world has committed to establishing an AIDS-free generation. This commitment follows unprecedented achievements driven by the *Global Plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive* (the Global Plan)<sup>1</sup>. The dramatic declines in new child infections and AIDS-related deaths over the past five years were primarily due to the wide-spread expansion of antiretroviral medicines for mothers living with HIV, both during and after their pregnancies. The provision of these services has averted 1.6 million HIV infections among children since 2000. As of June 2016, four countries have been certified by the World Health Organization to have eliminated mother to child transmission: Armenia, Belarus, Cuba, and Thailand.

Less progress, however, was made in other areas. There has been little change in the rate of new HIV infections among women, and there is still a widespread unmet need for family planning in many countries (1). Globally, new infections among young women aged 15 to 24 years decreased by 6% between 2010 and 2015, and by 2% among women of reproductive ages (15 to 49 years). There were an additional 5.2 million women of reproductive age newly infected between 2010 and 2015, including 1.2 million in South Africa. The burgeoning cohort of adolescents about to commence their reproductive careers means that these numbers are likely to continue growing unless intensive primary prevention efforts succeed. As a result, the substantial need for services for preventing mother-to-child transmission among women of reproductive age will continue for the foreseeable future.

## Percent of women receiving antiretroviral medicines to prevent vertical transmission, by region, 2010–2015



Source: 2016 Global AIDS Response Progress Reporting and UNAIDS 2016 estimates.

<sup>1</sup> For more information, see the final progress report of the Global Plan—*On the Fast-Track to an AIDS-free generation*—on the UNAIDS website ([www.unaids.org](http://www.unaids.org)).



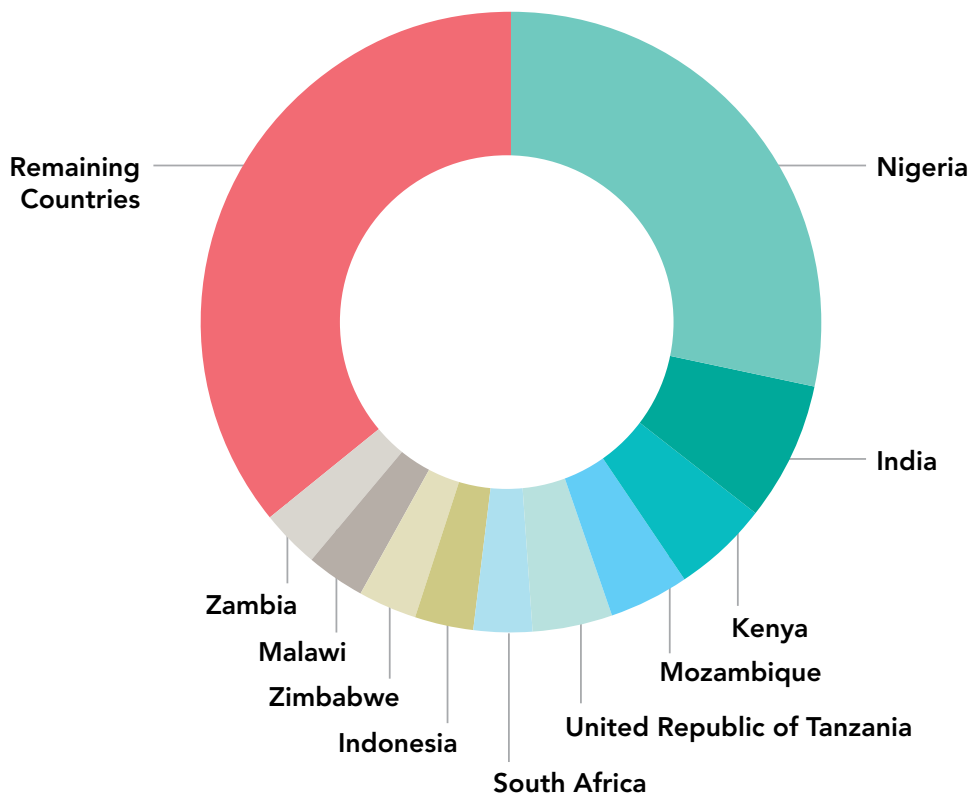
## Rapid increase in services to prevent mother-to-child transmission

The use of antiretroviral medicines during pregnancy and breastfeeding prevents onward transmission of HIV. In eastern and southern Africa, seven countries had greater than 90% coverage of services to prevent mother-to-child transmission, including South Africa, which is home to 25% of the region's pregnant women living with HIV.

Considerable gaps in coverage remained across the world, however, especially in western and central Africa, Asia and the Pacific, and the Middle East and North Africa. An estimated 45% of new HIV infections among children in 2015 occurred in western and central Africa: the 31% reduction in new child HIV infections in western and central Africa between 2010 and 2015 was considerably lower than the 66% reduction in eastern and southern Africa.

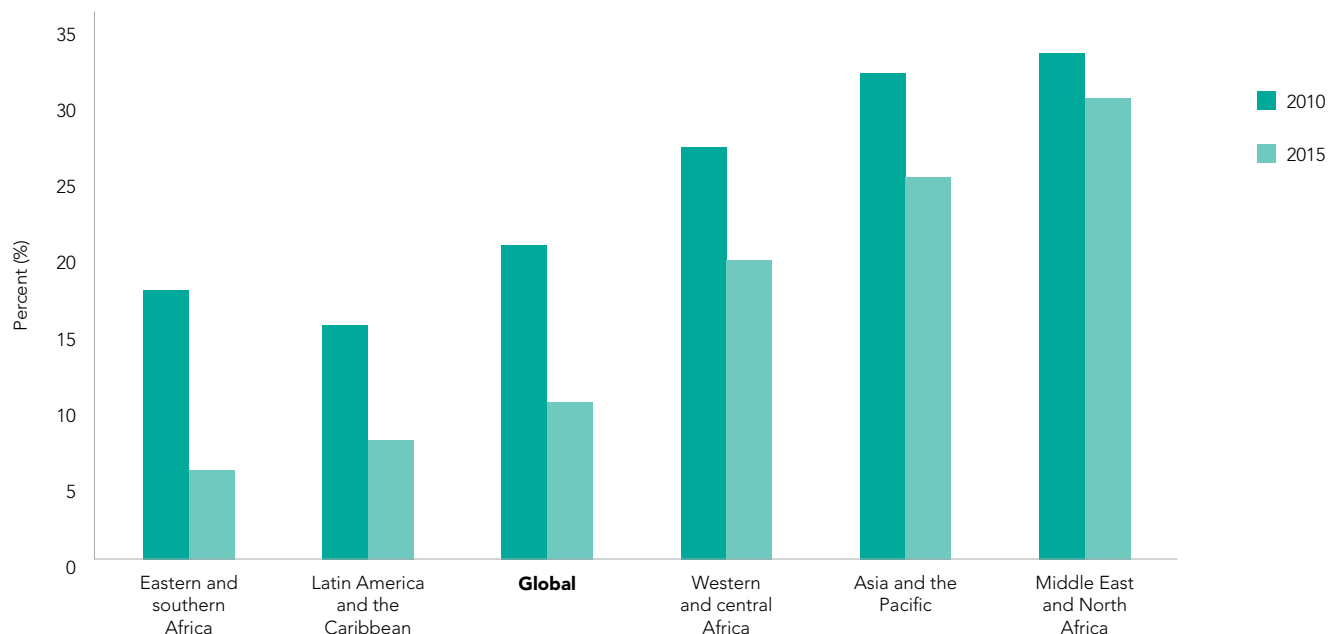
The situation was particularly challenging in Nigeria, which in 2015 had the second largest HIV epidemic in the world. Nigeria had the greatest number of new HIV infections among children in the world—an estimated 41 000 [28 000–57 000]—roughly equivalent to the next eight countries combined. There has only been a 21% decline in new paediatric HIV infections in Nigeria since 2009, compared to the 60% average among the other Global Plan priority countries (1).

### Distribution of new HIV infections among children (aged 0–14 years) by country, 2015



Source: UNAIDS 2016 estimates.

## Mother-to-child transmission rate by region, 2010 and 2015

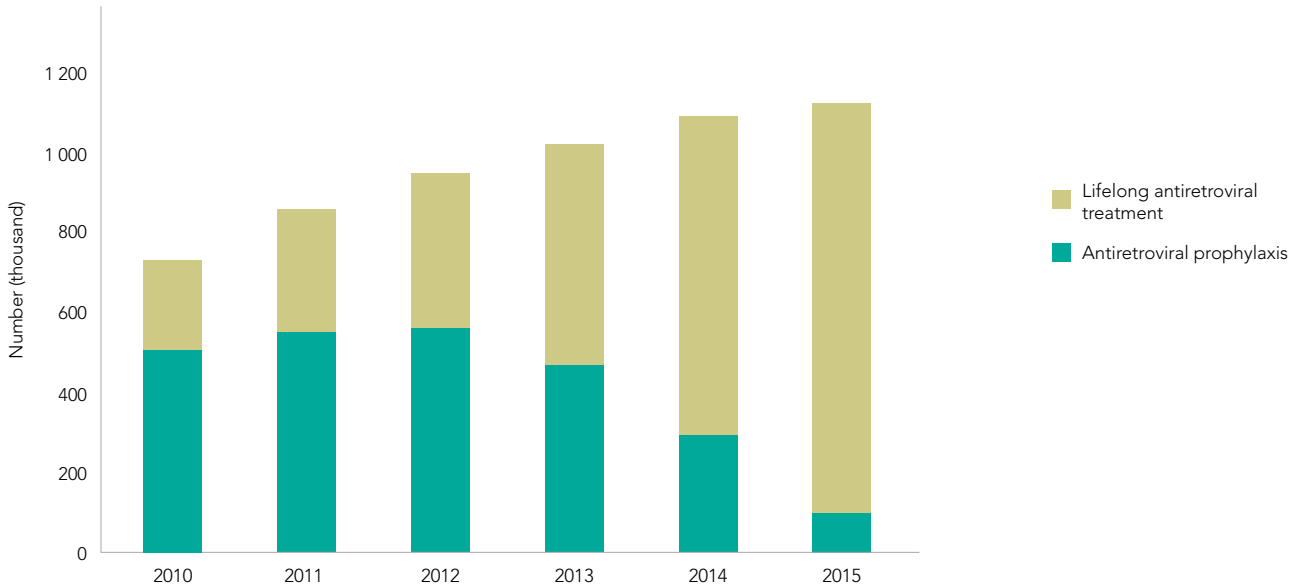


Source: UNAIDS 2016 estimates.

### Threefold decrease in mother-to-child transmission rate

As a result of increased coverage and improved regimens, rates of HIV transmission from mothers to infants during pregnancy and breastfeeding have decreased around the world. The largest decline was in eastern and southern Africa, where it fell from 18% of infants born to mothers living with HIV in 2010 to 6% in 2015—a threefold decrease. The region that showed the least amount of progress was the Middle East and North Africa, where nearly one third of women living with HIV pass the virus on to their children. The mother-to-child transmission rates in Asia and the Pacific and western and central Africa also were well above the global average of 10%.

## Antiretroviral medicine regimen used in preventing mother-to-child transmission, global, 2010–2015



Source: 2016 Global AIDS Response Progress Reporting and UNAIDS 2016 estimates.

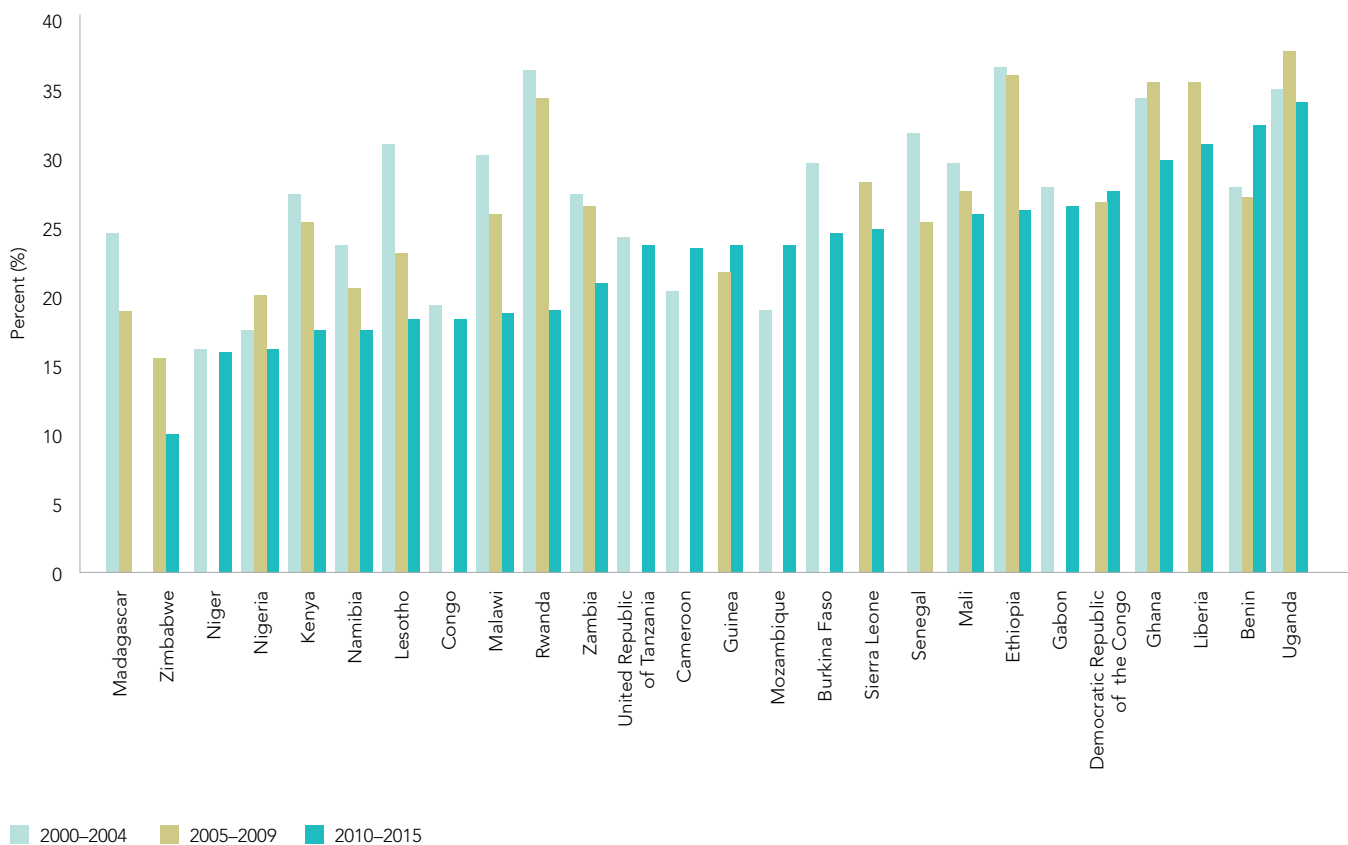
### Transition to immediate and lifelong treatment

One reason for the impressive declines in HIV transmission rates was the improvement in prophylaxis regimens over the past five years. In 2010, the majority of pregnant women were provided with antiretroviral medicines that had limited effectiveness and were used solely to prevent onward transmission to the child. Scientific advancements and operational experience have shown that immediate and lifelong antiretroviral therapy for pregnant women diagnosed with HIV is more effective than on-again, off-again approaches. In 2015, the WHO recommended that all pregnant women be provided with Option B+, which involves immediate offer of lifelong antiretroviral therapy—going beyond pregnancy, delivery and breastfeeding—regardless of CD4 count. In 2015, the global roll-out of Option B+ improved suppression of viral loads during both the breastfeeding period and afterwards, making future pregnancies safer. By 2015, 91% of the 1.1 million women receiving antiretroviral medicines to prevent mother-to-child transmission were on lifelong antiretroviral therapy.

## Family planning

Some gains also were made in the efforts to prevent unintended pregnancies in countries with large numbers of paediatric HIV infections. Between the periods of 2000–2004 and 2010–2014, unmet needs for family planning among married women declined by more than 10 percentage points in Ethiopia, Kenya, Lesotho, Malawi and Rwanda. Among the countries with available data in sub-Saharan Africa, Zimbabwe had the lowest unmet need for family planning among married women (10%) (2). There is, however, still a lack of information about the use of contraception among many women in sub-Saharan Africa, specifically at the national level for women living with HIV. Some earlier studies have suggested that women living with HIV may be more motivated to use contraception and therefore have different unmet needs than other women, but there is still a knowledge gap in this area (3).

### Trends in unmet need for family planning among married women, select countries, 2000–2015



Source: Demographic and Health Surveys, 2000–2015.

## Community engagement and support

A major contributor to the successful increase in treatment coverage for pregnant women living with HIV was the involvement of communities. Entry and retention in care were improved through community engagement and support, and through community service-delivery models. Networks and support groups of women living with HIV were particularly valuable in boosting outreach activities and service delivery, providing counselling, supporting treatment adherence, educating women about their reproductive rights, encouraging them to seek care and HIV testing, and providing psychosocial support to women coming to terms with a new diagnosis of HIV.

In many countries, community health workers were trained and enlisted in providing basic services, strengthening referral systems and supporting mothers and their families. At the end of 2015, more than half the countries in sub-Saharan Africa used community health workers to provide and support key HIV services, including antiretroviral therapy provision and the prevention of mother-to-child transmission (1). New methods of community engagement were implemented to bring services to remote communities, mobilize opinion leaders and deliver decentralized health care.

Community organizations were most effective when they received adequate support from the formal health system and when their capabilities and expertise were recognized. It will be important to ensure continued support for them going forward.

## Involving men

Engaging male partners and fathers as parents who also desire healthy children and healthy families is vital to continued success. Successfully engaging men in testing and treatment to prevent HIV transmission reduces the number of new infections in women, and the greater engagement of men would improve results at every step of the cascade for elimination.

Men need to be involved in family planning, with reproductive health positioned as the domain of both sexes, and more emphasis should be placed on promoting and facilitating couples testing. When men test positive for HIV, partner testing also is needed to identify HIV-negative women in serodiscordant relationships, and to diagnose women living with HIV and initiate treatment as soon as possible.

## Start Free, Stay Free, AIDS Free

The Start Free, Stay Free, AIDS Free initiative, which was launched in 2016 and is led by UNAIDS and PEPFAR, aims to build on the progress achieved under the Global Plan through a super Fast-Track approach to the scale up of HIV prevention, treatment, care and support services for children, adolescents and young women (4). The initiative aims to elevate and amplify efforts that are already accelerating progress, including the DREAMS Partnership, the Accelerating Children's HIV/AIDS Treatment (ACT) Initiative and ALL-IN.

The initiative has three parts.

- *Start Free* aims to complete the job started by the Global Plan by reaching and sustaining 95% of pregnant women living with HIV with lifelong HIV treatment by 2018, and by reducing the number of newly infected children to fewer than 40 000 by 2018 and 20 000 by 2020.
- *Stay Free* has the objective of ensuring that children with an HIV-free start stay HIV-free throughout their childhood. It will do this by intensifying the focus on reaching and empowering adolescent girls and young women and engaging men and boys. *Stay Free* includes the targets of the 2016 Political Declaration on HIV and AIDS to reduce the number of new HIV infections among adolescents and young women to fewer than 100 000 by 2020. It also seeks to provide voluntary medical male circumcision for HIV prevention to 25 million additional men globally by 2020, including 11 million men in the geographic areas of highest HIV burden (with a focus on young men aged 15 to 29 years).
- Finally, *AIDS Free* targets the children and adolescents living with HIV who often are left behind by HIV responses. The initiative aims to provide 1.6 million children (aged 0 to 14 years) and 1.2 million adolescents (aged 15 to 19 years) living with HIV with antiretroviral therapy by 2018.



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“EFFORTS TO REACH THE TARGET OF FEWER THAN 500 000 NEW INFECTIONS BY 2020 ARE OFF TRACK. THIS SIMPLE CONCLUSION SITS ATOP A COMPLEX AND DIVERSE GLOBAL TAPESTRY. THE HETEROGENEITY OF THE HIV EPIDEMIC UNDERSCORES THE IMPORTANCE OF A LOCATION-POPULATION APPROACH TO EFFICIENT PLANNING AND PROGRAMMING OF HIV PREVENTION SERVICES.”



## REGIONS IN FOCUS

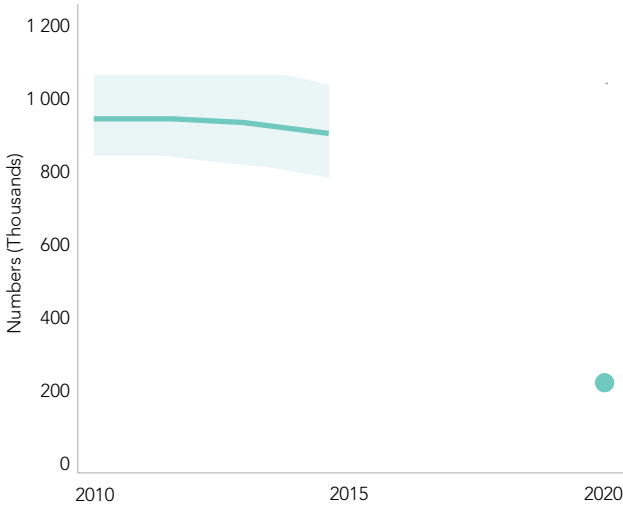
# EASTERN AND SOUTHERN AFRICA

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Eastern and southern Africa has only 6.2% of the world's population but is home to half of the world's people living with HIV. The region made progress in reducing new HIV infections between 2010 and 2015, particularly among children, but new HIV infections among adults are not declining fast enough. Women accounted for 59% of all adults living with HIV, and more than 20% of new infections in 2014 were among key populations and their sexual partners. The rate of new HIV infections remained high among young women in particular. In some countries there were high levels of transactional sex and age-disparate sexual relationships. Programmes and initiatives to address societal and structural barriers faced by young people, especially for young girls and women, gained momentum in 2015. Programming for key populations was insufficient, however. Other challenges include the marginalization of key populations due to legal barriers to accessing services or because of stigma and discrimination, and heavy reliance on international resources to fund responses to HIV.

## TRENDS AND TARGETS

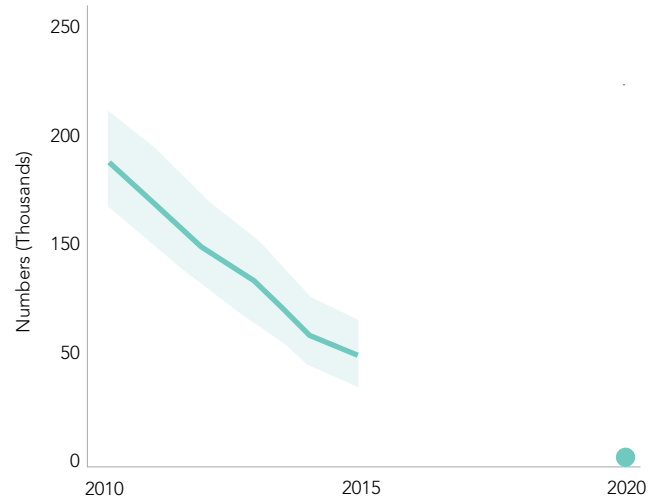
New HIV infections among adults (aged 15 years and older), eastern and southern Africa, 2010–2015



— New HIV infections ● Target

Source: UNAIDS 2016 estimates.

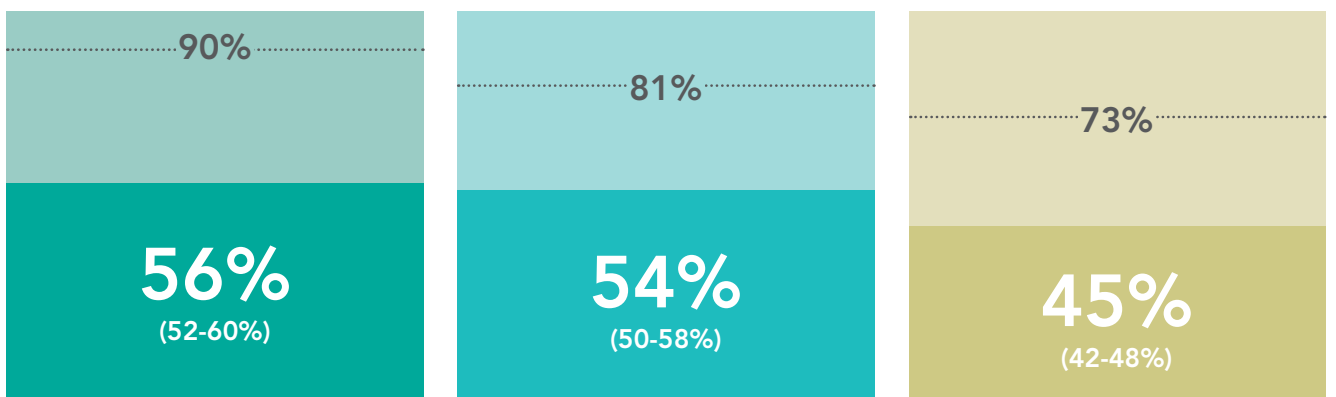
New HIV infections among children (aged 0–14 years), eastern and southern Africa, 2010–2015



— New HIV infections ● Target

Source: UNAIDS 2016 estimates.

Progress towards the 90–90–90 target, eastern and southern Africa, end-2015



Percentage of people living with HIV who know their HIV status<sup>1</sup>

Percentage of people living with HIV who are on antiretroviral treatment

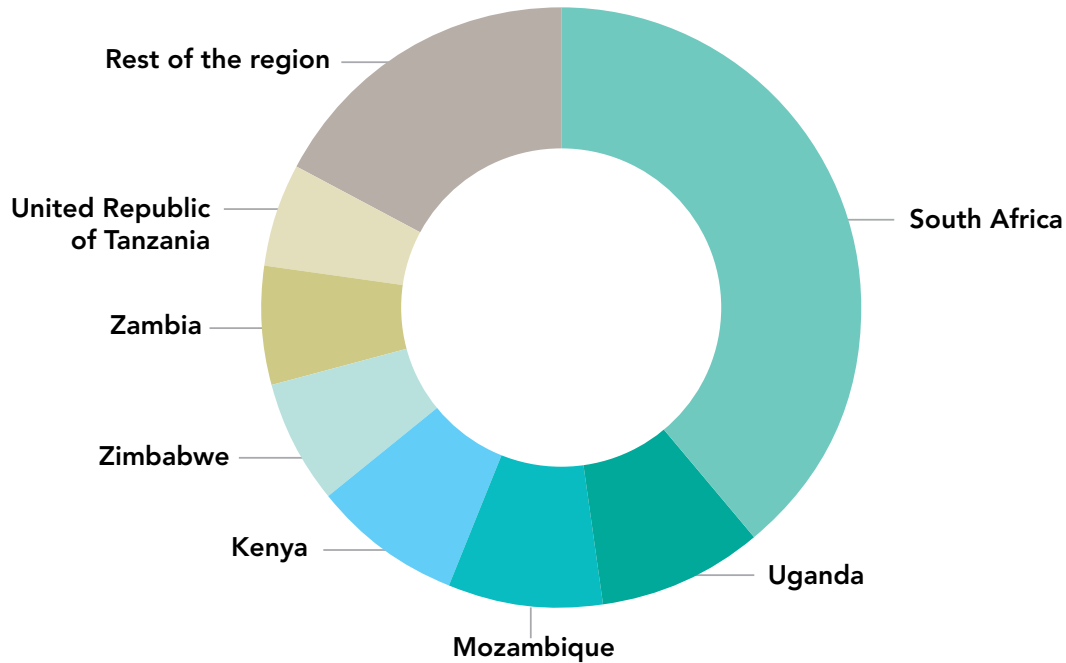
Percentage of people living with HIV who are virally suppressed<sup>2</sup>

<sup>1</sup> 2015 measure derived from data reported by 12 countries, which accounted for 85% of people living with HIV in the region.

<sup>2</sup> 2015 measure derived from data reported by 8 countries. Regionally, 14% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

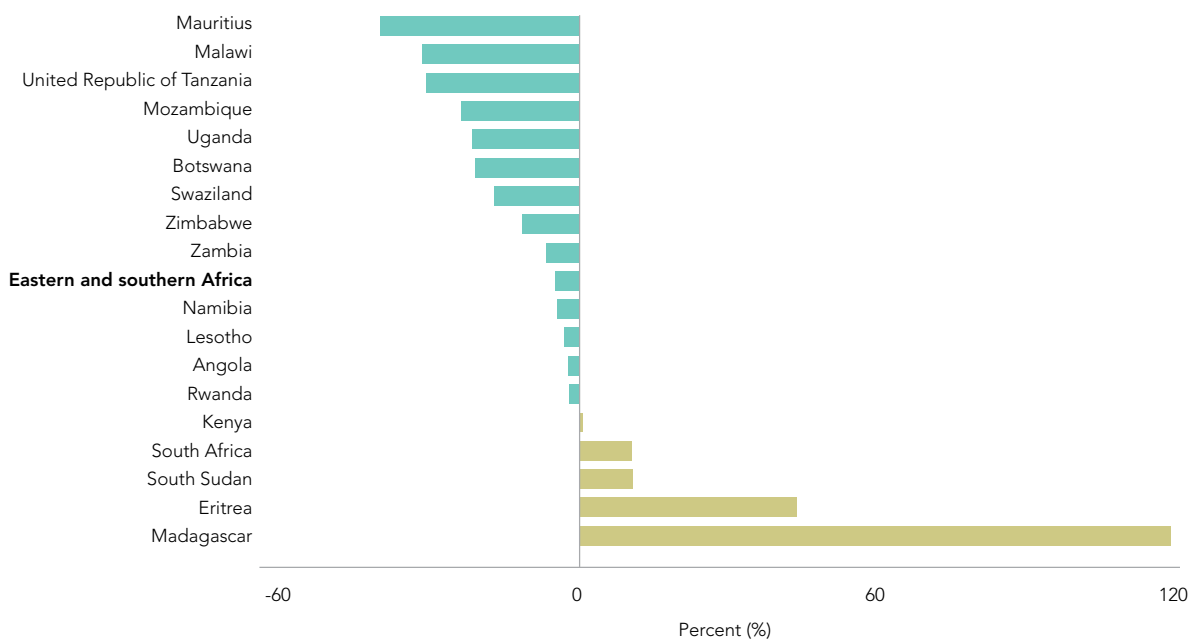
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Distribution of new HIV infections by country, eastern and southern Africa, 2015



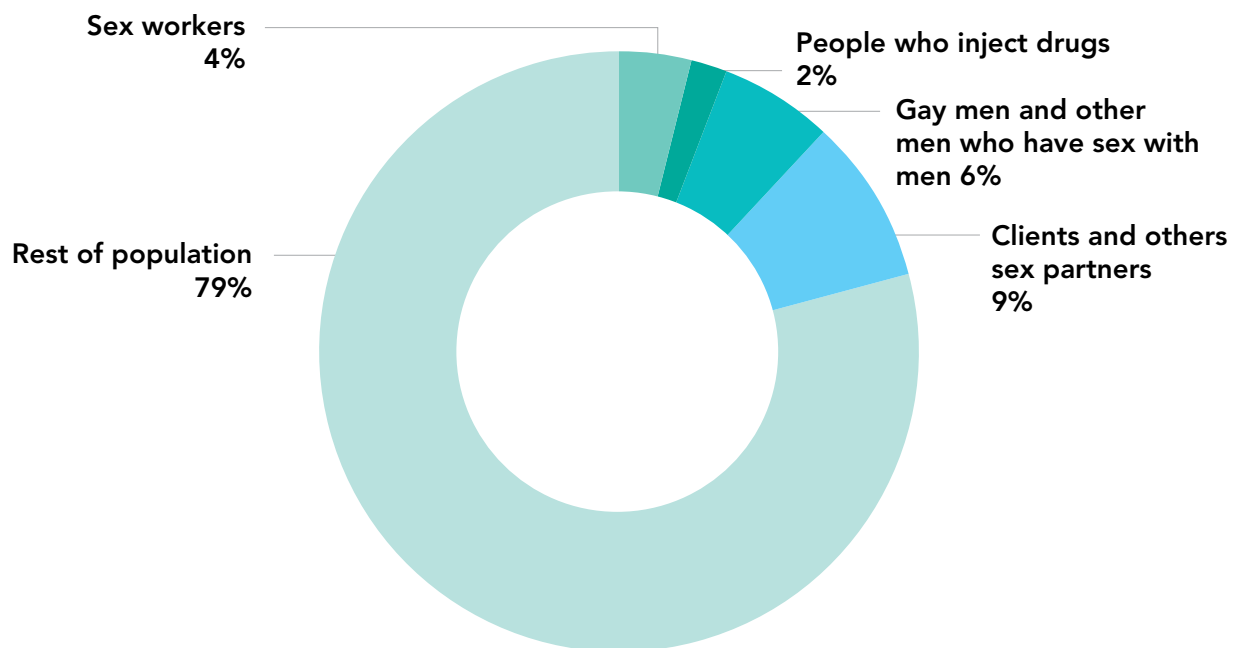
Source: UNAIDS 2016 estimates.

## Percent change in new HIV infections among adults (aged 15 years and older), eastern and southern Africa, from 2010 to 2015



Source: UNAIDS 2016 estimates.

## Distribution of new HIV infections among population groups, eastern and southern Africa, 2014



Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

### HIV epidemic in eastern and southern Africa

Although eastern and southern Africa has only 6.2% of the world's population, it is home to half of the world's people living with HIV. The region continued to be the hardest hit by the HIV epidemic, with 46% of the world's new HIV infections in 2015. Nearly 40% of new HIV infections in the region in 2015 were in South Africa, and another 50% occurred in eight countries: Ethiopia, Kenya, Malawi, Mozambique, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe.

New HIV infections decreased marginally in eastern and southern Africa between 2010 and 2015. New HIV infections among adults declined by 4% to an estimated 910 000 [790 000–1 100 000]. New paediatric infections declined by 66% between 2010 and 2015 to an estimated 56 000 [40 000–76 000]. This impressive decline in paediatric infections is due to the rapid increase in coverage of services for prevention of mother-to-child transmission from 61% [55–67%] in 2010 to 90% [82–>95%] in 2015. With committed efforts paediatric infections could reach the region's 2020 target, but adult infections are not declining fast enough.

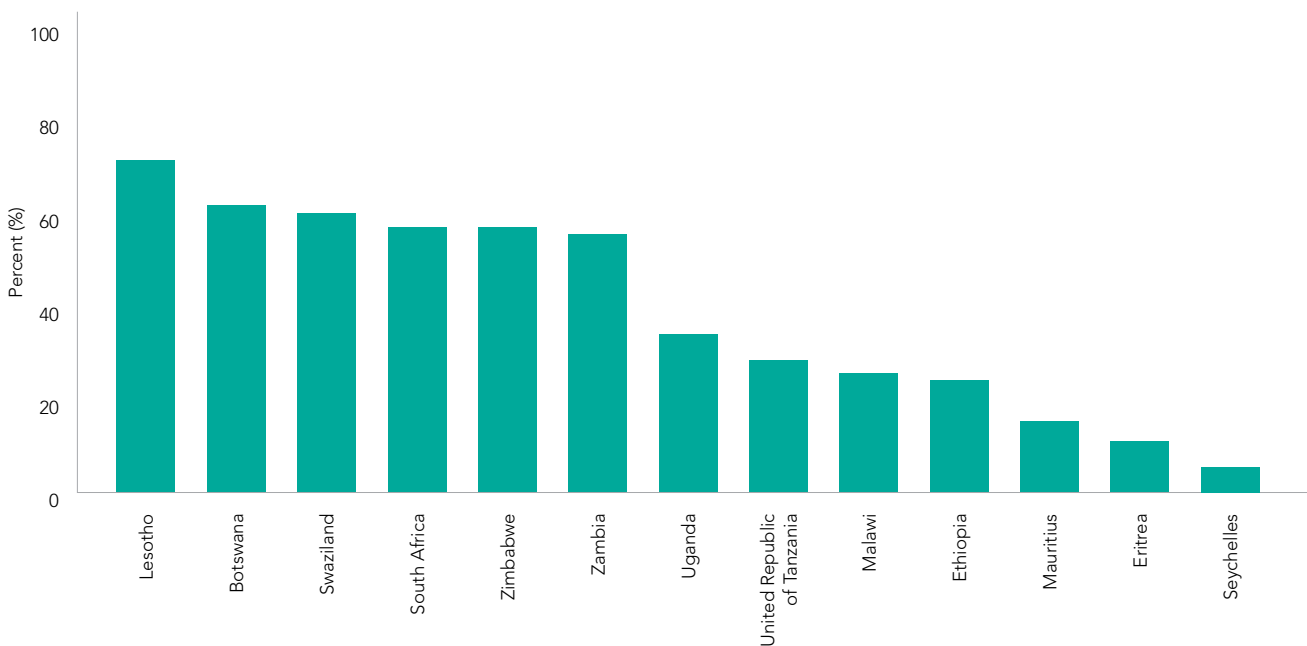
Progress varied among countries. Between 2010 and 2015 annual numbers of new HIV infections among adults declined by more than 20% in Botswana, Malawi, Mozambique, Uganda and the United Republic of Tanzania, but the annual number of new HIV infections among adults increased by more than 20% in Eritrea and Madagascar.

Women accounted for 59% of all adults aged 15 years and older living with HIV in the region, and the rate of new HIV infections remained high among young women aged 15–24 years. There were approximately 4500 new HIV infections weekly among young women in the region, which is double the number seen in young men.

More than 20% of new infections in 2014 were among gay men and other men who have sex with men, sex workers, people who inject drugs and the sexual partners of key populations (1).

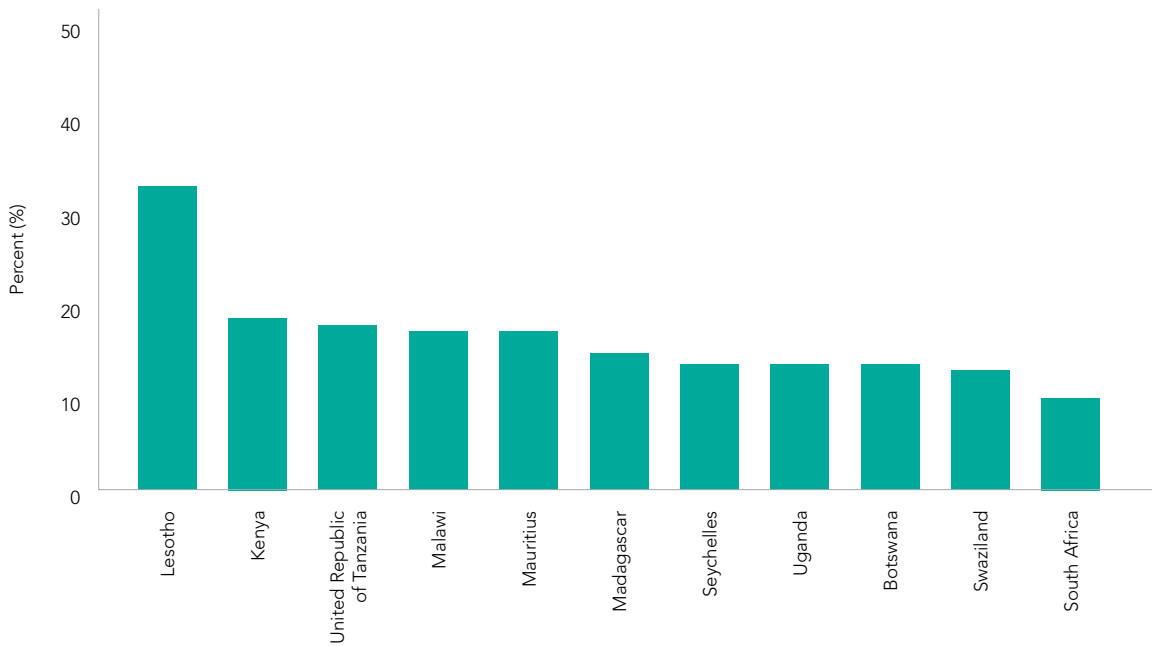
HIV prevalence among these populations is often extremely high. For example, in South Africa, surveillance data published in 2015 estimated HIV prevalence among sex workers was 72% in Johannesburg, 40% in Cape Town and 54% in Durban (2). Prevalence among gay men and other men who have sex with men ranged from 9.9% to 32.9% in country surveys conducted between 2013 and 2015 (3). Age-specific data from Kenya, Mauritius, Seychelles and the United Republic of Tanzania in 2013 showed that many people who inject drugs acquire HIV before they reach the age of 25 years (3).

## HIV prevalence among sex workers, eastern and southern Africa, most recent data, 2013–2015



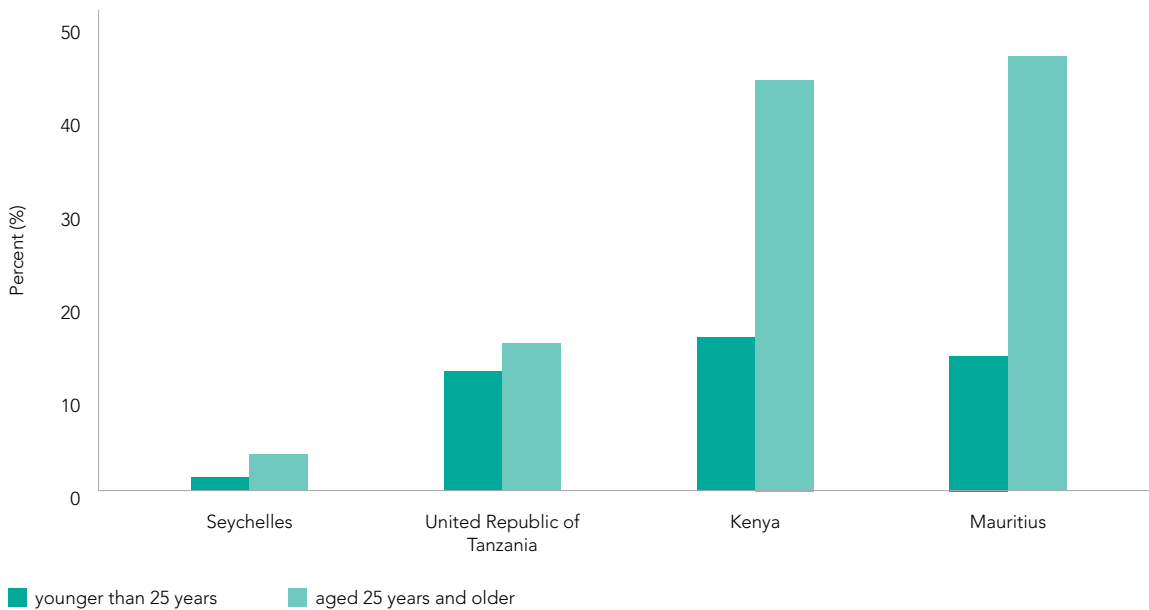
Source: 2016 Global AIDS Response Progress Reporting.

## HIV prevalence among gay men and other men who have sex with men, eastern and southern Africa, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

## HIV prevalence among people who inject drugs, eastern and southern Africa, 2015, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

## Progress and gaps in prevention

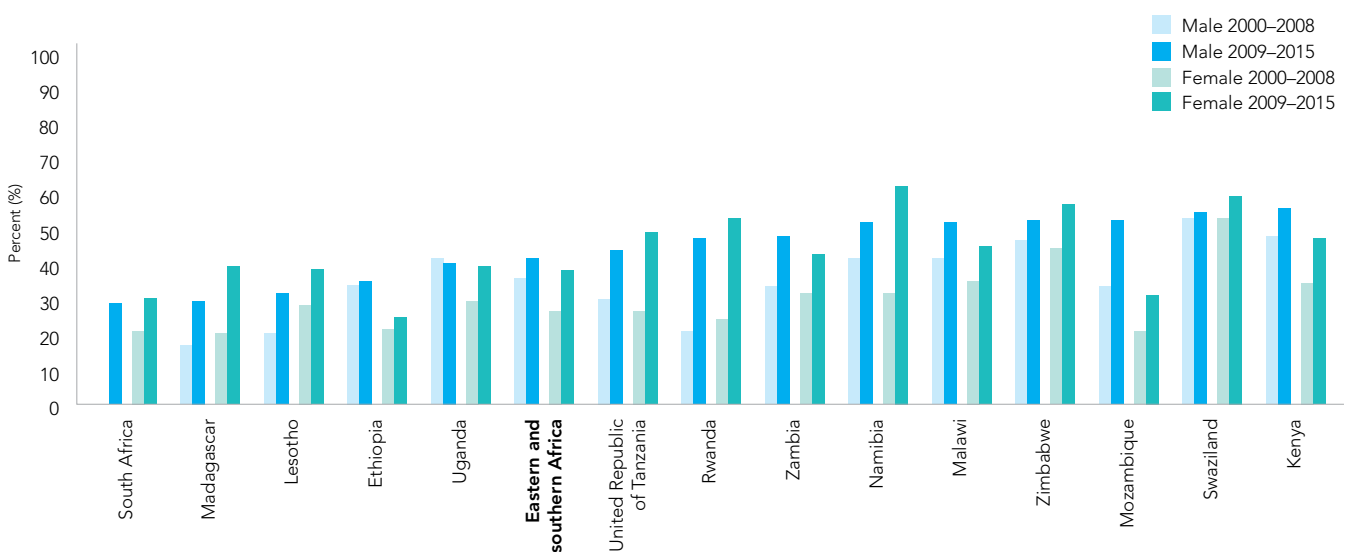
### Young women and girls and their male partners

Correct and comprehensive knowledge regarding HIV prevention among young people aged 15–24 years in the region improved between the 2000–2008 period and the 2009–2015 period, especially among young women. Still less than half, however, had comprehensive knowledge—37% and 41% among young women and young men, respectively, in surveys conducted in recent years (4). The proportion of young people who reported having their first sexual experience before age 15 years decreased by 20% over the same time period to 11% of young men and 12% of young women surveyed (4).

Rapid assessments conducted in Botswana, Swaziland and Zimbabwe for the ALL IN initiative to end AIDS among adolescents found high levels of reported occurrences of transactional sex in Botswana and age-disparate sexual relationships in Swaziland (5). Data on sexual and reproductive adolescent health revealed high rates of sexually transmitted infections and teenage pregnancy (5).

Programmes and initiatives launched to scale up HIV prevention services for young people, especially for young girls and women, gathered pace in 2015. These included DREAMS for young girls and women (supported by the United States President’s Emergency Plan for AIDS Relief, the Bill and Melinda Gates Foundation and the Nike Foundation), ALL IN for adolescents (supported by United Nations agencies and partners), and various programmes supported by the Global Fund to Fight AIDS,

## Comprehensive knowledge of HIV prevention among young people (aged 15–24 years), 2000–2015



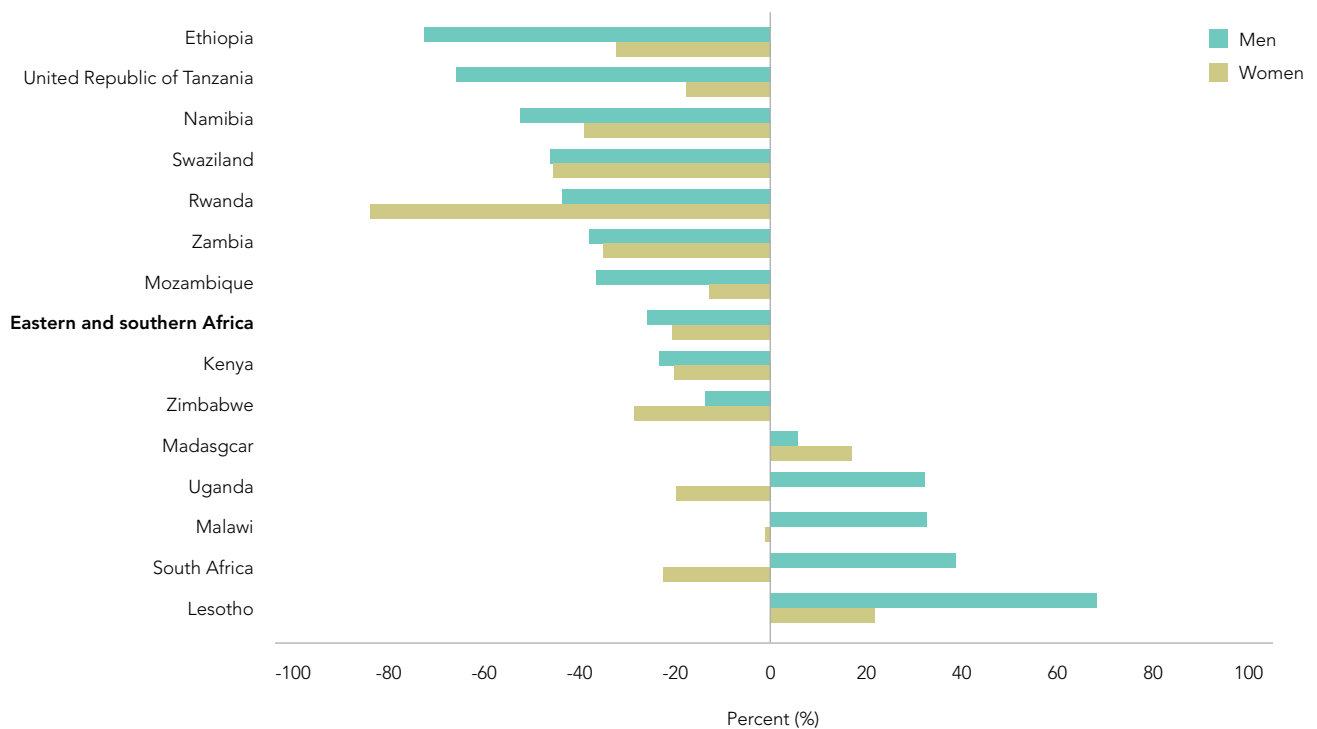
Source: Demographic and Health Surveys, 2000–2015



Tuberculosis and Malaria (Global Fund). The implementation of gender-transformative HIV programming to address the structural and knowledge barriers was also gaining momentum. These interventions include keeping girls in school and providing comprehensive sexuality education, a commitment made by ministers of health and education from 20 countries in eastern and southern Africa in 2013 (6), and providing girl-friendly sexual and reproductive health services, eliminating gender-based violence, eliminating female genital mutilation, scaling up male involvement in the HIV response, empowering women economically, ensuring the involvement of women in leadership structures and processes, and promulgating and implementing protective laws.

Several priority countries in eastern and southern Africa, including Ethiopia, Malawi, Swaziland and Zimbabwe, have held dedicated national prevention consultations in recent months to explore how prevention responses can be revitalized. Government representatives of Kenya, Zimbabwe and South Africa have met to plan the development of a regional roadmap to accelerate scale up of combination HIV prevention services at local levels and increased investments for combination HIV prevention.

### Percent change in young people (aged 15–24 years) reporting sexual debut before the age of 15, select countries in eastern and southern Africa, 2000–2008 compared to 2009–2015



Source: 2016 Global AIDS Response Progress Reporting.

## Key populations

In 2015 UNAIDS and the World Bank synthesized available quantitative and qualitative data on four key populations (sex workers, gay men and other men who have sex with men, people who inject drugs and transgender people) from 18 countries in eastern and southern Africa. Key findings from this regional synthesis include the following:

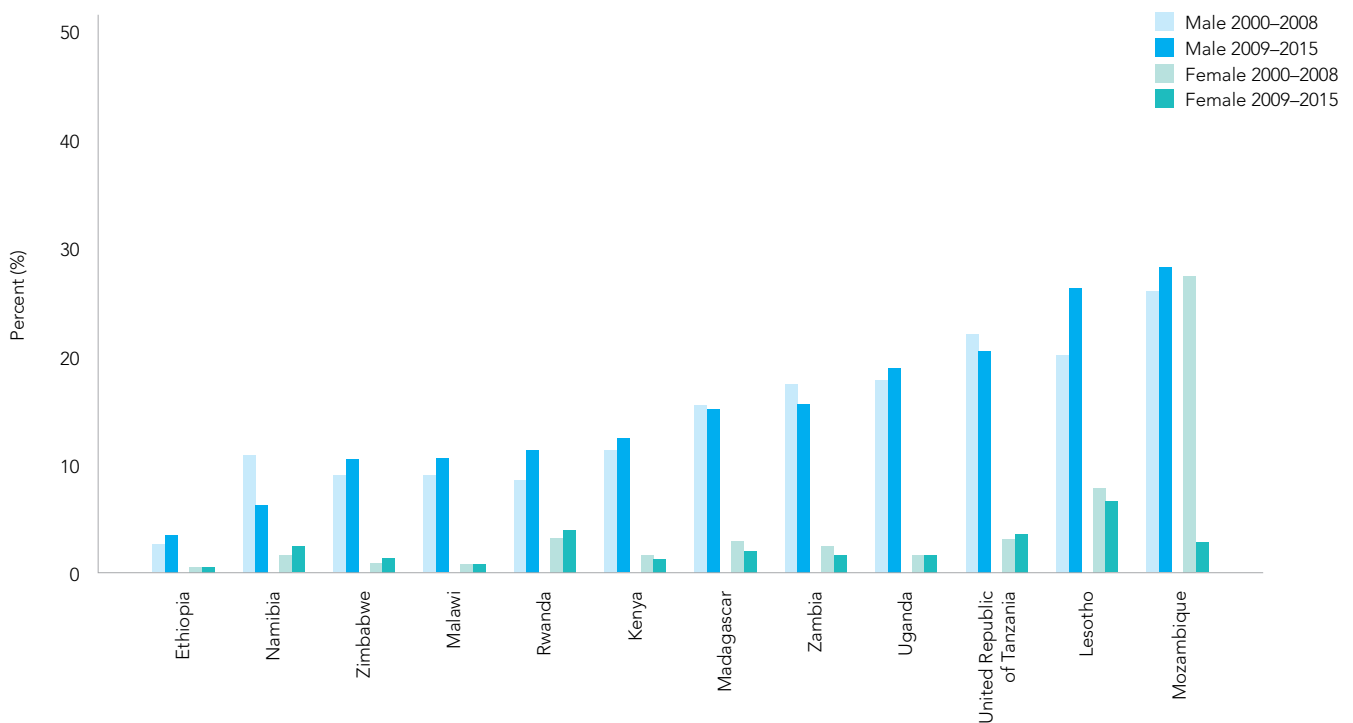
- All 18 countries identify female sex workers in national AIDS plans or strategies as being essential to reach with effective programme implementation.
- Seventeen of the 18 countries identified men who have sex with men as a key population in their national AIDS plans or strategies.
- In many countries the prioritization of key populations within national AIDS plans and strategies has not resulted in sufficient financial allocation and programme implementation to address their needs.
- Dedicated programmes for female sex workers, including service delivery and community mobilization, are more common than for the other three key populations.
- Programmes for men who have sex with men are particularly constrained by widespread homophobia.
- Female sex workers had more accurate knowledge of HIV than people who inject drugs and men who have sex with men, although the extent of comprehensive knowledge throughout the region remains insufficient among all four populations.
- Consistent condom use varied widely, and nowhere was it above 80% across all partner types for any of the four populations, indicating inadequate protection from HIV and other sexually transmitted infections.
- Data and information on transgender people in the 18 countries are extremely limited.
- None of the 18 countries had extensive community mobilization for the four key populations, but community networks are emerging. Regional networks are in place for female sex workers and men who have sex with men.
- The overall legal and social environment for all four key populations is challenging, with some aspect of sex work criminalized in 17 countries and same-sex relationships criminalized in 15 countries.

Kenya, Madagascar, Mauritius, Mozambique, South Africa and the United Republic of Tanzania are all home to significant populations of people who inject drugs. Although limited in scope, surveys among people who inject drugs in sub-Saharan Africa suggest high HIV prevalence. In Kenya, where HIV prevalence among people who inject drugs in 2011 was 18% versus 5.6% in the general population, low condom use and unsafe injecting practices exacerbate transmission (7). Needle and syringe programmes and opioid substitution therapy is being scaled up in the United Republic of Tanzania and in Kenya.

### Risky sexual behaviours and condom use

Nationally representative population-based surveys conducted in the region suggest that sexual risk behaviours among men and women are still common. On average 13% of men in the most recent surveys reported multiple sexual partnerships during the 12 months before the survey (8). The proportion of adult women reporting multiple sexual partnerships was much lower, at 2%, and declined between the 2000–2008 time period and the 2009–2015 time period (4). Trends varied between countries. Ethiopia, Malawi, Rwanda and Zimbabwe saw increases in multiple partnerships among both men and women, while the proportion of men and women with multiple partners in Zambia and Madagascar declined.

## Trends in proportion of adults (aged 15–49 years) reporting multiple sexual partnerships in the previous 12 months, select countries in eastern and southern Africa, 2000–2008 compared to 2009–2015

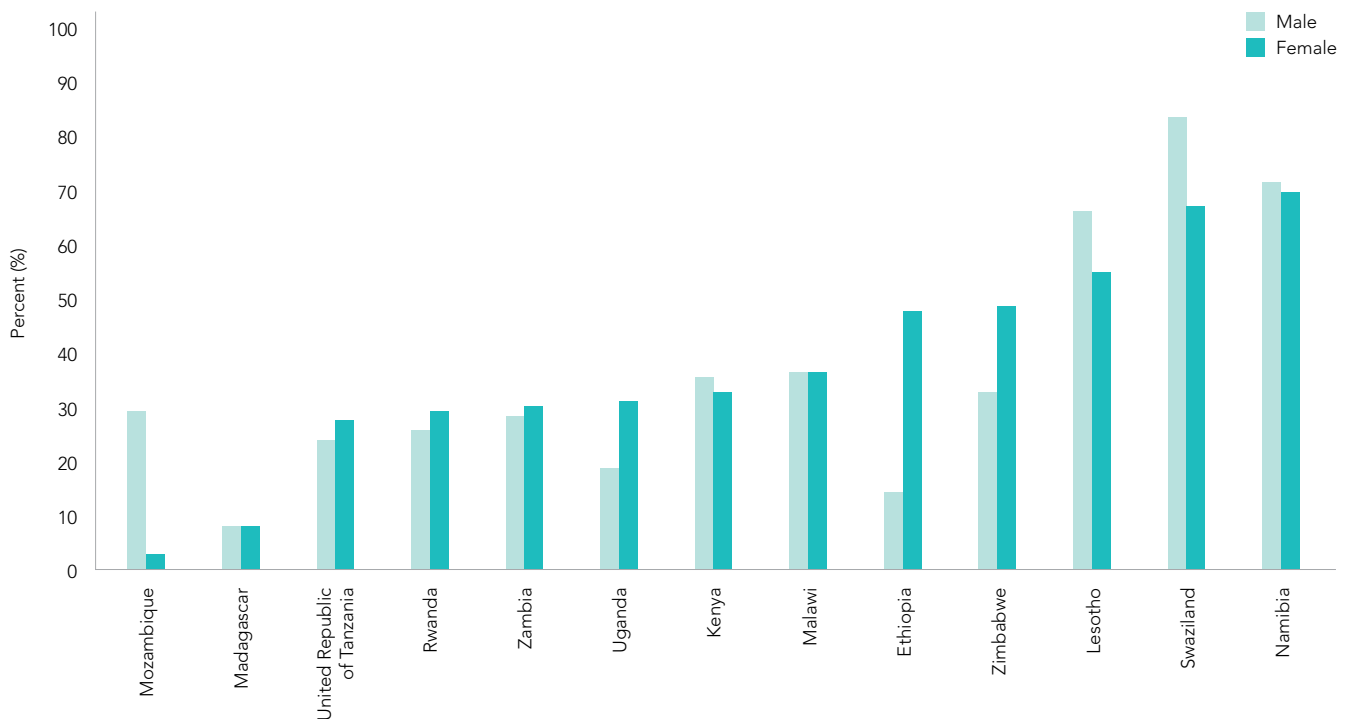


Source: Demographic and Health Surveys, 2000–2015.

Condom availability for men aged 15–64 years varied widely by country, with only 5 of the region’s 15 countries meeting the United Nations Population Fund (UNFPA) regional benchmark of 30 male condoms distributed per man per year (2011–2014) (9). Namibia had the highest level of availability of male condoms, with 54 available per man per year, followed by Swaziland (51), Botswana (50), Zimbabwe (33) and Lesotho (31); in Angola and South Sudan only 5 and 0.4 condoms per man per year were available, respectively (9). Women in the region were even more underserved: female condoms accounted for a small fraction of the condoms procured in 2015 (10).

This lack of condom availability contributed to levels of condom use that were not high enough to significantly curtail rates of HIV, sexually transmitted infections or unintended pregnancies. Population-based surveys conducted between 2009 and 2015 indicate that condom use at last sex among adults aged 15–49 years who had sexual intercourse with more than one partner within the past 12 months was only 23% among men and 33% among women. There was substantial variation among countries, ranging from as low as 7% among men in Madagascar to 69% among women in Namibia and 83% among men in Swaziland. Demographic and Health Surveys conducted between 2008 and 2015 found that condom use among men who paid for sexual intercourse in the preceding 12 months was higher, at about 60% on average (11).

### Condom use at last sexual intercourse among people with multiple partners, select countries in eastern and southern Africa, most recent data, 2009–2015



Source: Population-based surveys 2009–2015.

In response to the insufficient levels of condom use, a regional “condom push” initiative in 2015 resulted in seven countries developing action plans. Production of female condoms in the region was discussed with manufacturers, with South Africa championing local production. These initiatives aim to contribute to the UNFPA goal of ensuring that 10% of condoms procured in each country are female condoms (10).

### Voluntary male medical circumcision

There was tremendous progress in the uptake of voluntary male medical circumcision between 2008 and 2014. Following several years of nearly exponential increase, however, the number of men circumcised in 2015 was lower in 8 out of 14 priority countries (Botswana, Ethiopia, Lesotho, Rwanda, Uganda, United Republic of Tanzania, Zambia and Zimbabwe). An estimated 2.6 million males were circumcised in 2015, compared with 3.1 million males in 2014 (although challenges remain in compiling data on male circumcisions).

Progress varied across countries. Countries such as Kenya, Ethiopia and the United Republic of Tanzania have achieved or exceeded targets to reach 80% of the estimated number of eligible men. Mozambique, South Africa, Uganda and Zambia reached 50–79% of eligible men. In Lesotho, Malawi, Namibia, Rwanda and Zimbabwe, however, less than 35% of eligible men have been circumcised.

### Pre-exposure prophylaxis

In December 2015 South Africa became the first country in sub-Saharan Africa to issue full regulatory approval of pre-exposure prophylaxis (PrEP), followed swiftly by Kenya (see Pre-exposure prophylaxis chapter). Pre-exposure prophylaxis is also included within the Kenya HIV Prevention Revolution Road Map and the South Africa National Sex Worker Plan 2016–2019. Kenya, South Africa and Zimbabwe have ongoing demonstration or research projects that are investigating the uptake and impact of PrEP specifically with young women and girls in high-incidence areas. Their focus includes service delivery, adherence, gender-based violence and preferred choice of PrEP formulation.

### Viral suppression

A key determinant to viral suppression among people living with HIV is knowledge of status. An estimated 56% [52–60%] of people living with HIV in eastern and southern Africa in 2015 knew their HIV status, and about 54% [50–58%] were on antiretroviral therapy. Considerable gaps in the treatment cascade remained in many countries. Achieving the 90–90–90 target required diagnosing more than 6.4 million people living with HIV who did not know their HIV status, starting an additional 5.2 million people on antiretroviral therapy, and ensuring an additional 5.3 million people living with HIV achieved viral suppression. As a result of these gaps, only 45% [42–49%] of all people living with HIV in eastern and southern Africa had achieved the viral suppression necessary to prevent HIV transmission. However, viral suppression data in the region are extremely limited. Only 14% of the total population of people living with HIV on antiretroviral therapy had a viral load testing result.

Low rates of HIV testing weaken the links between prevention, treatment and care services in the region (12). To address this challenge, Kenya, Malawi, South Africa and

Uganda have adopted innovative approaches to HIV testing in recent years, including provider-initiated testing, moonlight testing, targeted community-based HIV testing and door-to-door testing campaigns. Many countries, including Namibia, Malawi, Rwanda, Botswana, South Africa and Swaziland, are piloting HIV self-testing. In Namibia, for example, pharmacies sell over-the-counter rapid test kits for HIV self-testing.

Countries in eastern and southern Africa have made remarkable progress in the scale-up of antiretroviral therapy reaching 54% [50-58%] of people living with HIV. Paediatric treatment in particular had improved since 2010, with regional coverage reaching 63% [56–71%] and Botswana and Namibia achieving coverage of over 95% of children living with HIV. However, gaps still remain in the provision of treatment to populations who are affected by humanitarian emergencies, who face disruptions in HIV treatment, heightened exposure to HIV vulnerability and risks and limited access to quality health care and nutritious food.

By the end of 2015 all countries in the region were at least implementing the 2013 World Health Organization (WHO) treatment guidelines, expanding eligibility for antiretroviral therapy and ensuring that antiretroviral drugs were used within a broad continuum of care (13). Yet the population effect of antiretroviral treatment on reduced transmission depends on high coverage of antiretroviral treatment among all people living with HIV. Many countries, including Kenya, Malawi, Namibia and Uganda, had begun adopting the 2015 WHO recommendation to immediately offer treatment to people diagnosed with HIV. Lesotho officially adopted and began the roll-out of “test and treat” guidelines in April 2016, Botswana launched a “treat all” strategy in June 2016, and South Africa plans to start offering treatment immediately following diagnosis before the end of 2016. Weak health and community systems, however, continue to undermine scale-up of testing and treatment.

Although viral load testing in the region was unavailable to the majority of people on antiretroviral therapy, many countries, including Botswana, Namibia, Malawi, Kenya, South Africa, Swaziland and Uganda, had ongoing pilot and research projects on viral load testing. Key challenges include inadequate viral load testing equipment, transportation of samples, and human capacity within laboratory systems to undertake the considerable volume of testing required. An estimated 45% [42-48%] of people living with HIV in eastern and southern Africa had suppressed viral loads in 2015.

## Challenges

Girls and young women have to be placed at the centre of the response if the region is to end AIDS by 2030. In 2015 two-thirds of new HIV infections among young people aged 15–24 years occurred among adolescent girls and young women. These high levels of infection are driven largely by high prevalence in the community, gender inequality and inequity, traditions, and limited educational opportunities.

Extremely high levels of sexual abuse and violence against female children, including underage, child and forced marriage, undermine regional development goals and the HIV response. The region had seven million child brides in 2015 (14). A positive change in Malawi was the passage in April 2015 of a new Marriage Act that increased the age of marriage to 18 years.

Despite 15 of 19 countries in the region having domestic violence and sexual offences laws, more than 30% of ever married or partnered women aged 15–24 years experienced physical or sexual violence from a male intimate partner in the previous 12 months in Uganda, the United Republic of Tanzania, Zambia and Zimbabwe; this figure was 50% among girls aged 15–19 years in Namibia (3).

Key populations are often marginalized due to legal barriers to accessing services or because of stigma and discrimination and had not received adequate attention from national programmes (15). Serious challenges remain, including the criminalization of same-sex sexual relations, drug use and sex work; insufficient implementation of harm-reduction programmes; and insufficient protection of men and women from discrimination, harassment, and sexual and physical violence and abuse arising from their perceived or actual sexual orientation or gender identities (15).

Strategic information is lacking for a number of countries in the region. Weak national systems for case-based surveillance hinder the ability to report routine, localized data and for monitoring of prevention and treatment cascades. Most countries do not have systems for unique identification of individuals, which makes tracking them across prevention and treatment services difficult, leading to inaccuracies in the reported data. There is a lack of technical capacity, human resource availability or coordination in some countries for collecting or reporting standardized, sex- and age-disaggregated programmatic data at the subnational level. With the increasing focus on prioritizing locations and populations most in need, this makes granular data collection difficult.

Countries in eastern and southern Africa remained heavily reliant on international resources to fund their responses to HIV. The exception is South Africa, where approximately 80% of the national response is financed through domestic resources. Insufficient financial resources, combined with the lack of strategic information, led to many high-impact HIV prevention programmes not being implemented to the necessary standard or scale.

## Opportunities

### Investments and sustainable financing

By December 2015 Botswana, Ethiopia, Kenya, Mauritius, South Africa, Swaziland, Uganda and Zimbabwe had produced national HIV investment cases that promote effective, efficient and sustainable investments in their HIV responses by targeting specific locations and populations. Malawi, Mozambique and Zambia used the investment approach to develop national strategic plans and inform their concept notes for Global Fund grants.

As a result of South Africa's high-level epidemic and the Government's commitment to fund lifelong treatment for existing patients, the total cost of the HIV programme will increase in coming years. According to South Africa's investment case, if the appropriate investments and programme scale-up are made to reach the 90–90–90 treatment targets, annual resource needs will begin to decline in 15–20 years. By comparison, more gradual scale-up will result in larger future budgets and an

increase in overall long-term spending (16). The analysis helped to convince the South African Treasury to increase budget allocations for HIV (17).

The recent drought due to El Niño has caused additional challenges for people living with HIV in southern Africa. Food insecurity requires coping strategies that might increase risky behaviour. In addition food insecurity might reduce adherence to antiretroviral therapy leading to drug resistance and increases in transmission.

Regional dialogue has underscored the need to determine how much low- and middle-income countries can contribute to their HIV programmes, given the rapid economic growth across the region, and how international assistance can best contribute to efforts to end AIDS as a public health threat by 2030 (18). To advance the African Union Roadmap for Shared Responsibility and Global Solidarity and promote sustainability of responses, the regional economic communities (East African Community and South African Development Community) undertook financing analyses to explore the fiscal space for health and HIV and innovative options for financing AIDS responses. As a result, both communities have endorsed action frameworks on sustainable financing that commit countries to increase domestic spending, address inefficiencies in health services, and explore innovative financing mechanisms in the next five years.

### Using evidence to inform programming

In the context of declining international resources for AIDS, it is increasingly important to gather and use strategic information to guide the efficient delivery of services to the locations and populations in greatest need. All of the region's countries routinely update estimates of HIV infections and treatment coverage, and report on global indicators. With international support, most have further generated subnational HIV estimates of people living with HIV and new infections and AIDS-related deaths, linking them to data on treatment and other service provision within maps to identify geographical gaps in service coverage. Kenya also launched a "Situation Room" that uses a tablet-based application to provide policy-makers and programme-planners with real-time monitoring of the latest strategic information and evidence to inform their decision-making.

### Engaging communities

Civil society and communities are vital to the region's achievement of the targets in the 2016 Political Declaration on ending AIDS. In Botswana, Communities Acting Together to Control HIV (CATCH) facilitated community-driven activities through household consultations, joint planning and community-led implementation and monitoring. During a two-month period 1656 households were reached in five villages by a team of trained CATCH facilitators. This has resulted in invitations for engagement from other villages and schools (19).

The Community Health Alliance Uganda conducted a two-month pilot programme to help address challenges faced by pregnant and breastfeeding women living with HIV, including by providing funds for transport to clinics, and by recruiting and training volunteers through the local association of people living with HIV to conduct counselling, run awareness campaigns and mobilize local community leaders. The number of monthly clinic visits by pregnant and breastfeeding women increased



during the project period (20). Models such as these that leverage civil society to bring HIV services closer to communities need to be expanded and sustained.

National and regional support for such efforts grew in 2015, with increasing interest from several governments in understanding the unique contributions of community groups, cost their efforts and define how useful approaches could be scaled up. Malawi undertook a mapping of community-based service delivery models to inform its national dialogue on scaling up the antiretroviral therapy programme. Zimbabwe defined a national operational plan for scaling up community treatment action groups linked to health facilities.

### **Integrating sexual and reproductive health and HIV services**

A multilaterally funded pilot project to support linkages between sexual and reproductive health and HIV services had been in place in Botswana, Lesotho, Malawi, Namibia, Swaziland, Zambia and Zimbabwe since 2011. By the end of 2015 a total of 52 health facilities across these 7 countries had provided integrated sexual and reproductive health and HIV services and increased both access and uptake. In Botswana and Zimbabwe client satisfaction had risen, with 57% and 60% of service users, respectively, citing a reduced number of visits as a benefit of integrated services, and 41% and 34%, respectively, reporting that integrated services provided a good opportunity to access additional services (21,22). Challenges remained, however, with competing interests, changes in leadership, multiple and parallel initiatives, and a shortage of health-care workers impeding the integration of services.

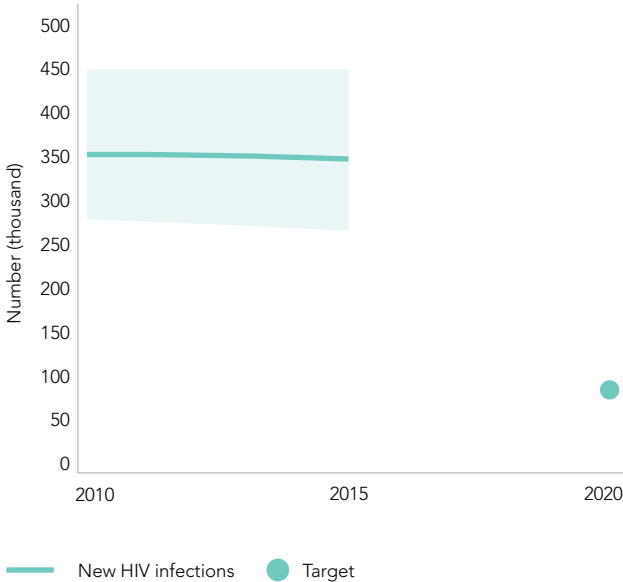
# WESTERN AND CENTRAL AFRICA

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Knowledge about HIV among young people in western and central Africa was alarmingly low, with a significant gap in sexual and reproductive health services for adolescents and young people, including HIV prevention services. New infections among key populations and their sexual partners accounted for more than a quarter of all new infections in 2014, and HIV prevalence among key populations was significantly higher than that among the general population. Condom use at last sexual intercourse varied, with indications that use was high among sex workers. There were condom use increases among women but not among men in the past 15 years. Uptake of HIV testing services in the general population was low, but there was relatively high testing coverage among female sex workers. Despite an increase in the availability of antiretroviral therapy in the region between 2010 and 2015, coverage remained well below the global average, contributing to low levels of viral suppression. Challenges include high levels of stigma and discrimination (including the denial of health services), high rates of gender-based violence (including in conflict and emergency situations) and gender inequities.

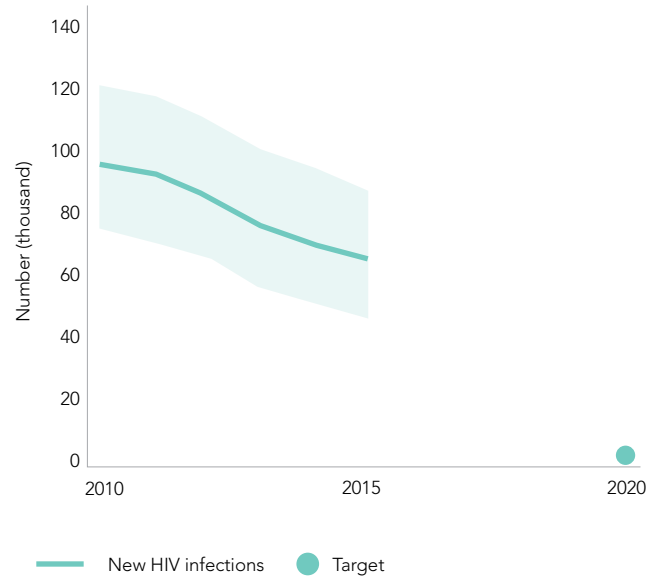
## TRENDS AND TARGETS

New HIV infections among adults (aged 15 years and older), western and central Africa, 2010–2015



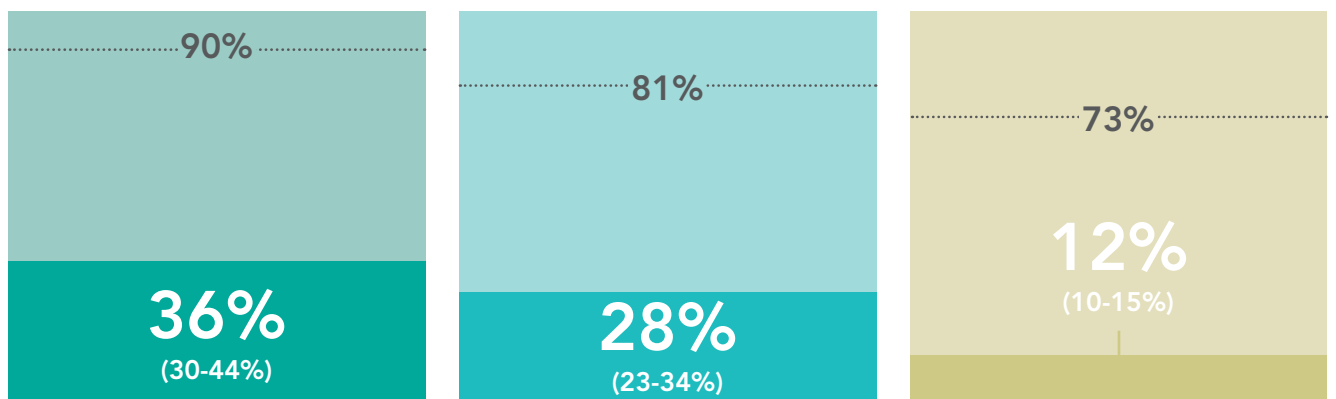
Source: UNAIDS 2016 estimates.

New HIV infections among children (aged 0–14 years), western and central Africa, 2010–2015



Source: UNAIDS 2016 estimates.

Progress towards the 90–90–90 target, western and central Africa, 2015



Percentage of people living with HIV who know their HIV status<sup>1</sup>

Percentage of people living with HIV who are on antiretroviral treatment

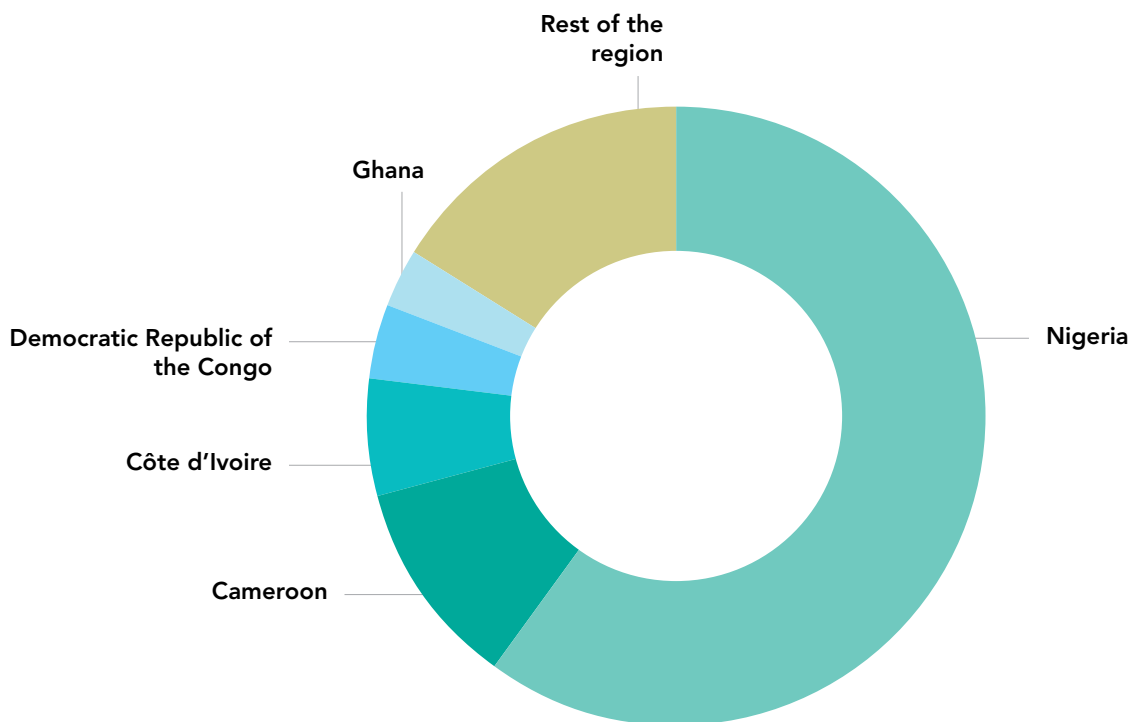
Percentage of people living with HIV who are virally suppressed<sup>2</sup>

<sup>1</sup> 2015 measure derived from data reported by 12 countries, which accounted for 73% of people living with HIV in the region.

<sup>2</sup> 2015 measure derived from data reported by 7 countries. Regionally, 2% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

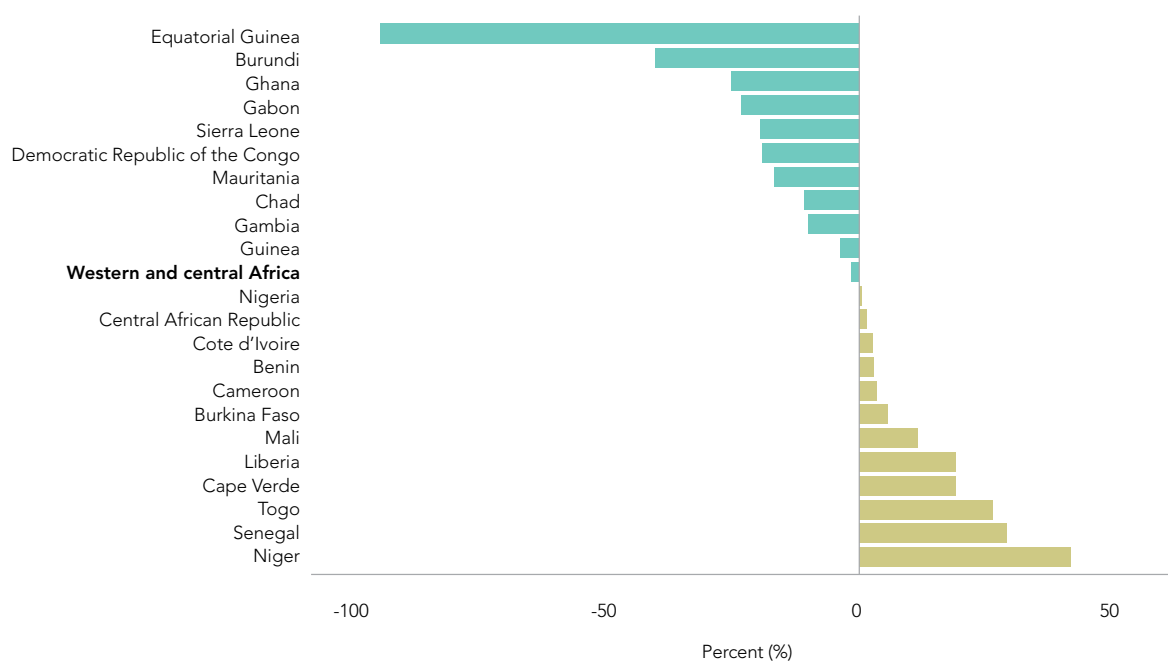
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Distribution of new HIV infections by country, western and central Africa, 2015



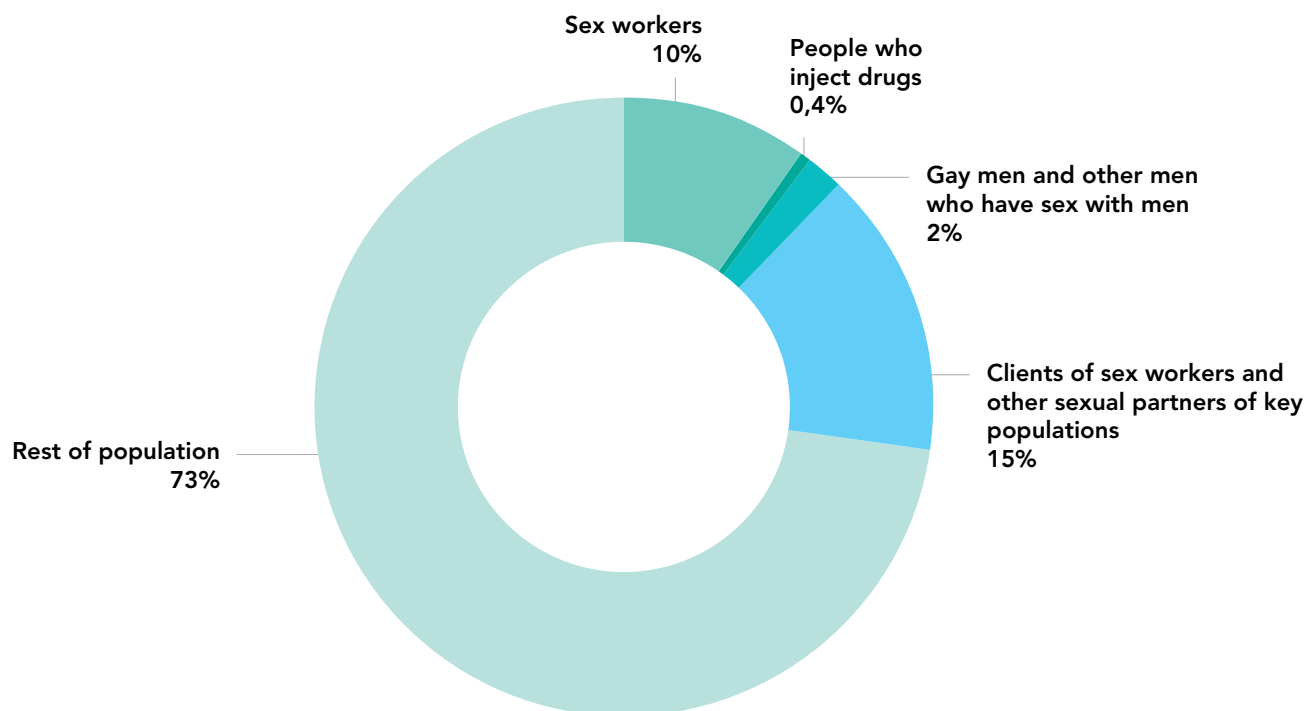
Source: UNAIDS 2016 estimates.

## Percent change in new HIV infections among adults (aged 15 years and older), western and central Africa, from 2010 to 2015



Source: UNAIDS 2016 estimates.

## Distribution of new HIV infections among population groups, western and central Africa, 2014



Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

### HIV epidemic in western and central Africa

Western and central Africa's 25 countries had a combined population of approximately 425 million people in 2015. The average HIV prevalence among adults was 2.2% [1.8–2.7%]. An estimated 6.5 million people were living with HIV in the region in 2015, of whom 500 000 [400 000–630 000] were children. Women accounted for 54% of adults aged 15 years and older living with HIV. There was wide variation both between and within countries, with national adult prevalence ranging from 0.5% [0.4–0.6%] in Niger and Senegal to 4.9% [4.4–5.3%] in Equatorial Guinea.

There were an estimated 410 000 [310 000–530 000] new infections, of which 66 000 [47 000–87 000] were among children and 200 000 [150 000–260 000] were among women. New infections among children decreased by 31% since 2010, reflecting the scale-up of coverage of prevention of mother-to-child transmission services from 23% [19–28%] to 48% [40–58%]. Among adults there was no decline in new infections since 2010, with the number remaining static at 350 000 [270 000–450 000] per year.

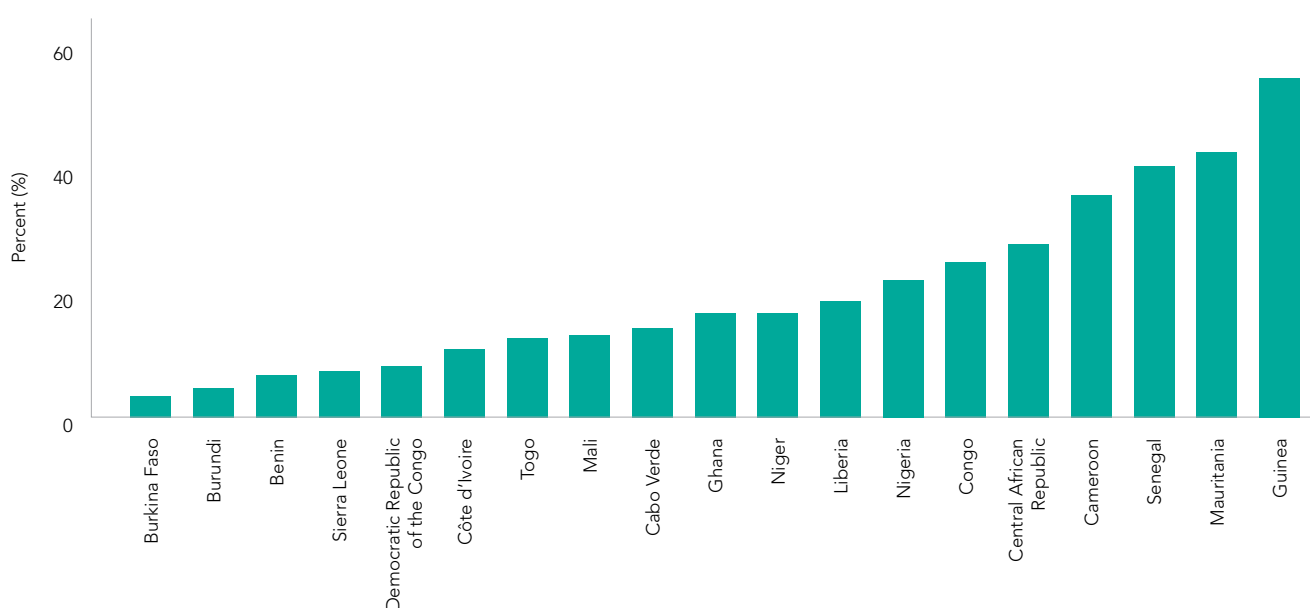
An estimated 60% of new HIV infections in the region in 2015 occurred in Nigeria, and another 30% occurred in seven countries: Cameroon, Chad, Côte d'Ivoire, Democratic Republic of the Congo, Ghana, Guinea and Mali.

There were 650 000 [500 000–850 000] young people aged 15–24 years living with HIV in the region in 2015. The number of new infections among young people aged 15–24 years decreased between 2010 and 2015, from 120 000 [92 000–150 000] to 110 000 [88 000–150 000], including a reduction from 37 000 [30 000–47 000] to 36 000 [30 000–47 000] among adolescents aged 15–19 years.

Sixty-four per cent of new infections among young people in western and central Africa were among young women. Gender inequalities and gender-based violence in the region made girls and young women more vulnerable than boys and young men to HIV infection. Girls and women faced high levels of gender-based violence and in conflict situations sexual violence against women and girls is commonly used as a strategy of war. In emergencies, women and girls are particularly vulnerable and have specific needs that are often ignored, including services for safe pregnancy and childbirth and protection from gender-based violence. Additionally, emergencies often cause a disruption to HIV treatment and services, increased food insecurity and destruction of livelihoods as well as heightened exposure to HIV vulnerability and risks (1).

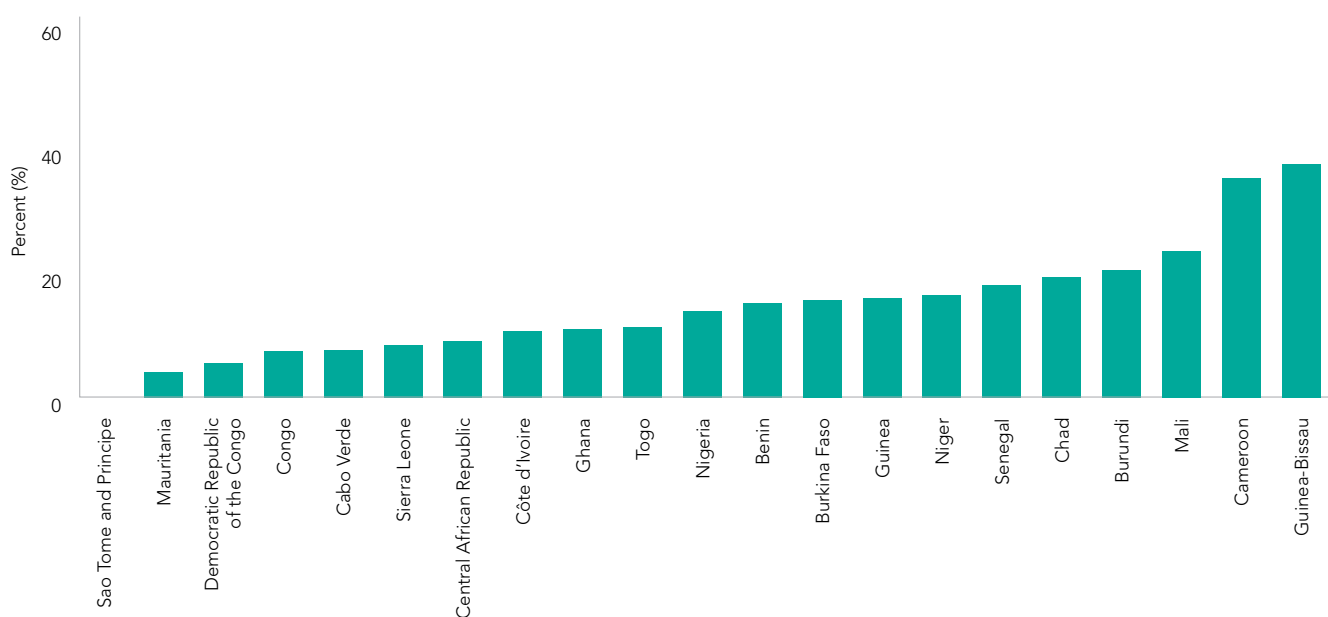
New infections among key populations and their sexual partners accounted for more than a quarter of all new infections in the region in 2014 (2). HIV prevalence among sex workers, people who inject drugs and men who have sex with men was significantly higher than the prevalence in the general population.

## HIV prevalence among gay men and other men who have sex with men, western and central Africa, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

## HIV prevalence among sex workers in western and central Africa, most recent data, 2011–2015



Source: 2016 Global AIDS Response Progress Reporting.

In 2015 HIV prevalence was 17% among men who have sex with men, 16.5% among sex workers and 6.5% among people who inject drugs (3). HIV prevalence among women who inject drugs is much higher than among men who inject drugs. For example in Nigeria HIV prevalence among female and male injecting drug users was 14% and 3% respectively. Similarly, in Senegal HIV prevalence among female and male injecting drug users was 28% and 7%, respectively.

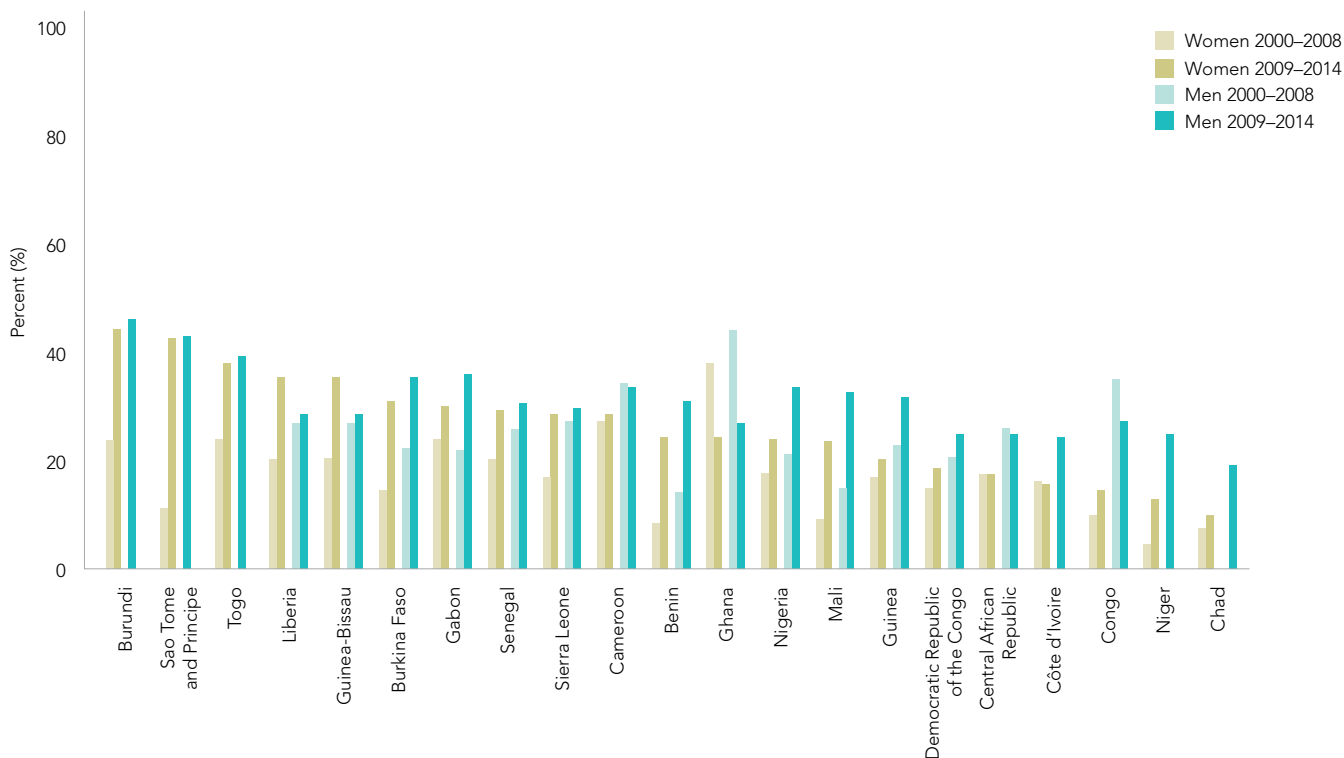
HIV prevalence among these key populations also varied by country. In the 12 countries that reported data in 2015, HIV prevalence among gay men and other men who have sex with men ranged from 3.6% in Burundi to 37.2% in Cameroon. In the 15 countries that reported data in 2015, HIV prevalence among female sex workers ranged from 4% in Mauritania to 24% in Mali.

## Progress and gaps in prevention

### Young women and girls and their male partners

Knowledge about HIV among young people in the region continued to be alarmingly low: data from recent household surveys suggest that only 24% of young women aged 15–24 years and 31% of young men of the same age had comprehensive and correct knowledge of how to prevent HIV.

## Trends in comprehensive, correct knowledge of HIV among young men and women (ages 15–24 years), western and central Africa, 2000–2008 to 2009–2014



Source: Population based surveys 2000–2014.

Western and central Africa also had poor educational outcomes more generally, especially for adolescent girls. School completion rates continued to be very low. The United Nations Children’s Fund estimates that 18.8 million children in the region were not in school (4). Girls were particularly disadvantaged: just over half (54%) of young women aged 15–24 years in the region are literate (4).

Although there is a lack of reliable age- and sex-disaggregated data on adolescents’ and young people’s sexual and reproductive health in the region, available evidence indicates a significant gap in service availability. The lack of targeted, youth-friendly HIV prevention services for young people and adolescents was due to systemic factors, including insufficiently trained health workers; legal factors, including restrictive laws and regulations, such as on the age of consent; and social factors, including a cultural perception of adolescents and young people as sexually inactive children, all of which creates a barrier to their involvement in decision-making around their sexual health. Population growth among young people and adolescents in western and central Africa was also the highest in the world (5), creating an additional burden on health and education services. Urgent attention must be paid to prevention-related solutions that can be scaled up easily.



Additional efforts are needed to reach men in this region with HIV prevention messages and behaviour change initiatives that promote gender equality.

### Key populations

Key populations were prioritized in HIV responses across the region, with almost all countries carrying out size estimations, programmatic mapping and integrated biological behavioural surveys to improve and tailor programmes.

There were also a number of regional programmes providing multi-country combination prevention solutions. The Abidjan-Lagos Corridor Organization provided sex workers, men who have sex with men, people who inject drugs and truck drivers in Côte d'Ivoire, Ghana, Togo, Benin and Nigeria with behavioural change communication, condoms and lubricants, testing, management of sexually transmitted infections, and referral to treatment. The *Projet Frontières et Vulnérabilités au VIH en Afrique de l'Ouest* (Project on Borders and Vulnerability to HIV in West Africa) provided men who have sex with men and sex workers in Burkina Faso, Cabo Verde, Gambia, Guinea, Guinea-Bissau, Mali, Niger and Senegal with capacity-building initiatives, awareness-raising, testing and treatment. The Regional HIV/AIDS Prevention Project in Western and Central Africa (PACTE – VIH) provided female sex workers and their clients and men who have sex with men in Burkina Faso and Togo with comprehensive prevention and support, an enabling environment and technical assistance. The Health Policy Project provided sex workers and men who have sex with men in Benin, Burkina Faso, Cameroon, Côte d'Ivoire, Guinea, Mali, Mauritania, Niger and Togo with an enabling environment for evidence-based programming. Needle and syringe programmes and opioid substitution therapy are only nationally available in Senegal.

### Condom programmes

Condom programmes were a priority prevention intervention across the region. Social marketing, including through civil society organizations and in health facilities, was the main strategy for distribution. Few countries had comprehensive condom programming plans, however, and often where they did exist they were not implemented.

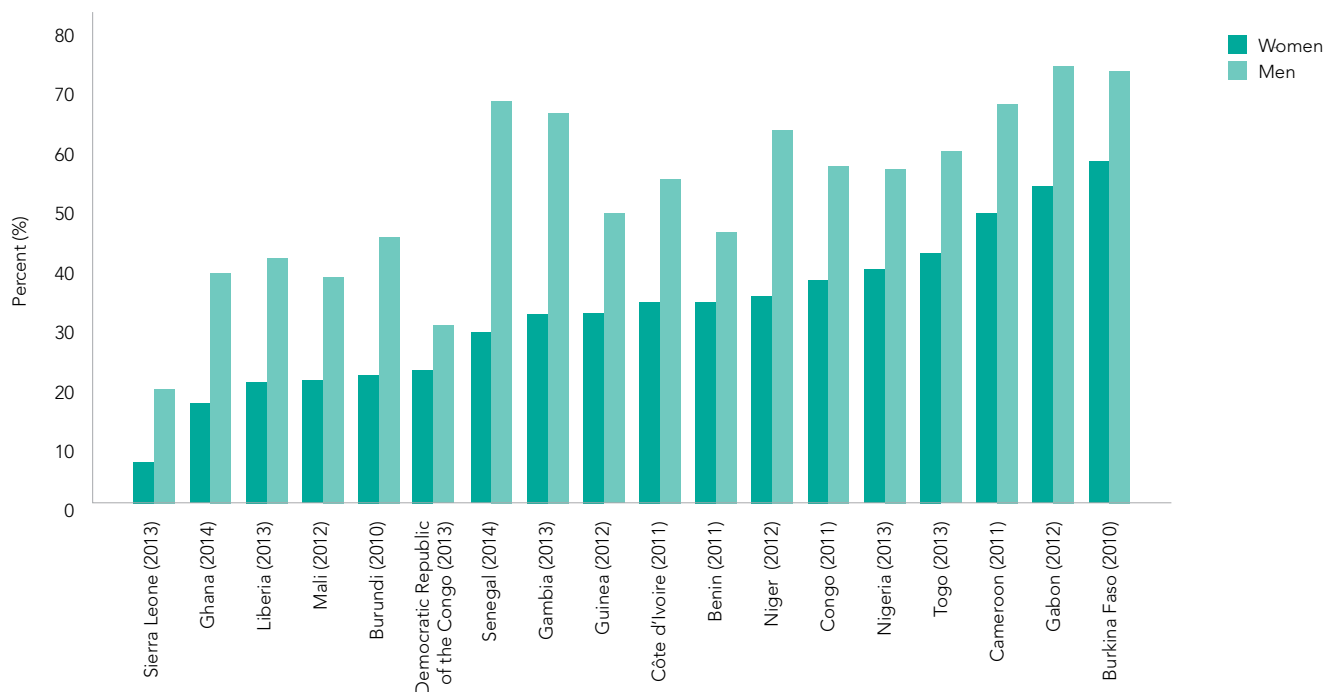
Available data for 2010–2014 from 18 countries indicated that condom use at last sex with a non-marital, non-cohabiting partner was higher among men than among women (6). Most countries in the region reported having more than 80% condom use at last sex among sex workers in 2013–2015.

The most recently available survey data suggested that condom use among female sex workers remained high within most countries in the region, while among men who have sex with men it varied between 32% in Sierra Leone and 85% in Benin.

### Viral suppression

Viral suppression in the region is very low due to low testing uptake and low antiretroviral coverage. An estimated 36% [30–44%] of people living with HIV in western and central Africa in 2015 knew their HIV status, and about 28% [23–34%] were on antiretroviral therapy. Achieving the 90–90–90 target in 2015 required

## Percent of women and men (aged 15–49 years) using a condom at last sexual intercourse with a non-marital partner in the year before the survey, most recent data, 2010–2014



Source: Demographic and Health Surveys, 2010–2014.

## Condom use at last sexual intercourse among gay men and other men who have sex with men, western and central Africa, most recent data, 2012–2015

<50%	50%-75%	>75%
Burundi	Senegal	Benin
Central African Republic	Cape Verde	Burkina Faso
Gambia	Congo	Cameroon
Guinea	Côte D'Ivoire	Democratic Republic of Congo
Liberia	Ghana	Mali
Sierra leone	Nigeria	
Togo		

Source: 2016 Global AIDS Response Progress Reporting.

diagnosing more than 3.5 million people living with HIV who did not know their HIV status, starting an additional 3.4 million people on antiretroviral therapy, and ensuring an additional 3.9 million people living with HIV achieved viral suppression. As a result of these gaps, only 12% [10–15%] of all people living with HIV in western and central Africa had achieved the viral suppression necessary to prevent HIV transmission. However, viral suppression data in the region are extremely limited. Only 2% of the total population of people living with HIV on antiretroviral therapy had a viral load testing result.

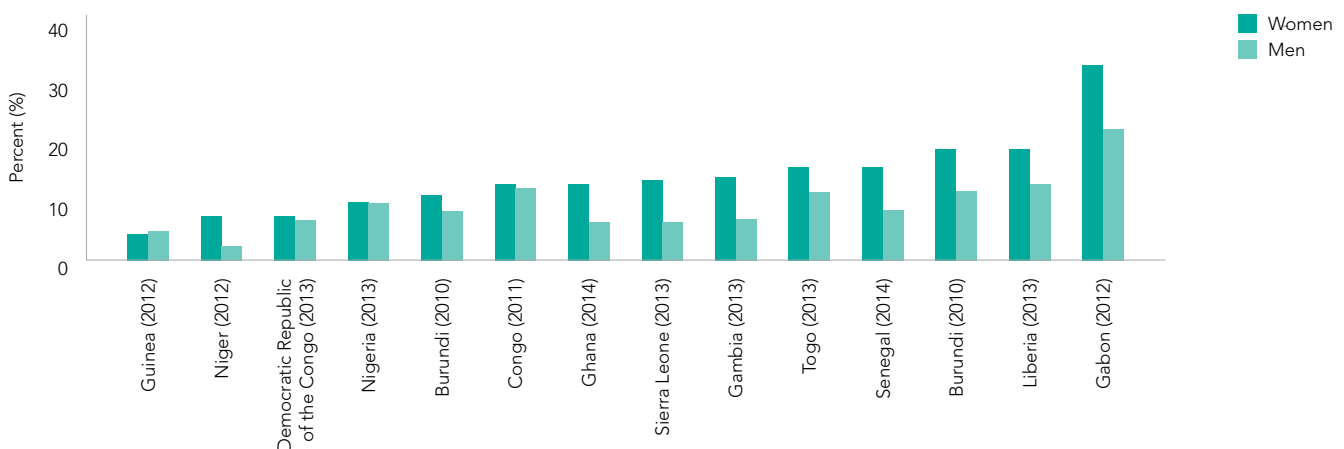
Most countries in the region implemented provider-initiated testing and counselling in health facilities targeting the general population. The most recently available survey data suggest that uptake of HIV testing services in the general population is low, and that more women than men, and more adults aged 25 years and older than young people, know their status. By contrast, the involvement of civil society organizations and the use of peer-led community approaches led to relatively high testing coverage among female sex workers, with the majority of countries having coverage of 60% or above.

## Challenges

### Human rights

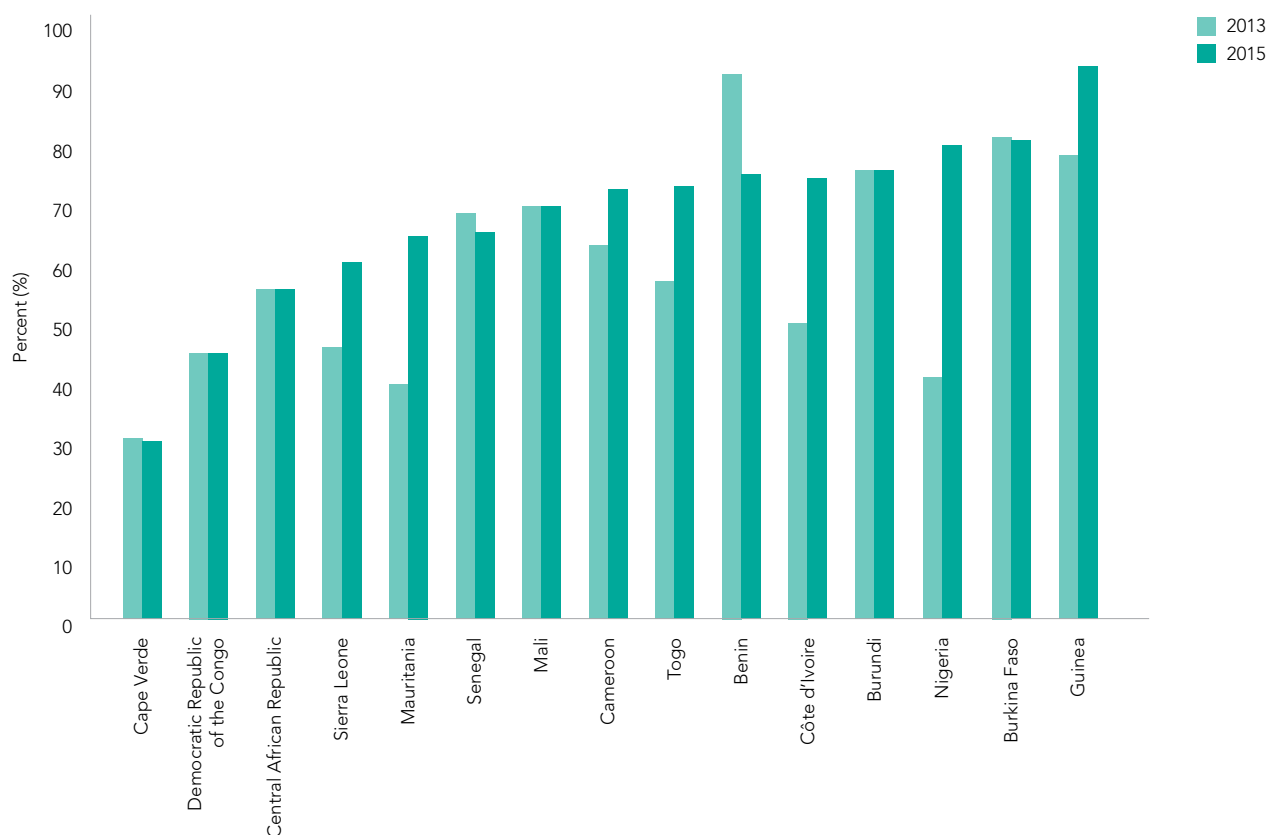
Data from 16 People Living with HIV Stigma Index surveys conducted in the region between 2011 and 2015 showed that stigma and discrimination against people living with HIV remained high. People living with HIV reported verbal violence in the form

### Percent of men and women (aged 15–49 years) who received an HIV test and the results in the year before the survey, most recent data, 2010–2014



Source: Demographic and Health Surveys, 2010–2014.

## HIV testing coverage among female sex workers, western and central Africa in 2013 and 2015



Source: 2016 Global AIDS Response Progress Reporting.

of insults, harassment and threats, with the proportion who had suffered ranging from 15% in Sierra Leone to 70% in Cameroon.

Many people also reported being forced to change their place of residence or being unable to rent accommodation (53% of those interviewed in the Democratic Republic of the Congo, 12% in Ghana, 10% in Mali). People had been denied access to health services and reproductive health services because of their HIV status, with the proportion of interviewees reporting such discrimination ranging from 1% in Benin to 21% in Nigeria. The proportion of people living with HIV who reported self-stigmatizing ranged from 16% in Chad to 67% in Liberia.

Using the Stigma Index data to inform national action plans to reduce stigma and discrimination at national and regional levels was also a challenge. Although Burkina Faso, Côte d'Ivoire, Guinea-Bissau and Niger had begun to implement the recommendations of their national Stigma Index surveys, funding was limited.

### Women and girls

Gender assessments of national epidemics and responses were conducted in Burundi, Burkina Faso, Cameroon, Chad, Democratic Republic of the Congo, Gabon,

Nigeria and Senegal. These reinforced that women and girls in the region are more vulnerable to HIV—in part due to laws and policies that maintain traditional gender roles—and that women in key populations had limited access to services.

Rates of gender-based violence were high: 9.3% of ever-married or partnered women in Burkina Faso (and over 40% of female sex workers), 31.4% in Cameroon and 31.5% in Gabon had experienced physical and/or sexual violence from an intimate partner in the previous 12 months.

The responsiveness of HIV programmes and strategies to women's needs was uneven. HIV-related data were often not disaggregated by sex, age, sexual orientation or gender identity. Although Nigeria had several strategies on gender equality and HIV, budget allocations for these interventions were less than 1% of the total expenditure on HIV. Innovative HIV testing strategies are needed, including self-testing options, community-based testing, provider-initiated testing and counselling for priority groups. These strategies should be informed by epidemiological data, should include case-finding via family-centred approaches and a special focus on men.

## Opportunities

### Fast-Track Cities initiative

Nine of the 15 cities identified in the region as priorities for the Fast-Track Cities initiative (Abidjan, Abuja, Accra, Cotonou, Douala, Lagos, Libreville, Lomé, Yaoundé) were implementing city action plans on HIV. Abidjan, Bamenda, Douala and Yaounde conducted mapping exercises to identify hotspots for sex work and access of sex workers to treatment and prevention of mother-to-child transmission services. In Benin and Togo, other cities were also involved in the initiative. Over 200 mayors in the region had signed the Paris Declaration on HIV and committed to ending the AIDS epidemic as a public health threat in cities by 2030.

As part of these efforts, tripartite memoranda of understanding were signed in 2015 between Microsoft, the Global Alliance of Mayors and Leaders of Africa and of African Descent and the Accra Metropolitan Assembly and Senegalese Mayors' Association. Microsoft's CityNext programme aims to assist cities in building "centres of excellence" and in the remote provision of clinical services, and to support e-learning, e-citizen and e-health initiatives. The programme will also enable cities to reduce costs without reducing services and provide real-time information to improve services and involve citizens (7). The overall goal of the initiative is to contribute to more sustainable, secure, smart and healthy cities in which every individual and every company will do better.

### Improving the efficiency and sustainability of HIV programmes

Western and central African countries, with their diverse epidemics and responses, and in the context of declining international resources, worked with international partners to improve HIV programmes efficiency, effectiveness and sustainability.

Pilots of innovative financing mechanisms, such as taxes on imports, tobacco, transport, hotels and tourism and levies on telephone calls, were undertaken. Studies

were established in Burundi, Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Ghana, Nigeria and Togo using the United States President's Emergency Plan for AIDS Relief (PEPFAR) Sustainability Index and Dashboard and the UNAIDS investment approach to establish a baseline from which to measure national progress towards sustainable HIV responses.

Côte d'Ivoire, Senegal and Togo conducted modelling exercises of their epidemics and responses, which informed realignments of their national strategic plans and oriented resources to achieve the 90–90–90 treatment target. Nigeria began developing investment cases for its six most affected states to mobilize domestic resources and make state-level responses more effective. Other actions to improve the use of funds in the region included prioritizing interventions in locations and for populations where they would have the most impact.



# ASIA AND THE PACIFIC

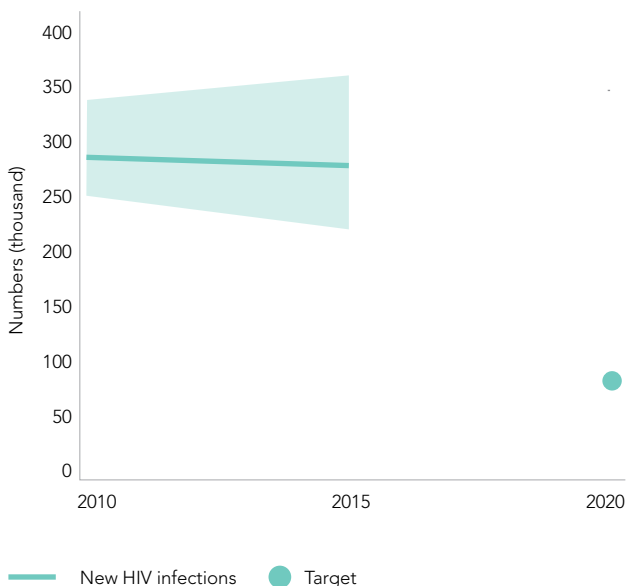
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Asia and the Pacific has the second highest number of people living with HIV in the world. The region's HIV epidemic is concentrated among key populations and their intimate partners. Progress in reducing new HIV infections has slowed in recent years, and there are rising epidemics in some countries. Insufficient coverage of harm reduction services threatens further progress. Condom use was low among gay men and other men who have sex with men in several countries, and across the region among people who inject drugs. Prevention programmes often struggle to reach young key populations. Other challenges include the criminalization and incarceration of key populations, stigma and discrimination (particularly in health-care settings), lack of innovation in service delivery models, slow pace of introducing new technologies, and strong dependence on international financing for effective prevention measures.



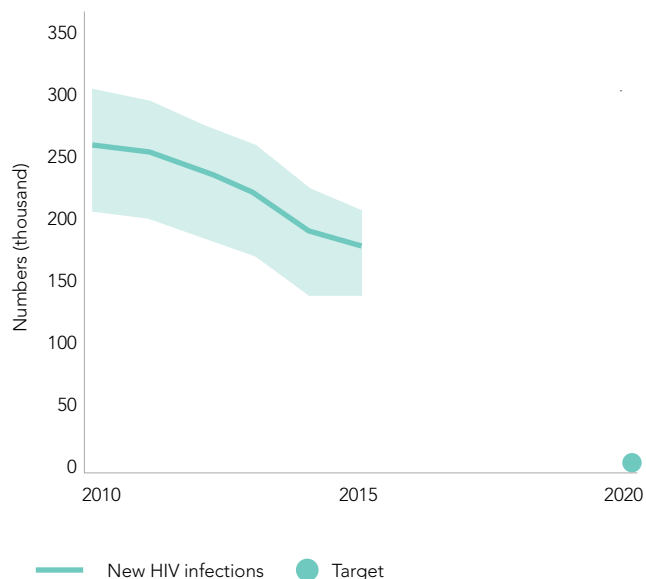
## TRENDS AND TARGETS

New HIV infections among adults (aged 15 years and older), Asia and the Pacific, 2010–2015



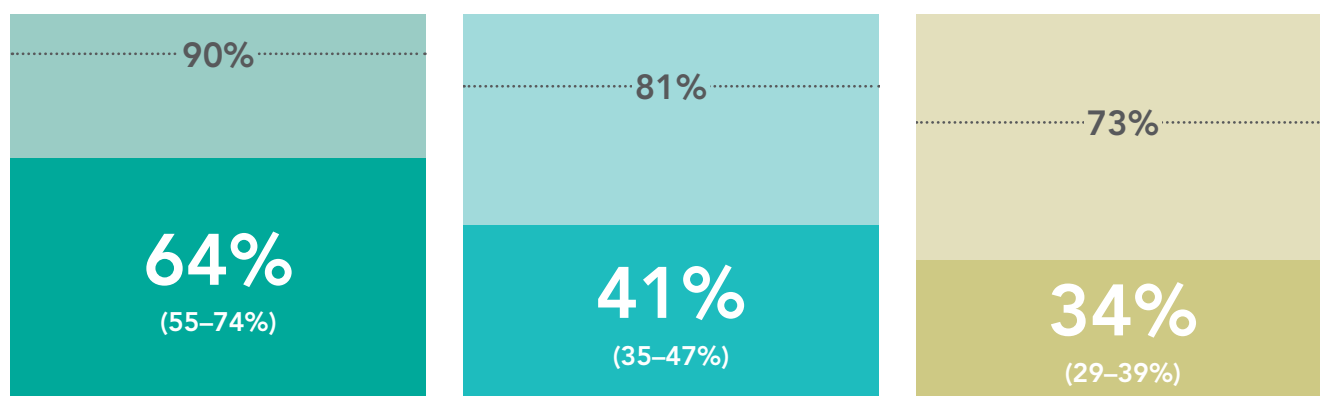
Source: UNAIDS 2016 estimates.

New HIV infections among children (aged 0–14 years), Asia and the Pacific, 2010–2015



Source: UNAIDS 2016 estimates.

Progress towards the 90–90–90 target, Asia and the Pacific, 2015



Percentage of people living with HIV who know their HIV status<sup>1</sup>

Percentage of people living with HIV who are on antiretroviral treatment

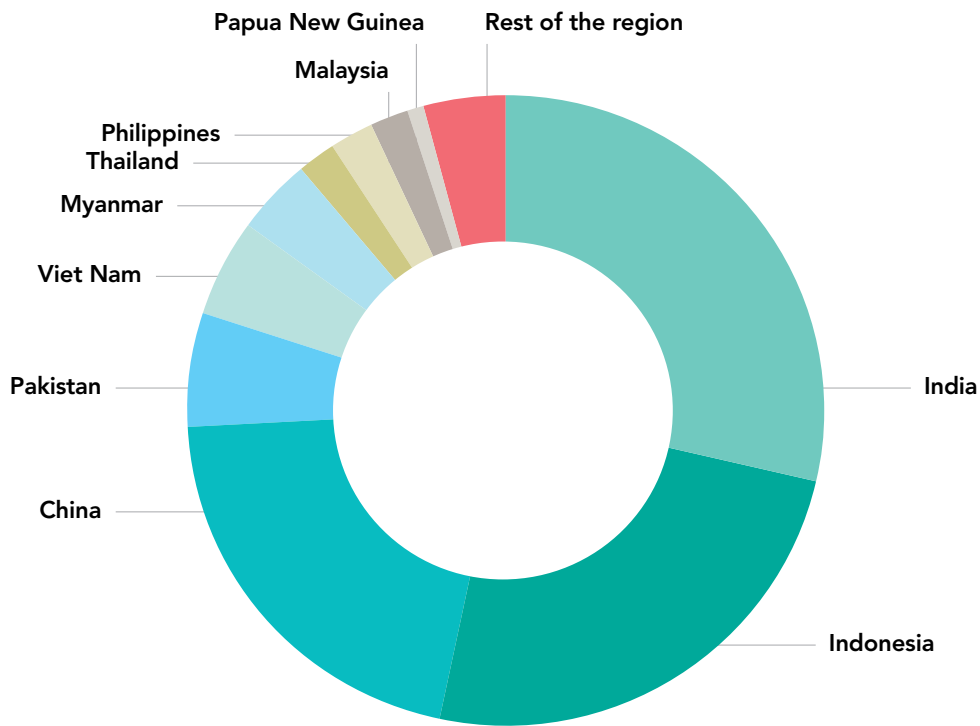
Percentage of people living with HIV who are virally suppressed<sup>2</sup>

<sup>1</sup> 2015 measure derived from data reported by 16 countries, which accounted for 93% of people living with HIV in the region.

<sup>2</sup> 2015 measure derived from data reported by 15 countries. Regionally, 29% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period

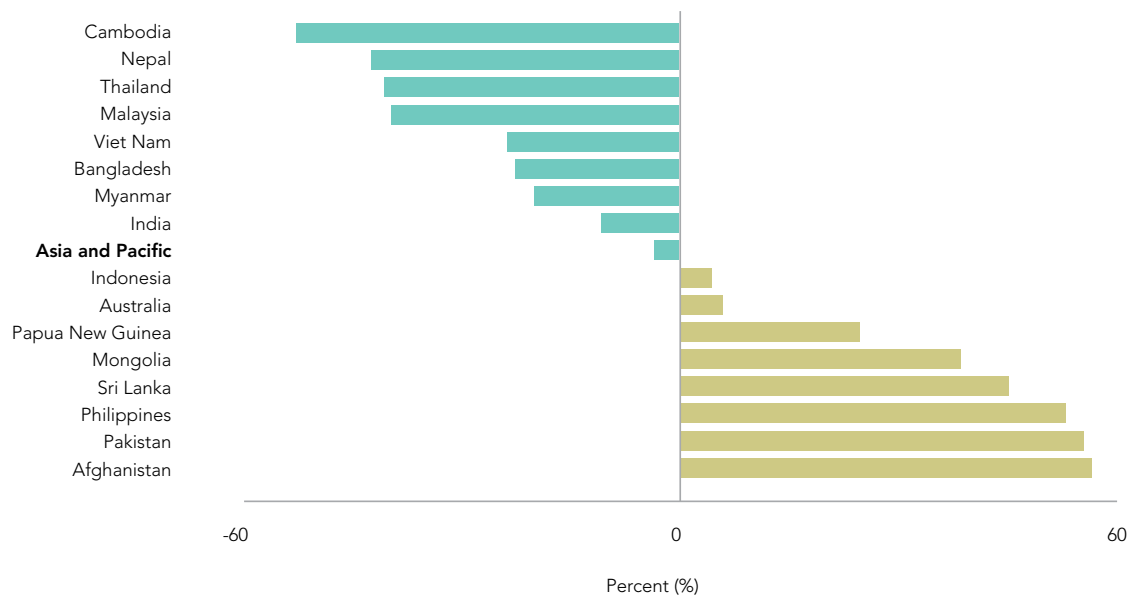
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Distribution of new HIV infections by country, Asia and the Pacific, 2015



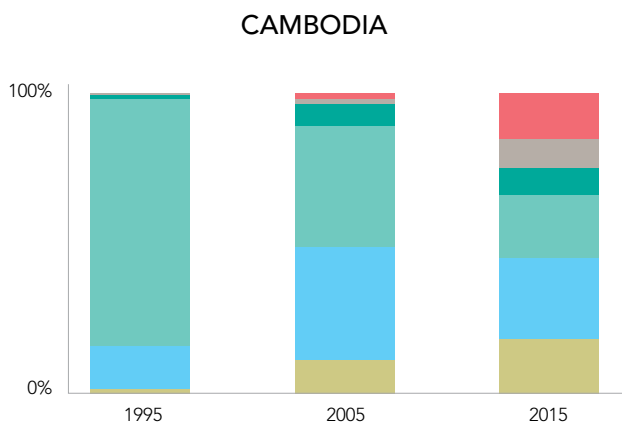
Source: UNAIDS 2016 estimates.

## Percent change in new HIV infections among adults (aged 15 years and older), Asia and the Pacific, from 2010 to 2015

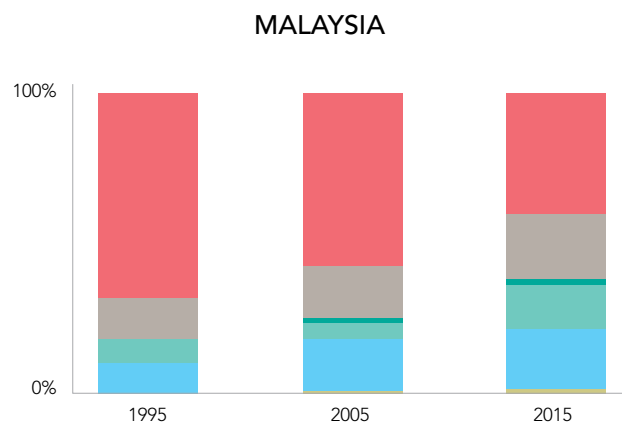


Source: UNAIDS 2016 estimates.

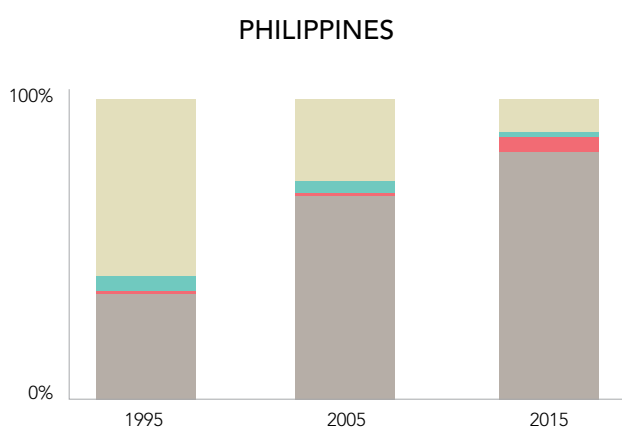
## Distribution of new HIV infections by mode of transmission, select countries, Asia and the Pacific, 1995, 2005 and 2015



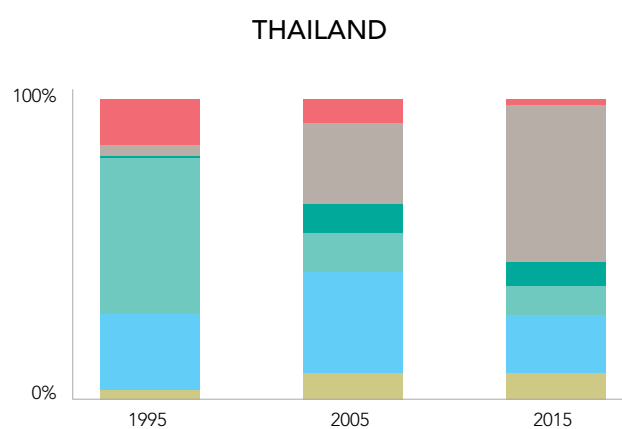
Source: Cambodia AIDS Epidemic Model (AEM) - Spectrum 2016, submitted for the Global AIDS Response Progress Reporting and HIV Estimation 2016.



Source: Ministry of Health Malaysia. (2015). AIDS Epidemic Model Malaysia (1980–2030).



Source: National HIV and STI Surveillance and Strategic Information Unit, National Epidemiology Center, Department of Health, Philippines. (2016). Philippines HIV Estimates 1990–2015.



Source: Thailand Working Group on HIV/AIDS Projection (2015).

- Casual sex\*
- Husband-to-wife\*\*\*
- Male-to-male sex
- Remaining population
- Sex work\*\*
- Wife-to-husband\*\*\*\*
- Use of non-sterile injection equipment

\*heterosexual casual sex among general population

\*\*female sex workers and clients

\*\*\*spousal transmission from husband living with HIV to wife (serodiscordant couple)

\*\*\*\*spousal transmission from wife living with HIV to husband (serodiscordant couple)

## The HIV epidemic in Asia and the Pacific

Asia and the Pacific is the region with the second highest number of people living with HIV in the world, with an estimated 5.1 million [4.4–5.9 million] people in 2015. Within the region, women accounted for 36% of all adults living with HIV.

There were an estimated 300 000 [240 000–380 000] new HIV infections in the region in 2015, with young people aged 15 to 24 years accounting for 37% of all new HIV infections.

Asia and the Pacific has made progress in reducing new infections, with a 5% decline between 2010 and 2015. An encouraging decline in new HIV infections among children also was registered: 30% between 2009 and 2015. Reductions in new infections are occurring more slowly than they did over the previous 10 years, however, and this is concerning.

While the decline in new infections was significant in many countries that have mature epidemics (such as Cambodia, India and Thailand), these gains were offset by rising epidemics in other countries, such as Indonesia, Pakistan and the Philippines. Ten countries—China, India, Indonesia, Malaysia, Myanmar, Pakistan, Papua New Guinea, the Philippines, Thailand and Viet Nam—accounted for 96% of the region's new HIV infections in 2015.

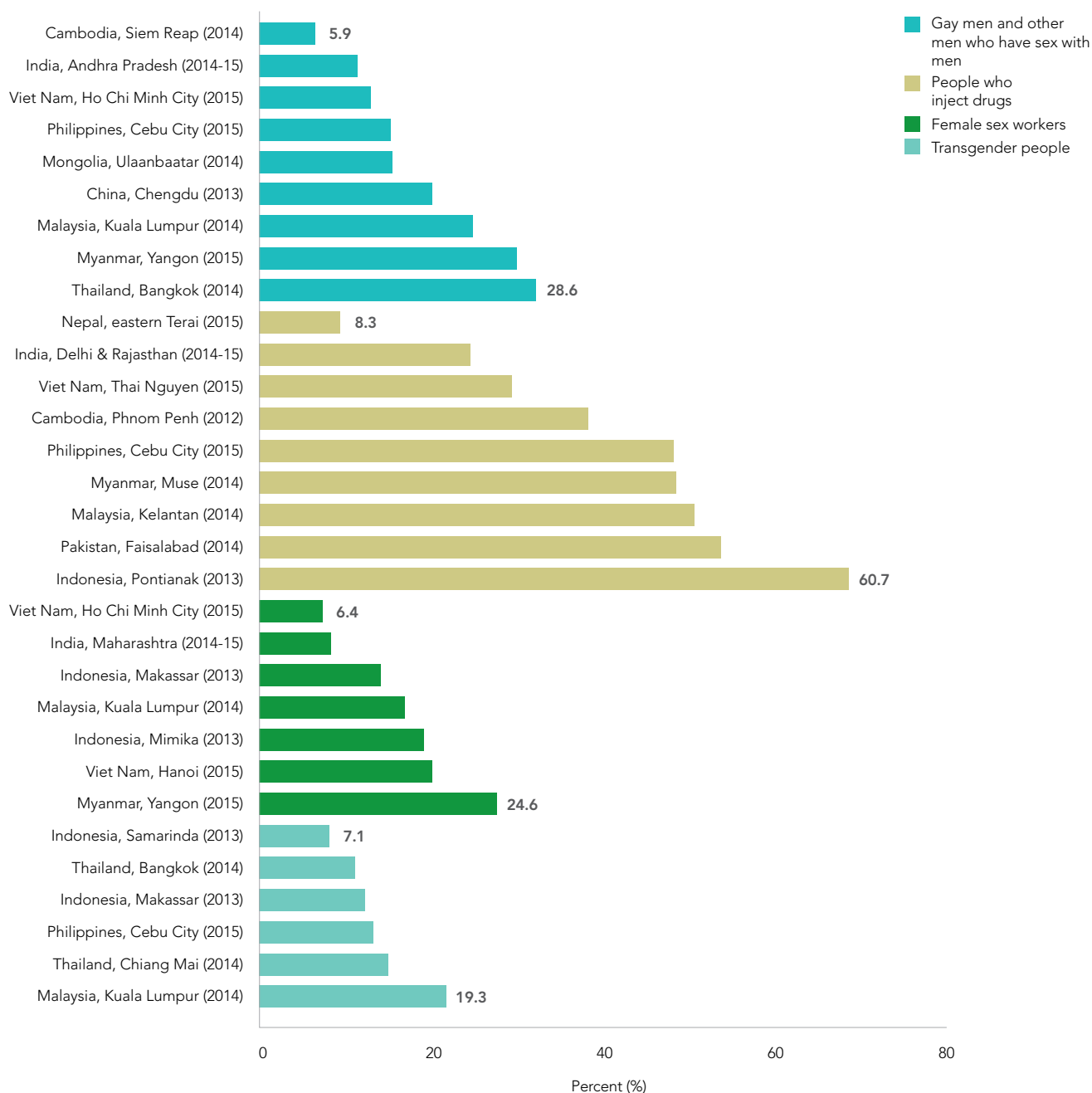
The HIV epidemic in Asia and the Pacific is concentrated among key populations (gay men and other men who have sex with men, sex workers, people who inject drugs and transgender people) and their intimate partners, and low national prevalence masks much higher prevalence in specific places, particularly urban areas. This underscores the need for a location and population approach that maximizes the impact of scarce resources.

Transmission patterns vary, both from country to country and within individual countries over time. In Malaysia and Thailand, for example, the percentage of new infections through injecting drug use steadily decreased between 1995 and 2015; in the Philippines and Thailand, the percentage of new infections through male-to-male sex dramatically increased over the same period (1).

HIV prevalence among female sex workers was over 5% in three of the 21 countries that provided data (Indonesia, Malaysia and Myanmar). In urban areas, HIV prevalence was much higher: in Ha Noi, Viet Nam, it was 18% (almost seven times the national average), and in Yangon, Myanmar, it was 25% (almost twice the national average). National HIV prevalence among male sex workers was higher than 5% in three of the eight countries that provided data between 2012 and 2015 (Indonesia, Nepal and Thailand).

HIV prevalence among gay men and other men who have sex with men in 2015 was higher than 5% in nine of the 19 countries that reported data. HIV prevalence was particularly high in many cities and urban areas: it was 28.6% in Bangkok (Thailand), 26.6% in Yangon (Myanmar) and 20.3% in Yogyakarta (Indonesia).

## HIV prevalence among key populations, select geographical locations in Asia and the Pacific, most recent data, 2013-2015



Source: HIV sentinel surveillance reports and integrated biological and behavioural surveillance reports and 2016 Global AIDS Response Progress Reporting.

HIV prevalence among young gay men and other men who have sex with men (aged 15 to 24 years) was higher than 5% in six of the 13 countries that provided data. High incidence of HIV among young gay men and other men who have sex with men in urban areas also is a concern. Findings from an HIV incidence cohort study in China indicate that the incidence of HIV among young men who have sex with men (aged 18 to 25 years) was as high as 18.9, 10.6 and 5.6 per 100 person years in Guiyang, Beijing and Shanghai, respectively (2). Similarly, a study in Bangkok showed an overall high HIV incidence among younger cohorts of men who have sex with men compared to their older peers: HIV incidence was 8.8 per 100 person years among those aged 18 to 21 years and 3.7 per 100 person years among men over 30 years of age (3).

Asia and the Pacific is home to one third of the world's population of people who inject drugs, and 14% of all people who are living with HIV (4). In 2015, national HIV prevalence among people who inject drugs was higher than 5% in 11 of the 15 countries that provided data; among young people who inject drugs (those aged 15 to 24 years), national HIV prevalence was over 5% in four of the ten countries that provided age-disaggregated data. The incarceration rate of people who inject drugs is very high and they represent an important part of the prison population. For example, in Indonesia, with HIV prevalence among prisoners reported at 3%, a survey among prisoners incarcerated for drug-related crimes, showed that more than one-third had injected heroin. (5)

There were geographical areas with extremely high HIV prevalence among people who inject drugs in the region: Kota Pontianak, Indonesia (60.7%); Faisalabad, Pakistan (47.4%); Kelantan, Malaysia (44.7%); Muse, Myanmar (43%); and Cebu City, Philippines (42.8%). In Afghanistan, Myanmar, Pakistan and Viet Nam, people who inject drugs accounted for 20–65% of all new HIV infections among adults aged 15 to 49 in 2015 (6).

Data on national HIV prevalence among transgender people remain limited, but available subnational data indicate high HIV prevalence in certain locations, for example, 30.8% in Jakarta, Indonesia and 19.3% in Kuala Lumpur, Malaysia.

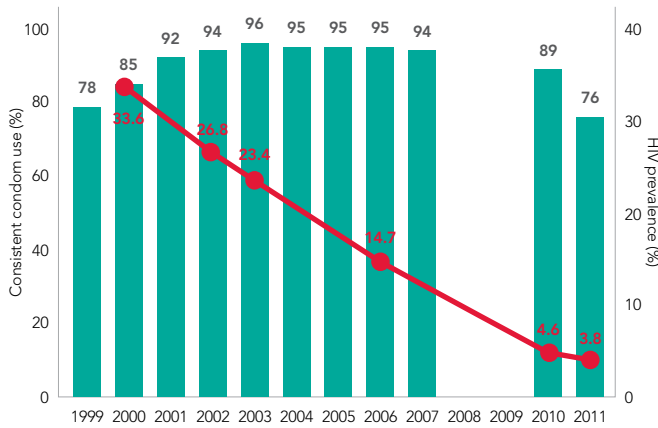
## Progress and gaps in prevention

### Key populations

There are multiple challenges to reaching sex workers with HIV prevention services, including migration and mobility, a shift towards online and freelance sex work, drug use (including injecting drug use), and punitive laws, policies and law-enforcement approaches. These factors increase vulnerability to violence and HIV among sex workers. Despite these challenges, behavioural surveys show that condom use at last commercial sex by female sex workers reached a median of 81% in Asia and the Pacific, with five countries surpassing 90%. High condom use correlates with reports of declining HIV infections among sex workers in the region.

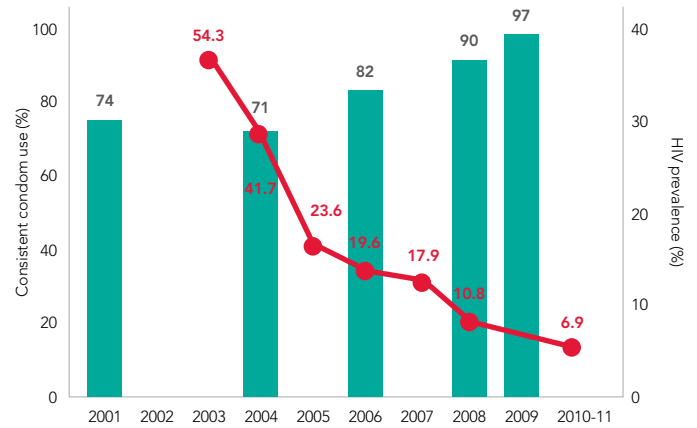
# Scaled up combination prevention can increase consistent condom use and reduce HIV infections among female sex workers

CAMBODIA, 1999–2011



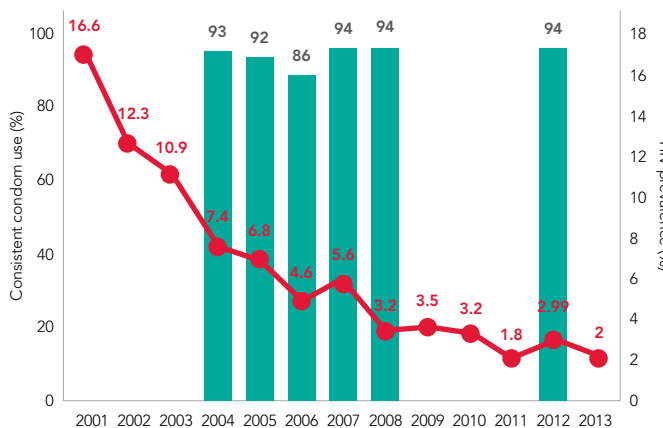
Consistent condom use with clients during the last week  
 HIV prevalence

MAHARASHTRA, INDIA, 2001–2011



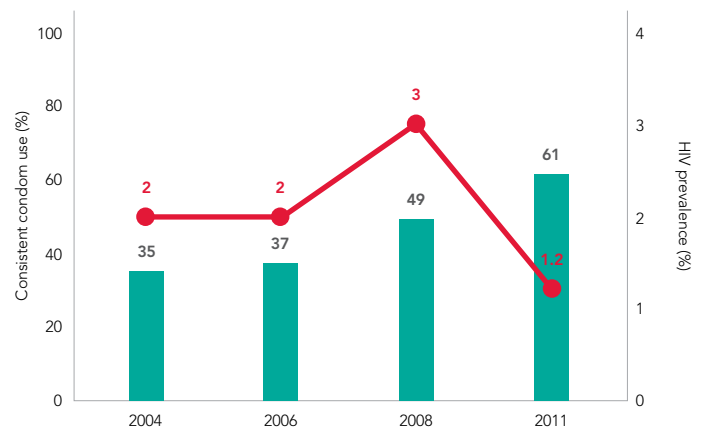
Consistent condom use with clients during the last week  
 HIV prevalence

THAILAND, 2000–2013



Consistent condom use with clients during the last week  
 HIV prevalence

POKHARA, NEPAL, 2004–2011



Consistent condom use with clients during the last week  
 HIV prevalence

## HIV testing among key populations, Asia and the Pacific, most recent data, 2010–2015

<50%	50% - 75%	>75%
<b>PEOPLE WHO INJECT DRUGS</b>		
Afghanistan Australia Cambodia Indonesia Malaysia Myanmar Nepal Pakistan Philippines Sri Lanka Viet Nam	Bangladesh China India Thailand	
<b>FEMALE SEX WORKERS</b>		
Afghanistan Bangladesh Fiji Indonesia Lao People's Democratic Republic Malaysia Myanmar Pakistan Philippines Sri Lanka Vanuatu Viet Nam	Cambodia China Mongolia Nepal Thailand	India
<b>MALE SEX WORKERS</b>		
Pakistan Papua New Guinea Philippines	Bangladesh Nepal Thailand	
<b>GAY MEN AND MEN WHO HAVE SEX WITH MEN</b>		
Afghanistan Bangladesh Japan Lao People's Democratic Republic Malaysia Nepal New Zealand Philippines Singapore Sri Lanka Thailand Viet Nam	Australia China India Indonesia Mongolia Myanmar Papua New Guinea	Cambodia

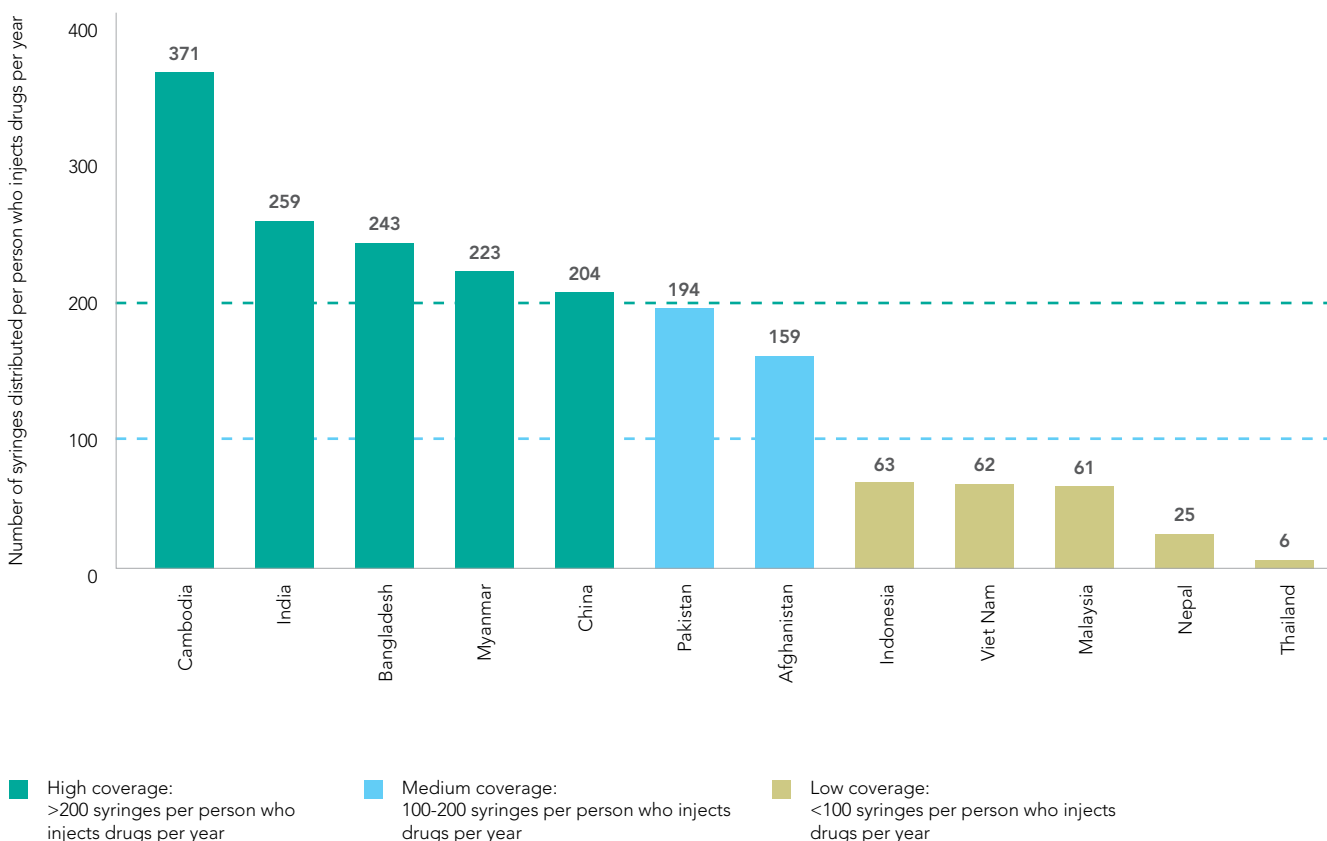
Source: 2016 Global AIDS Response Progress Reporting.



Behavioural surveys in the region indicate that around half of the surveyed gay men and other men who have sex with men were under 25 years of age. Compared to their older counterparts, fewer young men who have sex with men were being reached by HIV prevention programmes, fewer had access to HIV testing services and fewer were using condoms. Overall, 62% of men used a condom at last anal sex with a man (regional median). No country reported condom use at 90% or higher, although five countries—Cambodia, China, India, Nepal and Thailand—reported condom use over 80%. In Afghanistan, only 17% of men reported using a condom at last anal sex with a man.

Overall, 85% of people who inject drugs (regional median) reported use of sterile injecting equipment at last injection; over 80% reported safe injecting practices in nine of the 15 responding countries. In several countries where HIV prevalence is high among people who inject drugs, the coverage of needle–syringe programmes was still low, with fewer than 100 clean needles and syringes provided per person in need per year.

### Sterile injecting equipment distributed by harm reduction programmes, Asia and the Pacific, most recent data, 2014–2015



Source: 2016 Global AIDS Response Progress Reporting; UNAIDS. Do No Harm - Health, Human Rights and People who Use Drugs (2016).

Available data on opioid substitution therapy programmes indicate low coverage in 2015. In the eight countries that reported data (Afghanistan, Bangladesh, Cambodia, India, Indonesia, Malaysia, Myanmar and Viet Nam), an estimated 120 000 people who used drugs were enrolled in opioid substitution therapy, with coverage ranging from 0.5% of people who inject drugs in Afghanistan to 24% in Malaysia.

Opioid substitution therapy is available in prisons in Indonesia and Malaysia and one Indian prison. Needle and syringe programs are not available in any prison in the region.

For the region as a whole, only 55% of people who inject drugs reported using a condom the last time they had sex.

### Viral suppression

An estimated 64% [55–74%] of people living with HIV in Asia and the Pacific in 2015 knew their HIV status, and about 41% [35–47%] of those who knew their status were on antiretroviral therapy. Considerable gaps in the treatment cascade remained in many countries. Achieving the 90–90–90 target by 2020 requires diagnosing 1.3 million people living with HIV who do not know their HIV status, starting an additional 2 million people on antiretroviral therapy and ensuring that an additional 1.9 million people living with HIV achieve viral suppression in the next 5 years. The gaps in diagnosis and treatment led to just 34% [29–39%] of all people living with HIV in Asia and the Pacific achieving the viral suppression necessary to prevent HIV transmission.

HIV testing data from across the region show that 1.9 million people living with HIV did not know their HIV status in 2015. Importantly, HIV testing rates remained suboptimal among key populations in many countries. Fewer than one in three people [8–73% in 15 countries] who inject drugs had tested for HIV in the past 12 months and knew the results, while about half of female sex workers [5–91% in 18 countries], male sex workers [5–68% in six countries] and men who have sex with men [14–87% in 20 countries] surveyed in the region knew their HIV status.

Out of the 39 countries in the region, just 15 reported data on viral load testing in 2015. The percentage of people among those tested who were virally suppressed ranged from 58% in Pakistan and 63% in Viet Nam, to more than 90% in Cambodia, China, Mongolia, Nepal, the Philippines and Thailand.

### Challenges

To enable Asia and the Pacific to reach its Fast-Track targets, countries must address chronic bottlenecks that continue to hamper the scale-up of effective programmes that include community members, especially those among key populations. Challenges that need to be overcome include the criminalization of key populations, stigma and discrimination (particularly in health care settings), a lack of innovation in service delivery models, and the slow pace of introducing and adapting new technologies at a scale that will make a difference.

A common response to drug use in the region is the confinement of people who inject drugs in compulsory treatment and rehabilitation centres. In total, 455 814 people who use drugs were incarcerated in 948 centres in seven countries in 2014. The number of people confined in these centres has decreased by only 4% since 2012 (7).

## Punitive laws in 38 countries in Asia and the Pacific that hamper the HIV response



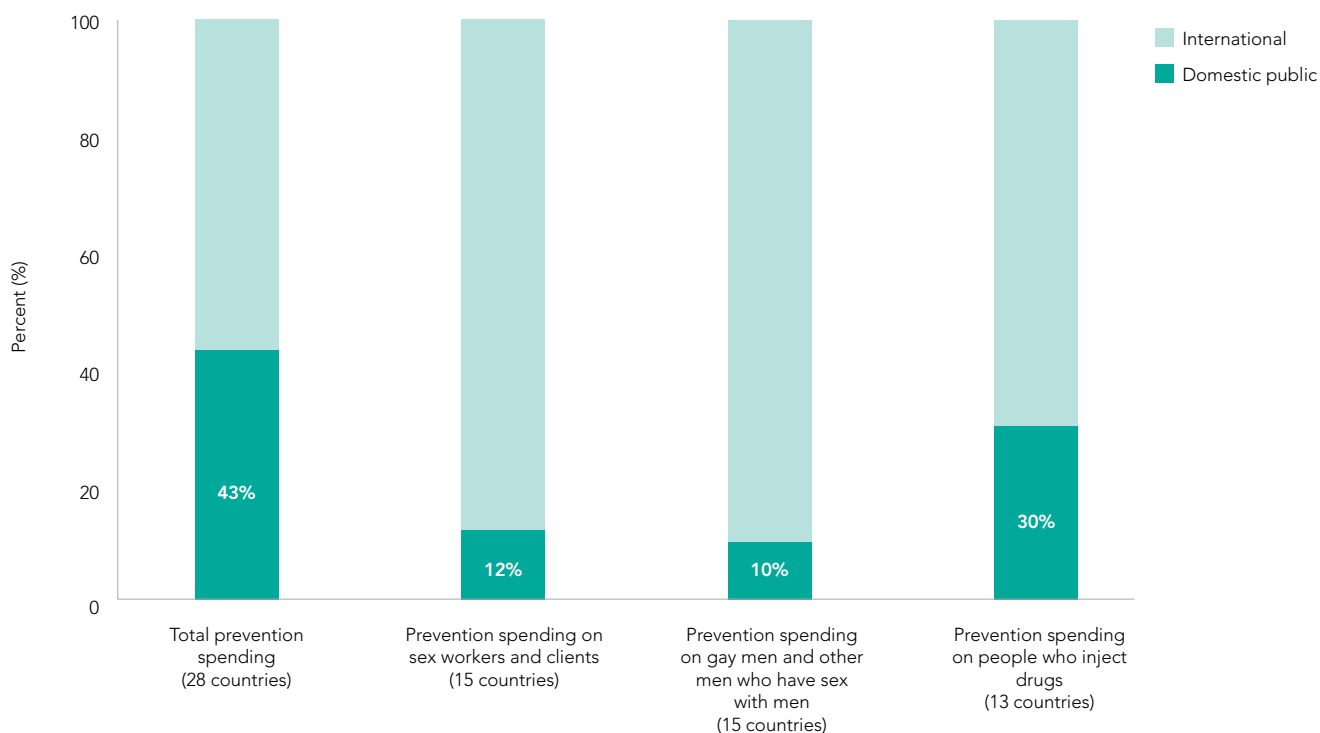
Source: UNAIDS, Punitive laws hindering the HIV response in Asia and the Pacific (as of June 2016).

## The vicious cycle of compulsory detention centres



Source: Based on Kamarulzaman A and McBrayer JL. Compulsory drug detention centres in East and southeast Asia. International Journal of Drug Policy. 2015;26(1):S33-37.

## Percent distribution of prevention spending by financing source, Asia and the Pacific, most recent data, 2009–2014



Source: 2016 Global AIDS Response Progress Reporting.

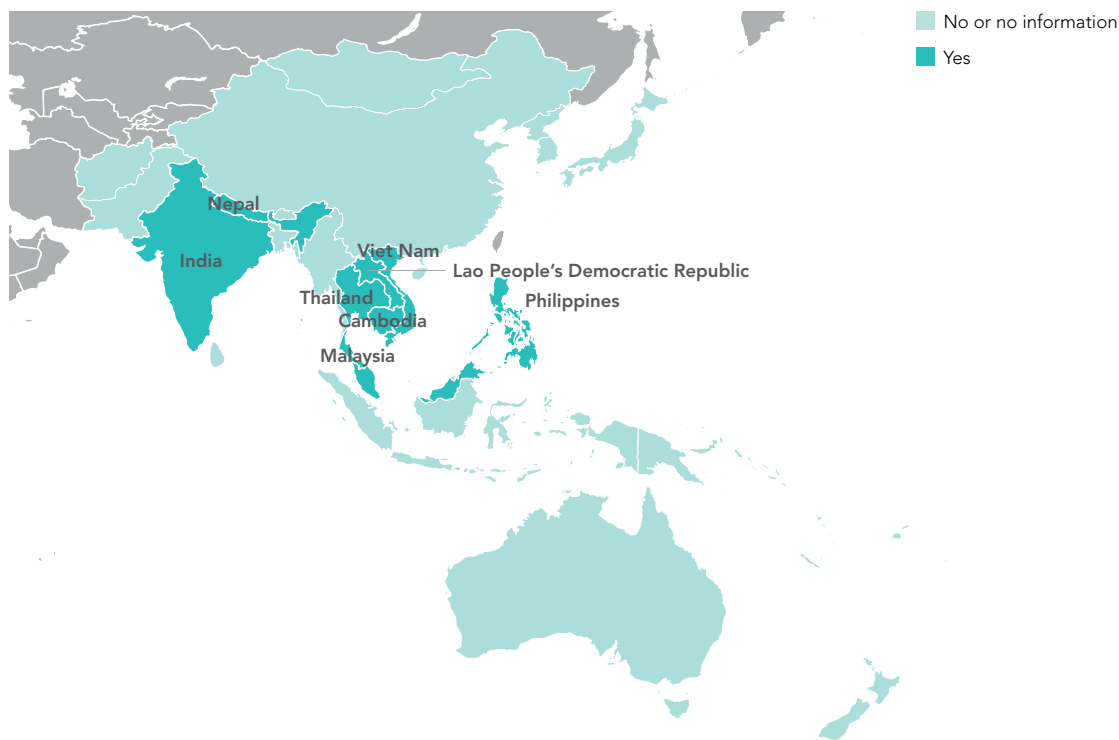
A significant proportion of key populations use social media and mobile applications to network, and national programmes are failing to implement new approaches to reaching them with effective HIV services. For example, in the Philippines in 2011, 21% of surveyed gay men and other men who have sex with men were members of social networking sites; by 2015, this had increased to 80%, and nearly 40% [16-92%] found at least one sex partner through these sites (8, 9).

In 2014, an estimated US\$ 2.4 billion was spent on HIV responses in Asia and the Pacific. The region's upper-middle-income countries were almost fully funding their responses: China (99% domestically funded), Malaysia (94% domestically funded) and Thailand (89% domestically funded). Despite this, the strong dependence on international financing for prevention—and the limited fiscal space and political will of countries to invest in effective combination prevention programmes for key populations—remains a major impediment to the response.

### Opportunities

A Fast-Track response in Asia and the Pacific will require countries to seize key opportunities. This includes introducing and scaling up new approaches and

## Countries in Asia and the Pacific where community-based HIV testing is piloted



Source: Information based on communications with national HIV programmes and UNAIDS country offices.

technologies like task-shifting, active case finding and management, reanimating combination prevention including pre-exposure prophylaxis (PrEP) and community-based treatment alternatives and services for people who use drugs, and the smart use of social media for HIV prevention.

PrEP is an additional prevention option that should be used widely in the region in conjunction with other appropriate combination prevention interventions, including sexual and reproductive health services. PrEP for gay men and other men who have sex with men is currently being piloted in five sites in Thailand, and there is an ongoing study on its use among female sex workers in India (10). The Philippines and Viet Nam also are in the process of designing pilot studies on PrEP for gay men and other men who have sex with men in Manila and Ho Chi Minh City, respectively.

In the Philippines, the community-based organization LoveYourself has implemented an innovative Platinum service that provides confidential HIV counselling and testing for young gay professional men in discreet but accessible locations, delivering the results on the same day (11).

Achieving the 90-90-90 target will require innovation and a mix of strategies to expand HIV testing for key populations and their intimate partners (including

community-based and community-led HIV testing), early treatment initiation and retention, and application of routine viral load testing. It also will require peer support across the continuum of prevention, treatment and care. Efforts to support countries to protect and use Trade-Related Aspects of Intellectual Property Rights (TRIPS) flexibilities to ensure sustained access to affordable medicines, diagnostics and commodities—including second- and third-line antiretroviral therapy regimens, and tuberculosis and hepatitis C medications—must be intensified.

It is important to promote an investment approach that supports countries in the implementation of evidence-based programming, including the development of transitional financing plans and the use of universal health coverage schemes to ensure the sustainability of the AIDS response.

The Asia–Pacific Regional Framework for Action to End AIDS by 2030—the regional framework adopted by 53 Member States of the United Nations Economic and Social Commission for Asia and the Pacific—continues to guide national efforts towards accelerating action and investment in the HIV response to end the AIDS epidemic as a public health threat by 2030.



# LATIN AMERICA AND THE CARIBBEAN

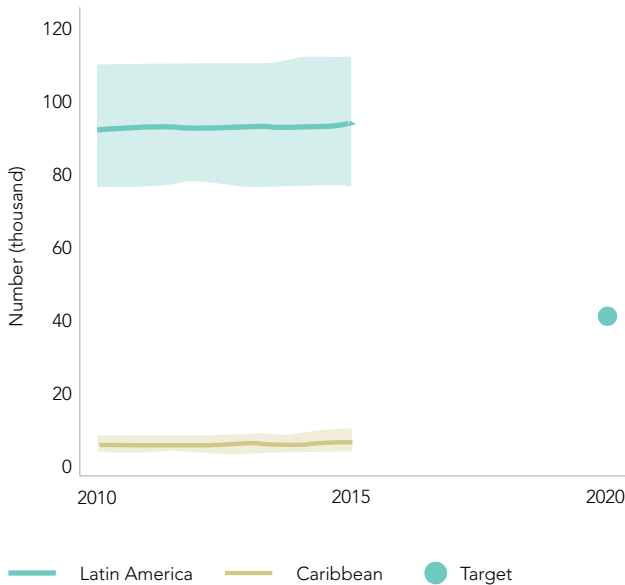
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New HIV infections among children across Latin America and the Caribbean declined as a result of strong programmes to prevent mother-to-child transmission. Among adults, however, rates of new HIV infections slowly but steadily rose by 3% between 2010 and 2015. This rise was in contrast to a sharp 20% decline during the previous decade. The HIV epidemic is concentrated among key populations, particularly gay men and other men who have sex with men. Young people in the Caribbean are also disproportionately vulnerable to HIV. Prevention is inadequately funded across the region, although some countries were beginning to implement combination prevention, including pre-exposure prophylaxis (PrEP). Other challenges include; insuring the rights of key populations, especially lesbian, gay, bisexual, transgender and intersex (LGBTI) people, are recognized; eliminating widespread discrimination in the provision of health and other social services and discriminatory and punitive laws and policies against people living with HIV; and removing barriers that prevent adolescents and young people from accessing sexual and reproductive health and HIV services and commodities.



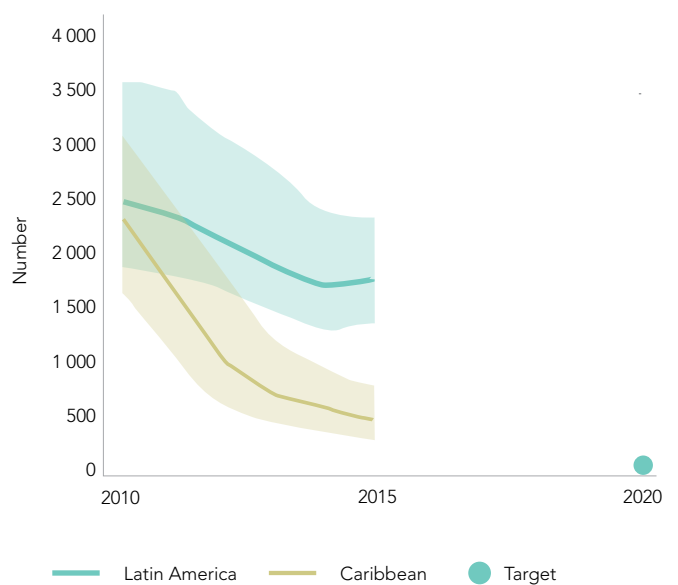
## TRENDS AND TARGETS

New HIV infections among adults (aged 15 years and older), Latin America and the Caribbean, 2010–2015



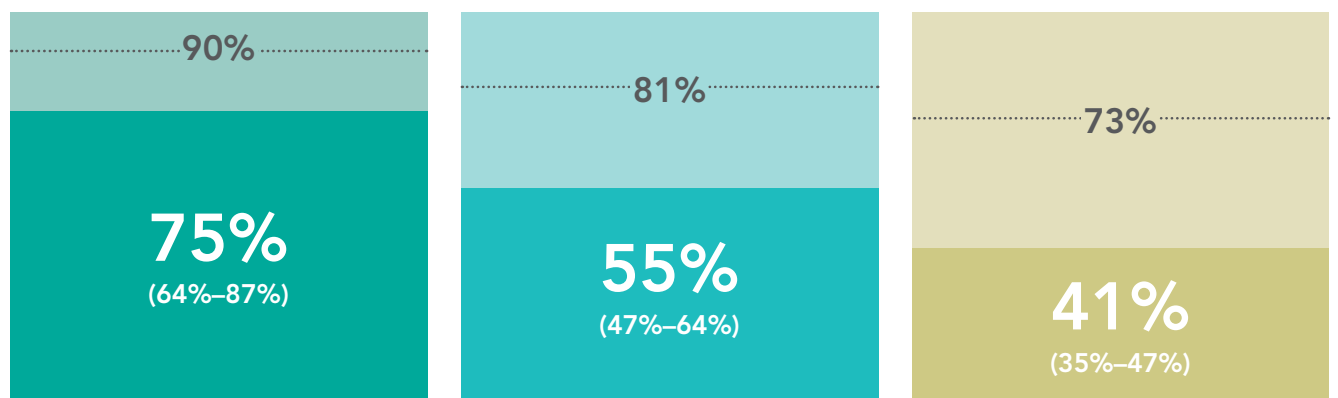
Source: UNAIDS 2016 estimates.

New HIV infections among children (aged 0–14 years), Latin America and the Caribbean, 2010–2015



Source: UNAIDS 2016 estimates.

Progress towards the 90–90–90 target, Latin America and the Caribbean, 2015



Percentage of people living with HIV who know their HIV status<sup>1</sup>

Percentage of people living with HIV who are on antiretroviral treatment

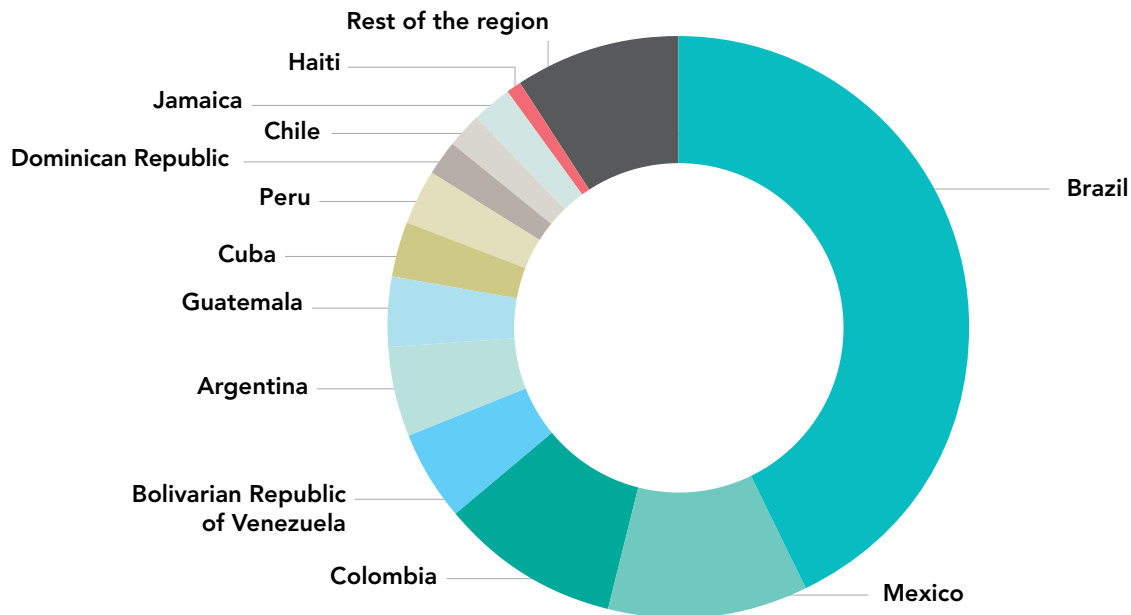
Percentage of people living with HIV who are virally suppressed<sup>2</sup>

<sup>1</sup> 2015 measure derived from data reported by 15 countries, which accounted for 76% of people living with HIV in the region.

<sup>2</sup> 2015 measure derived from data reported by 21 countries. Regionally, 77% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

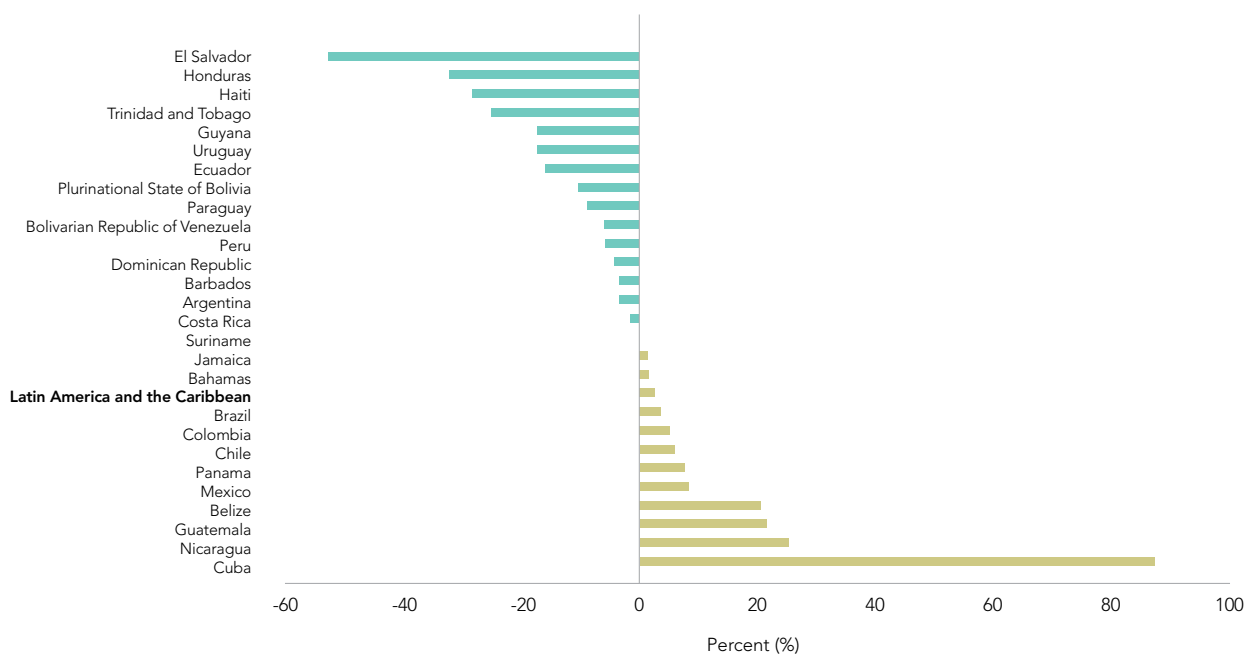
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Distribution of new HIV infections by country, Latin America and the Caribbean, 2015



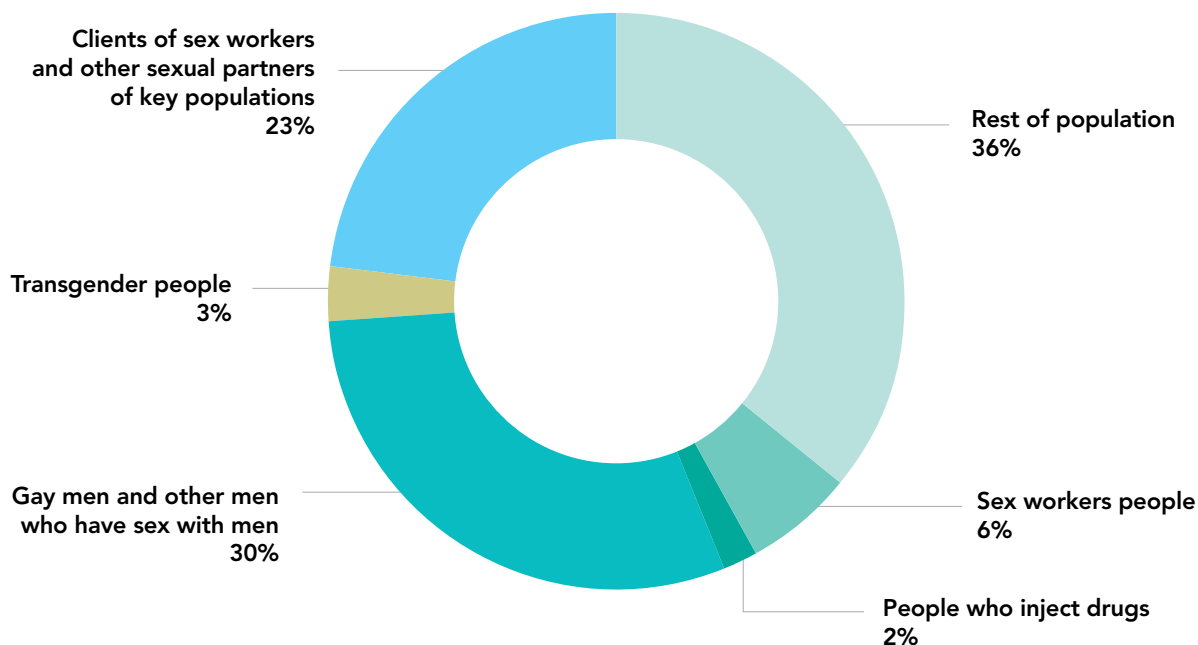
Source: UNAIDS 2016 estimates.

## Percent change in new HIV infections among adults (aged 15 years and older), Latin America and the Caribbean, from 2010 to 2015



Source: UNAIDS 2016 estimates.

## Distribution of new HIV infections among population groups, Latin America and the Caribbean, 2014



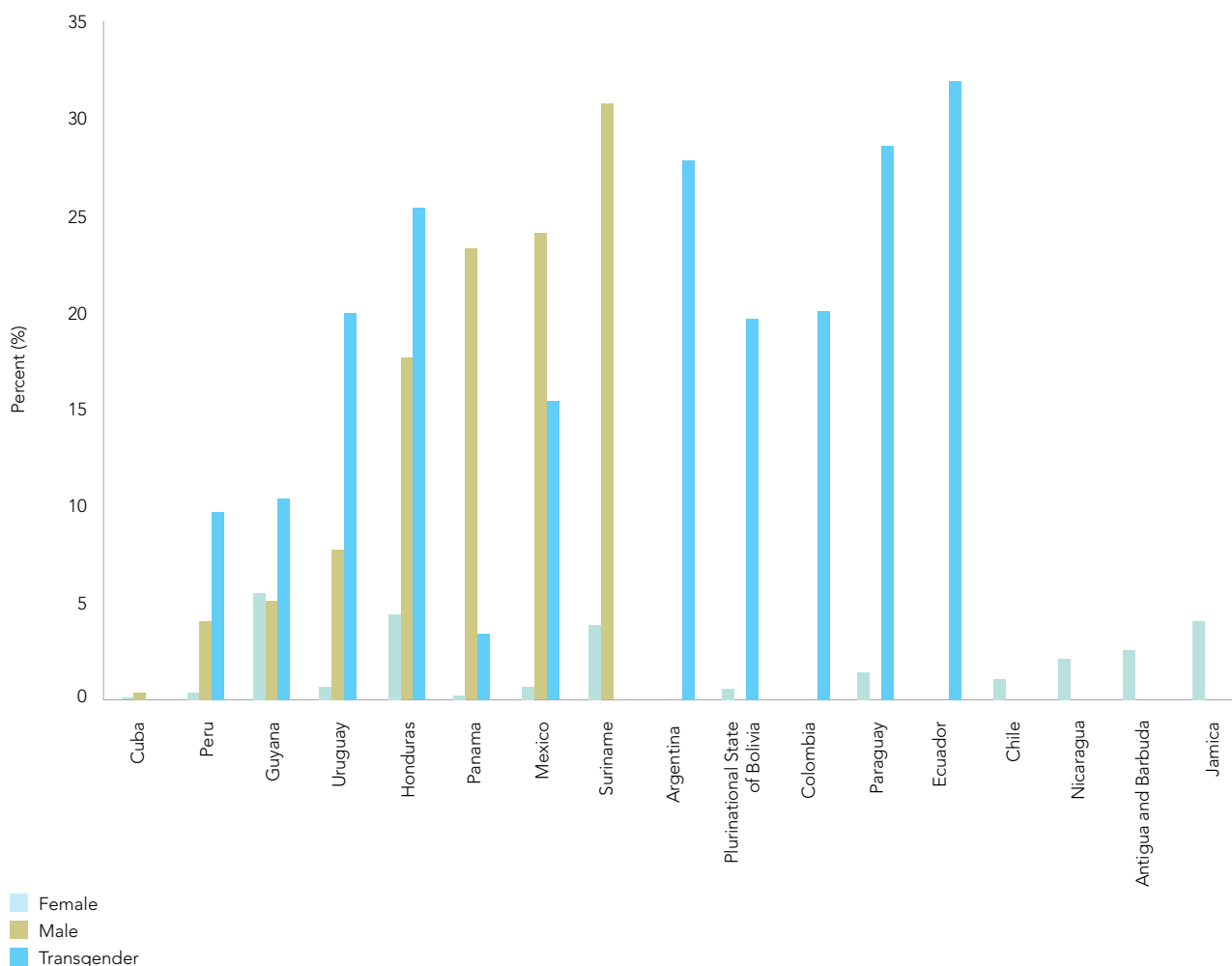
Source: UNAIDS special analysis, 2016.

### The HIV epidemic in Latin America and the Caribbean

In Latin America and the Caribbean, the rate of new HIV infections remained stable between 2010 and 2015 at about 100 000 [86 000–120 000] annually. This overall trend, however, masked differences between Latin America and the Caribbean, and between adults and children and in contrast to the previous decade.

Among adults in Latin America, the annual number of new HIV infections has slowly risen since 2000, reaching about 91 000 [76 000–109 000] in 2015. Increases were greatest, above 20%, between 2010 and 2015 in select countries in Central America, including Belize, Nicaragua, and Guatemala. Steady albeit smaller increases were observed for the same time period in Mexico and Panama (8%), Chile (6%), Colombia (5%) and Brazil (4%). Among adults in the Caribbean, years of steady declines in new HIV infections between 2000 and 2012—primarily due to early prevention efforts in Haiti—have slowed and then reversed in recent years. The annual number of new HIV infections in the Caribbean was estimated at 9000 [7500–11 000] in 2015. While the rates of new infections among adults in the two subregions in 2015 were similar, there were 10 times as many new HIV infections in Latin America as in the Caribbean in 2015, reflecting the much larger population size of Latin America.

## HIV prevalence among sex workers, Latin America and the Caribbean, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

New HIV infections among children declined across Latin American and the Caribbean by more than 50%, down from an estimated 4700 [3500–6400] in 2010 to 2100 [1600–2900] in 2015. Progress was greatest in the Caribbean, where new infections among children plummeted from an estimated 2300 [1600–3000] in 2010 to 400 [200–700] in 2015. The Caribbean's share of new infections among children in the region declined from 48% to 19%.

Brazil alone accounted for more than 40% of all new HIV infections in the region, and an additional 41% of total new infections occurred in seven countries: Argentina, the Bolivarian Republic of Venezuela, Colombia, Cuba, Guatemala, Mexico and Peru.

The HIV epidemic remained predominately concentrated among key populations. Gay men and other men who have sex with men accounted for nearly one third of new HIV infections in 2014, while all key populations and their sexual partners accounted for nearly two thirds of new infections (1).

HIV prevalence among gay men and other men who have sex with men was particularly high in urban areas. For example, a sero-behavioural surveillance survey conducted in São Paulo in 2012 found an HIV prevalence of 15.4% among gay men and other men who have sex with men who were over the age of 18 years (30). Among those aged 18 to 24 years, HIV prevalence was already 6.4%.

Transgender women have some of the highest HIV prevalence rates in countries where data are collected on this key population. Data reported to UNAIDS by countries based on special surveys among key populations between 2011 and 2015 also show much higher HIV prevalence among transgender women sex workers than among male and female sex workers.

Two million [1.7 million–2.3 million] people were living with HIV in the region, of whom 670 000 [570 000–800 000] were adult women and 32 000 [27 000–38 000] were children under the age of 15.

## Progress and gaps in prevention

Across Latin America and the Caribbean, prevention is inadequately funded and does not reach sufficient percentages of key populations (32). Although all 17 Latin American countries provided free male condoms through the public health service, only six provided free female condoms (Brazil, Ecuador, Mexico, Peru, the Plurinational State of Bolivia and Uruguay) (2, 3).

Condom use among key populations in the region varied. Among gay men and other men who have sex with men, condom use during last anal sex ranged from 40% to 88%, with five countries reaching 80% or higher. An additional 13 countries reached at least 60%.

Among sex workers, condom use during their last transactional sex ranged from 57% in Belize to greater than 95% in Panama and Antigua and Barbuda. In the 16 countries that reported data to UNAIDS, condom use among transgender people ranged from 63% to greater than 95%.

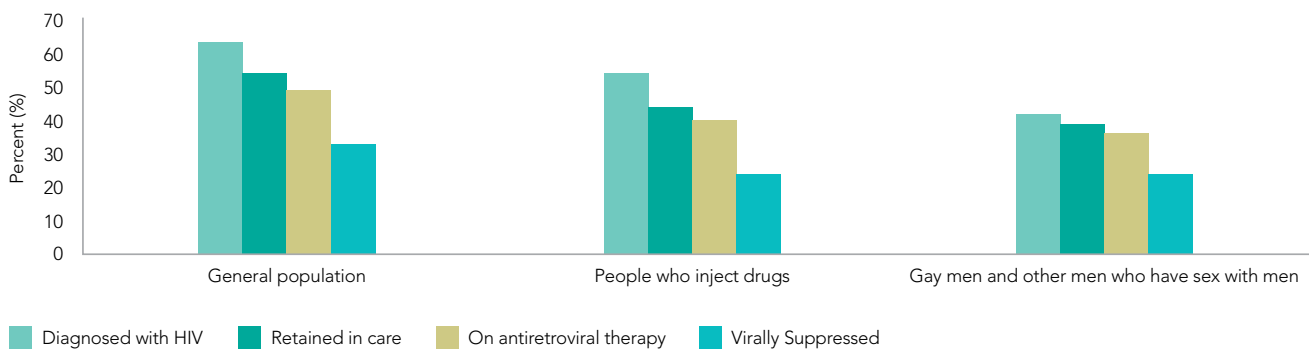
Although reported condom use among key populations appeared relatively high, improved linkages across HIV prevention, testing and treatment services and greater access to PrEP are needed to further reduce new HIV infections. Data from Mexico illustrate the challenge: continuum of care cascades for general and key populations show that the percentage of people living with HIV who have been diagnosed is lower among people who inject drugs and men who have sex with men. As a result, fewer people from key populations living with HIV are receiving treatment to suppress the virus (4). Mexico is exploring through a demonstration project how to increase use of PrEP.

## Condom use at last sexual intercourse among gay men and other men who have sex with men, Latin America and the Caribbean, most recent data, 2013–2015

<50%	50% - 75%	>75%
Dominican Republic Peru	Barbados Belize Bolivia (Plurinational State of) Brazil Chile Colombia Cuba El Salvador Guatemala Guayana Haiti Honduras Jamaica Mexico Nicaragua Panama Paraguay Saint Vincent Suriname Trinidad and Tobago Uruguay	Antigua and Barbuda Argentina Bahamas Costa Rica Ecuador Saint Kitts and Nevis

Source: 2016 Global AIDS Response Progress Reporting.

## HIV continuum of care cascade among the general population and key populations, Mexico, 2013



Source: National Center for HIV and AIDS Prevention and Control, Mexico 2014.

### Pre-exposure prophylaxis

As part of its efforts to implement combination prevention, Brazil conducted a study of PrEP among men who have sex with men and transgender women. The study showed a 51% uptake of PrEP among all those who were potentially eligible to receive it, including 67% uptake among potentially eligible transgender women and 78% uptake among potentially eligible people who had self-referred. Rates of uptake were increased when those eligible had a steady partner (58%), assessed themselves as being at high risk of acquiring HIV (61%) and had an HIV test in the previous year (58%).

These data suggest that the higher an individual's perceived risk of HIV, the more likely they were to seek and use PrEP (5). Other research showed that Brazil's universal health care system and the range of prevention and care services that are already available to transgender women, people living with HIV and gay men and other men who have sex with men would be major facilitators in the implementation of PrEP, but that increasing awareness of the availability of PrEP, improving the frequency of testing and creating greater awareness of risk perception among these key populations—especially among transgender women—is required (6).

### Young people

Young people, and especially among key populations, in Latin America and the Caribbean are disproportionately at risk of HIV infection, and they face greater barriers to accessing prevention services. Specific to young women, survey data from Barbados, Belize, Costa Rica, Cuba, the Dominican Republic, El Salvador, Guyana, Panama and Uruguay show that between 5–16% of young women aged 15 to 24 years report they became sexually active before the age of 15. Despite this, girls in these countries need parental consent or accompaniment to access sexual and reproductive health care services.

In the Caribbean, young women who are in sexual relationships with older men may be at higher risk of HIV infection. Survey data from the Caribbean show that 9–24% of women aged 15 to 24 years reported having sex with a man at least 10 years older than themselves within the last 12 months. Other risk factors—such as multiple sexual partners and inconsistent condom use—compound the risk of age mixing in these countries.

### Viral suppression

An estimated 77% [65–91%] of people living with HIV in Latin America in 2015 knew their HIV status, and 55% [47–64%] of people living with HIV were on antiretroviral therapy and around 43% [36–51%] of all people living with HIV in Latin America had achieved viral suppression. Achieving the 90–90–90 target in 2015 would have required diagnosing nearly 220 000 people living with HIV who did not know their HIV status, starting an additional 430 000 people on antiretroviral therapy and ensuring that an additional 510 000 people living with HIV achieved viral suppression.

In the Caribbean, an estimated 62% [53–74%] of people living with HIV in 2015 had been diagnosed, meaning an additional 78 000 people needed to be diagnosed to

## HIV testing in key populations, Latin America and the Caribbean, most recent data, 2013–2015

<50%	50% - 75%	>75%
<b>GAY MEN AND OTHER MEN WHO HAVE SEX WITH MEN</b>		
Argentina Barbados Bolivia (Plurinational State of) Brazil Chile Colombia Cuba Dominica Dominican Republic Guatemala Guyana Mexico Paraguay Peru Saint Vincent and the Grenadines Uruguay	Bahamas Belize Costa Rica Ecuador El Salvador Haiti Honduras Jamaica Nicaragua Trinidad and Tobago	Antigua and Barbuda Panama Saint Kitts and Nevis Suriname
<b>FEMALE SEX WORKERS</b>		
Cuba Peru Uruguay	Belize Bolivia (Plurinational State of) Chile Colombia Guyana Honduras Jamaica Nicaragua Paraguay	Costa Rica Ecuador Mexico Panama
<b>TRANSGENDER SEX WORKERS</b>		
Bolivia (Plurinational State of) Colombia Ecuador Guyana Panama	Mexico	Honduras Paraguay Uruguay

Source: 2016 Global AIDS Response Progress Reporting.



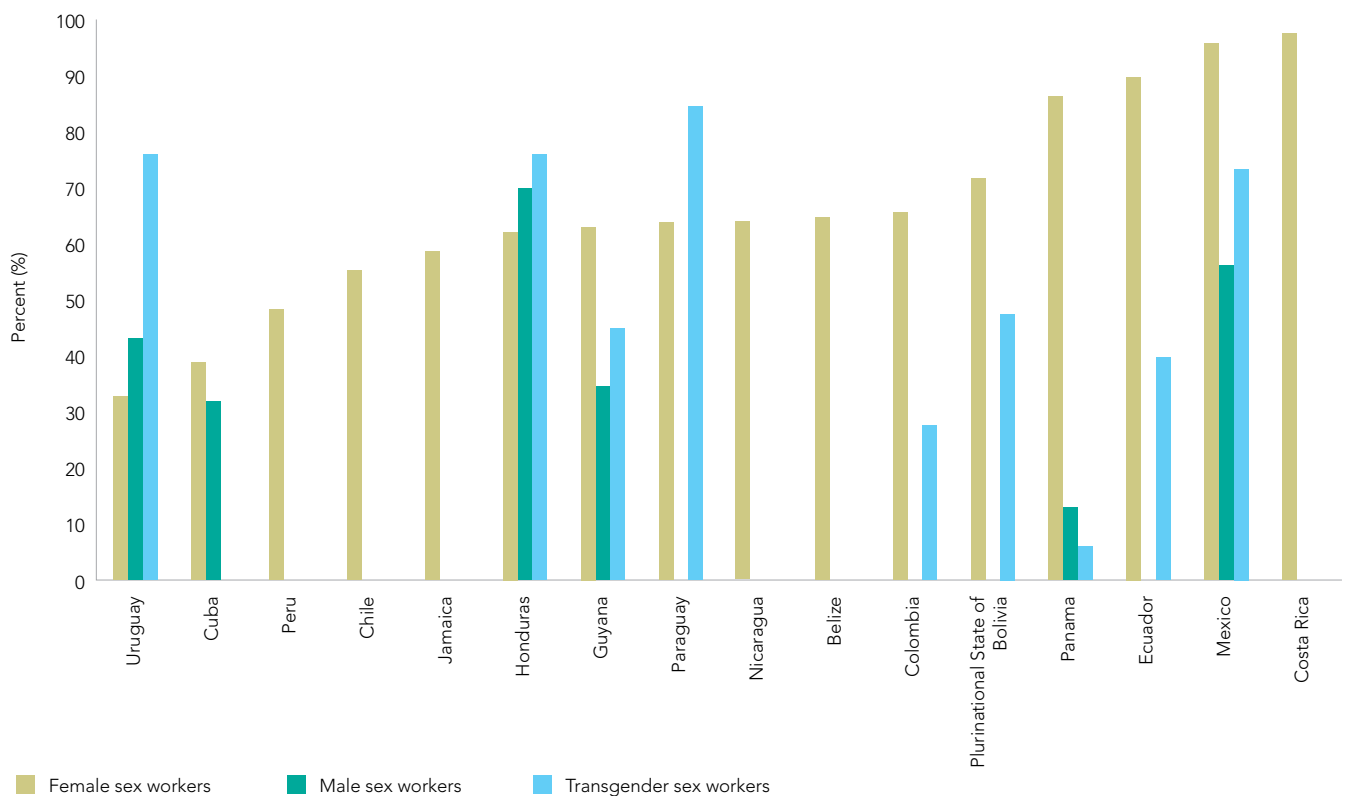
have achieved the first 90 in 2015. Among all people living with HIV, 50% [43–59%] were on treatment.

Estimates of viral suppression were much lower in the Caribbean than they were in Latin America, at 27% [24–44%] of all people living with HIV. Starting an additional 86 000 people living with HIV on treatment and achieving viral suppression in over 120 000 people living with HIV was required to achieve the 90–90–90 target in 2015.

Survey data indicate that periodic HIV testing and knowledge of HIV status were particularly low among key populations. HIV testing in the last 12 months among gay men and other men who have sex with other men ranged from 5% to 70%, showing large differences in access to testing services between countries in the region. Testing coverage among sex workers was higher among female sex workers (ranging from 39% to 98%) than among male sex workers (ranging from 17% to 70%). Among countries that reported on transgender sex workers, HIV testing was between 28% and 85%.

Smaller-scale studies on HIV testing produced similar results. In Buenos Aires, Argentina, a 2014 survey found that 52% of gay men and other men who have sex with men had never been tested for HIV, and 20% had only been tested once. Among the 17% of study participants who were found to be living with HIV, almost half were

## HIV testing among sex workers, Latin America and the Caribbean, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

unaware of their status (7). In another study in Brazil, almost half of gay men and other men who have sex with men surveyed in 2009 had never been tested for HIV (8).

Progress in scaling up treatment services was uneven across the region. In the Caribbean, antiretroviral therapy coverage increased from 20% [16–25%] in 2010 to 50% [43–59%] in 2015. Progress was slower in Latin America, although the overall coverage in 2015 was higher: it rose from 34% [29–40%] in 2010 to 56% [47–66%] in 2015. Brazil, Barbados and Chile were able to achieve very high levels of viral load suppression among people on treatment of 90%, 88% and 84%, respectively, while also reaching relatively high levels of antiretroviral therapy coverage (55%, 43% and 87%, respectively). In 2013, approximately 71% of patients receiving antiretroviral therapy were on a first-line regimen, indicating that an estimated 29% of patients had already experienced a treatment failure (10).

Treatment in Latin America was largely funded by domestic sources, but in the Caribbean, 11 out of 16 countries were highly (75–100%) dependent on external sources (9). The sustainability of the scale-up and achievement of sustained viral suppression was threatened by the relatively high cost of antiretroviral medicines. Middle-income countries in Latin America (such as Argentina and Brazil) paid higher prices for a number of second- and third-line treatments (11).

## Challenges

### Rights of key populations

Some countries in the region have made significant progress in recognizing the rights of LGBTI people. Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico and Uruguay allow marriage or civil unions between people of the same sex (2, 3).

Despite this progress, there were still high rates of violence against LGBTI people across the region (12). According to the Inter-American Commission on Human Rights Registry of Violence against LGBTI people—which documented violence against LGBTI persons in member states of the Organization of American States<sup>1</sup> during a 15-month period in 2013 and 2014 (13)—gay men and other men who have sex with men and transgender women represented the majority of the victims of killings and acts of police abuse, and lesbian women and bisexual persons were particularly affected by intrafamily and sexual violence (12).

Between 2008 and the end of 2015, more than 2000 murders of transgender and gender-diverse people were reported in 65 countries worldwide. Of these, more than 1500 were reported in Central and South America. Brazil and Mexico had the highest absolute numbers of such murders in the world (802 and 229, respectively), while the numbers in Colombia (105), the Bolivarian Republic of Venezuela (98) and Honduras (79) also were higher than anywhere else in the world apart from the United States (132) (14).

<sup>1</sup> Argentina, Barbados, Belize, the Bolivarian Republic of Venezuela, Brazil, Canada, Chile, Colombia, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, the Plurinational State of Bolivia, the United States of America and Uruguay.

The vast majority of killings and acts of violence against LGBTI people went unpunished. Obstacles to access to justice included fear of filing complaints, inaction or abuse by government authorities, and flawed investigations (12). In fact, a 2012 government survey in Argentina found that 83% of transgender women surveyed had been victims of grave acts of violence and discrimination perpetrated by police (15). A 2014 study from the Dominican Republic found that 36% of transgender sex workers had been forced to perform “sexual favours” for police officers to avoid being arrested (15).

Eleven Caribbean countries have discriminatory laws against same-sex sexual acts. The penalty in most of these countries is imprisonment for 10 years. In Belize, Dominica, Jamaica, Saint Kitts and Nevis, and Saint Vincent and the Grenadines, the penalty for same-sex sexual acts is imprisonment for up to 14 years (16). Although these laws tend not to be enforced, their existence is used to hassle, persecute, harass and threaten persons with different sexual orientations or gender identity or expressions, and they contribute to a context that condones discrimination, stigma and violence against LGBTI people (12, 16).

### Stigma and discrimination

Discrimination in health and other social services was widespread, and discriminatory and punitive laws and policies further limited access to services. Key populations and women living with HIV were subject to practices such as forced sterilization and denial of health services (17–19).

Nicaragua and Paraguay had restrictions on the permanent stay of people living with HIV who had been in the country longer than three months. In both countries, resident permits were withdrawn in the case of a positive HIV test. In Paraguay, an exception was made if individuals could prove they had sufficient resources to pay for their own treatment.

In the Caribbean, small island states face challenges in ensuring the confidentiality of people living with HIV, and people living with HIV and members of sexual minorities can be easily identified for harassment and violence (20).

### Young people

Across the region, there were a number of barriers preventing adolescents and young people, especially among key populations, from accessing sexual and reproductive health and HIV services and commodities (2, 3). The provision of comprehensive sexual education also varies widely across the region, and in some countries, it continued to be provided at the discretion of educational centres and teachers (21).

For most countries in Latin America, the average age of consent for heterosexual intercourse was 14. In the Caribbean, it was 16 (22). In many countries, young people who had reached the age of consent but had not attained the age of majority (i.e. they were not legally considered to be adults) required parental or guardian consent to access HIV and sexual and reproductive health services (2, 3). This meant that sexually active young people were being denied services, leaving them vulnerable to unwanted pregnancy and sexually transmitted infections (2, 3).

Similar barriers existed for HIV testing. In nine of 17 countries, minors required parental or guardian consent to take an HIV test and find out the results. A few countries in the Caribbean have developed policies allowing minors to access HIV testing without parental consent, either allowing it at any age (such as in Guyana) or above the age of 14 (as in Trinidad and Tobago) (23, 24). In Mexico and Panama, adolescents had to be accompanied by a parent, a legal guardian or other state-recognized individuals responsible for the well-being of adolescents in order to receive their test results. In Paraguay, health staff could request authorization to conduct an HIV test in the absence of parents or guardians.

## Opportunities

### Self-testing

In 2015, Brazil began providing self-testing kits to the general population. These kits were made available free of charge from pharmacies, medication distribution centres, health services and government health programmes, as well as through the mail. The oral self-testing kits featured clear instructions and a telephone helpline (25).

From January 2015 to March 2016, more than 4000 HIV tests were performed by four testing units in Curitiba, Brazil. More than 72 000 people accessed the online platform “A Hora e Agora” and around 2900 self-testing HIV kits were distributed (26).

### Regional support for a Fast-Track approach

The Second Latin American and Caribbean Forum on the Continuum of HIV Care issued a call to action—including regional Fast-Track prevention targets for 2020 and 2030—with an emphasis on combination prevention packages for gay men and other men who have sex with men, transgender women, sex workers, people who use drugs and young people (27). These targets are consistent with the 2016 Political Declaration on HIV and AIDS, which calls for a reduction of the annual number of people newly infected with HIV in the region to 40 000 adults and fewer than 500 children by 2020.

The Central American Regional Coordination Mechanism—the HIV advisory body of the Central American Health Ministers Commission—is strongly committed to the 90–90–90 target and the Fast-Track initiative, and was implementing a regional sustainability strategy. The objective of the strategy was to accelerate progress towards meeting the commitment to universal access, the Sustainable Development Goals and the Rio Call to Action in prevention, care, treatment and support for HIV. This was to be accomplished by orienting efforts and increased resources to the most effective interventions in Central America, including strengthening primary health care systems (31).

The region also has strong inter-institutional and civil society networks. These include the Horizontal Technical Cooperation Group (HTCG), REDLACTRANS (a regional network of transgender people), REDTRASEX (a regional network of sex workers), ICW Latina (the International Community of Women living with HIV) and REDCA+ (a Central American network of people living with HIV) in Latin America. In the Caribbean, CVC COIN (a coalition of community leaders and nongovernmental organizations working with vulnerable populations), Caribbean Sex Workers Coalition, CARIFLAGS (a forum for

Liberation and Acceptance of Genders and Sexualities) and CRN+ (a regional network of HIV-positive people) are among the lead civil society organizations that work in close collaboration with the Pan Caribbean Partnership against HIV & AIDS (PANCAP).

### Ensuring respect for the rights of people living with HIV, women at risk and key populations

The second Latin American and Caribbean Forum on the Continuum of HIV resulted in the Rio Call to Action, which set targets for combination prevention and zero discrimination, along with a number of priorities for achieving these targets. Those priorities include the following:

- Basing all commitments and subsequent actions on respect for—and promotion and assurance of—human rights with a gender perspective.
- Increasing actions aimed at reducing prejudice, violence, stigma and discrimination associated with HIV or against persons living with HIV and key populations (gay men and other men who have sex with men, female and male sex workers, transgender persons, drug users, persons in prisons, and women and girls) and other populations left behind by the response. This was to be done through actions such as eliminating legal and political barriers, reducing discrimination in health care settings, addressing the specific needs of women and girls, reducing violence and guaranteeing access to justice.
- Strengthening national strategic information systems to ensure appropriate monitoring of progress (27).

PANCAP is working closely with UNDP and UNAIDS to document and address gaps in human rights throughout the region. This work is bringing together stakeholders and the leadership in the Caribbean Community (CARICOM) to advocate for attaining the Fast-Track targets by 2020.

The Organization of American States and its human rights body, the Inter-American Commission of Human Rights (the Commission), is providing legal protection for people living with and affected by HIV according to its 2013 resolution on HIV and the promotion and protection of human rights in the HIV response. For example, as part of a 2015 case in Mexico that involved the discriminatory treatment and forced retirement of soldiers living with HIV, the Commission recommended that the country provide the victims with any comprehensive health services needed, make complete reparations to the victim (including financial and moral reparations, and an agreement to reinstate the petitioners in the army), and implement training in the armed services on nondiscrimination against people living with HIV. Mexico complied with all of the recommendations (28).

The Commission also continued to monitor violence against LGBTI people, including by publishing a report on such violence and publicly denouncing it (29). It also monitored gender equality, women's rights, women's access to information, violence against women and the administration of justice.<sup>2</sup>

<sup>2</sup> For examples of reports on these subjects, please visit <http://www.oas.org/en/iachr/reports/thematic.asp>.

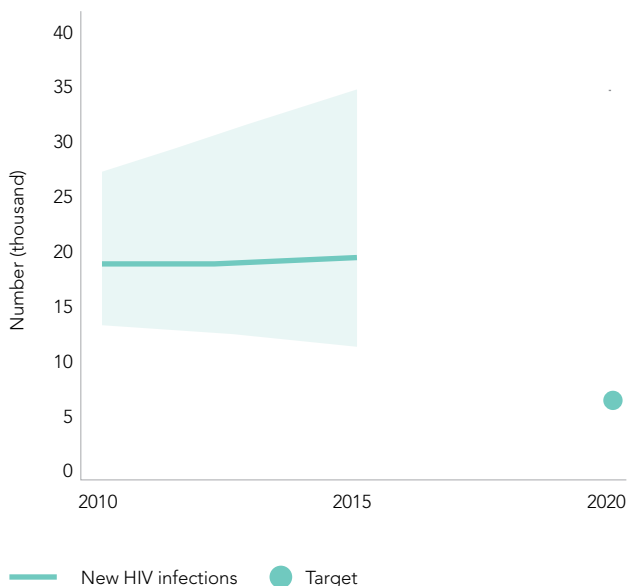
## MIDDLE EAST AND NORTH AFRICA

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Although the Middle East and North Africa was the region with the lowest HIV prevalence, at 0.1% [ $<0.1$ –0.2] among adults aged 15–49 years, new infections in the region increased by 4% between 2010 and 2015. More than 95% of new HIV infections in the Middle East and North Africa occurred among key populations and their sexual partners. Harm reduction services were established practice in four countries, two of which have high HIV prevalence among people who inject drugs. Prevention services were available for gay men and other men who have sex with men, sex workers and migrants in some countries, while many countries have included prisoners in their HIV programming. Across the region, however, there were major gaps in HIV prevention programming. Access to and uptake of HIV testing services were limited, with only 37% [26–54%] of people living with HIV in the region aware of their status in 2015. Coverage of antiretroviral therapy was 17% [12–24%] in 2015, far below the global average, contributing to low viral suppression of only 11% [8–16%] of all people living with HIV. Challenges in the region include the criminalization of drug use, sex work and same-sex sexual behaviour, with penalties including imprisonment and death. Prevention programmes for gay men and other men who have sex with men and sex workers rarely receive support from domestic resources or through public services. Conflicts and humanitarian emergencies have disrupted health and social services and responses to HIV.

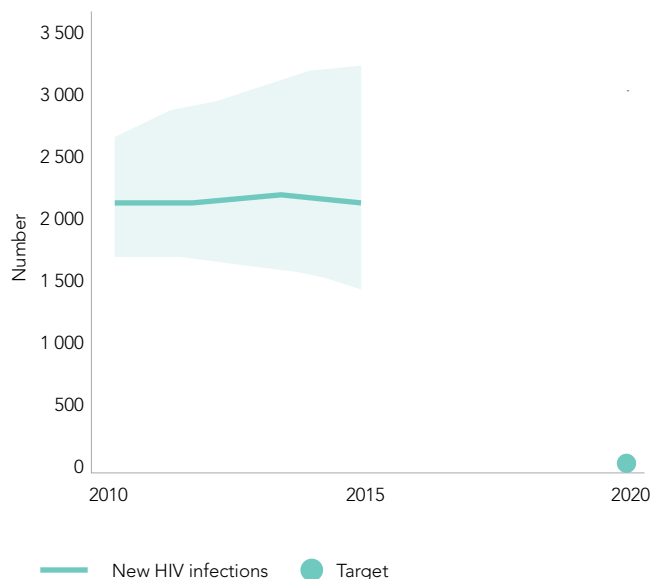
## TRENDS AND TARGETS

New HIV infections among adults (aged 15 years and older), Middle East and North Africa, 2010–2015



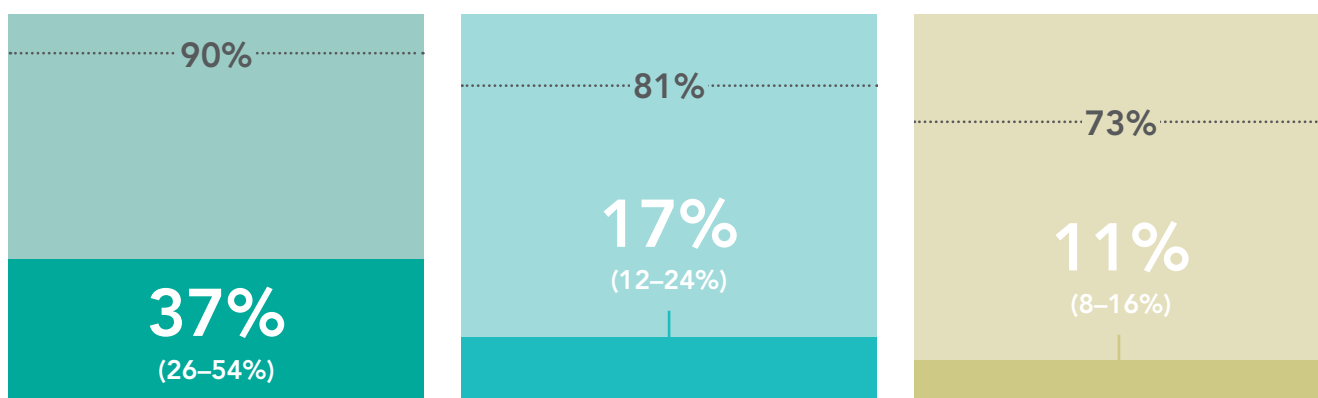
Source: UNAIDS 2016 estimates.

New HIV infections among children (aged 0–14 years), Middle East and North Africa, 2010–2015



Source: UNAIDS 2016 estimates.

Progress towards the 90–90–90 target, Middle East and North Africa, 2015



Percentage of people living with HIV who know their HIV status<sup>1</sup>

Percentage of people living with HIV who are on antiretroviral treatment

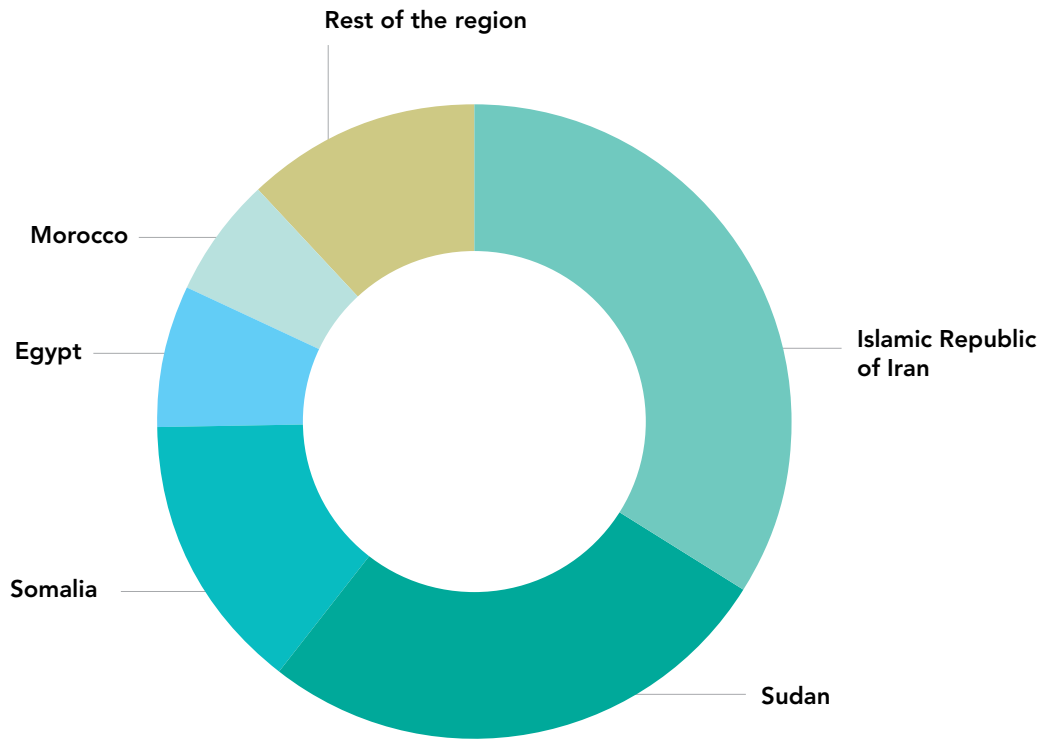
Percentage of people living with HIV who are virally suppressed<sup>2</sup>

<sup>1</sup> 2015 measure derived from data reported by 7 countries, which accounted for 77% of people living with HIV in the region.

<sup>2</sup> 2015 measure derived from data reported by 8 countries. Regionally, 41% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

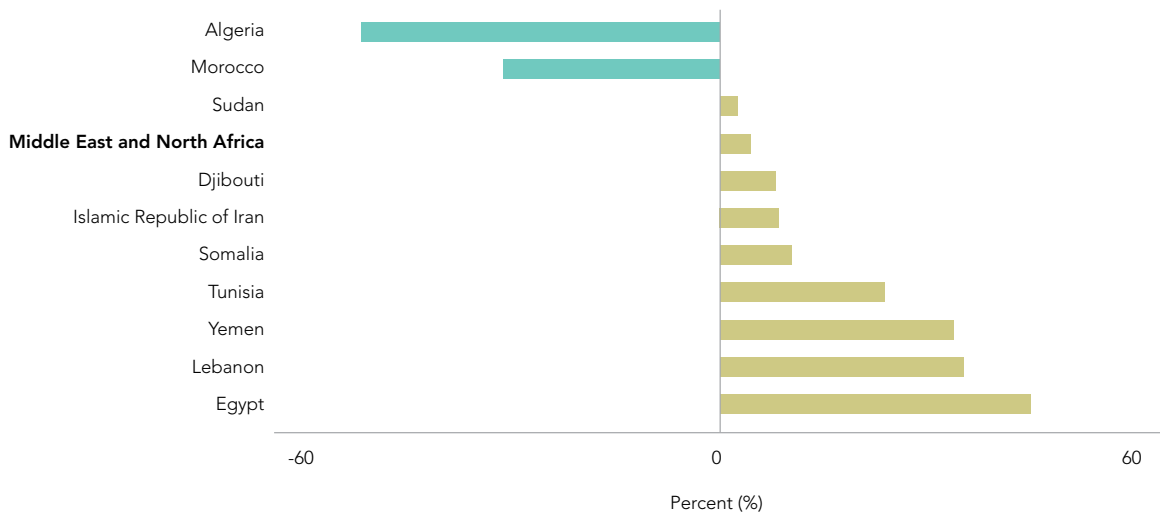
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Distribution of new HIV infections by country, Middle East and North Africa, 2015



Source: UNAIDS 2016 estimates.

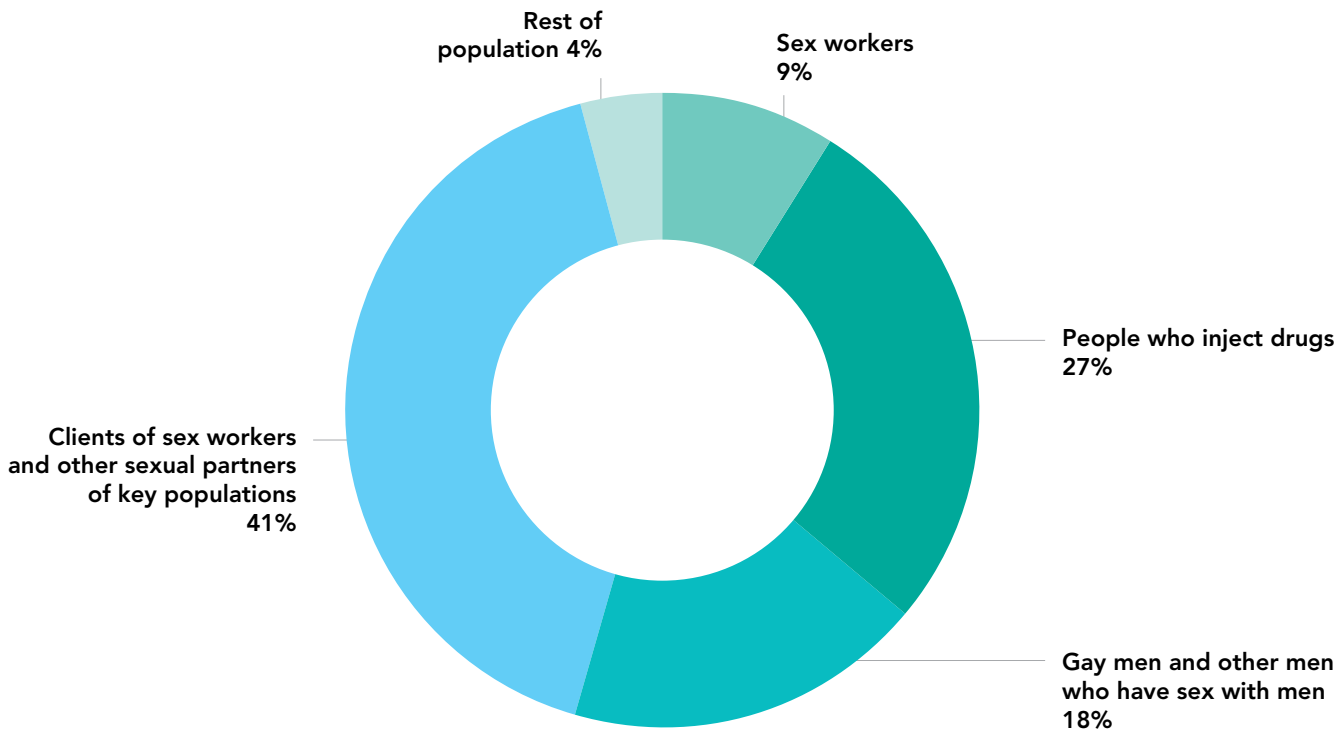
## Percent change in new HIV infections among adults (aged 15 years and older) by country, Middle East and North Africa, from 2010 to 2015



Source: UNAIDS 2016 estimates.



## Distribution of new HIV infections among population groups, Middle East and North Africa, 2014



Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

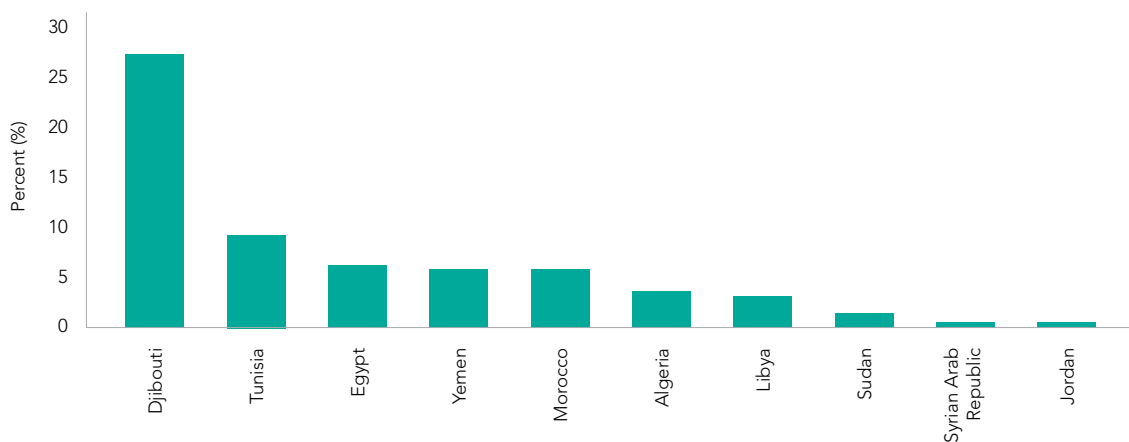
### HIV epidemic in the Middle East and North Africa

In 2015 the Middle East and North Africa was home to about 445 million people, of whom 233 million were aged 15 years and older. Although there are sociocultural similarities across the countries in the region, there are also vast differences in terms of economic and development status affecting both national HIV epidemics and responses.

There were an estimated 230 000 [160 000–330 000] adults and children living with HIV in the Middle East and North Africa, making it the region with the world's lowest HIV prevalence —0.1% [ $<0.1$ –0.2%] among adults aged 15–49 years. Six countries were home to more than 90% of the estimated people living with HIV in the region, with almost 75% living in the Islamic Republic of Iran, Sudan and Somalia, and a further 20% living in Morocco, Egypt and Djibouti. Between 2010 and 2015 new infections in the Middle East and North Africa increased by 4%, with an estimated 21 000 [12 000–37 000] new infections in 2015 compared with 20 000 [15 000–29 000] in 2010. This increase occurred among both men and women but was greater among men.

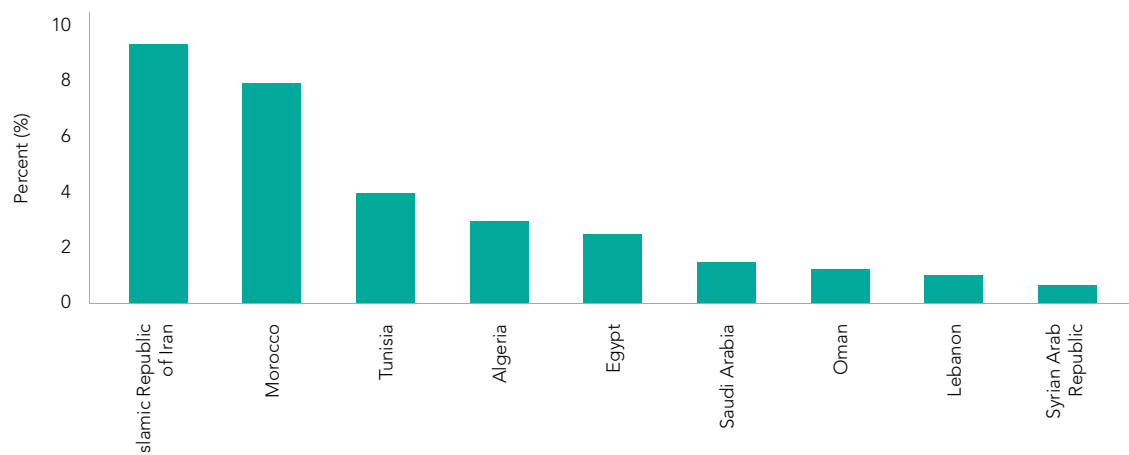
About 95% of the new HIV infections in 2015 occurred in only five countries: the Islamic Republic of Iran, Sudan, Somalia, Egypt, Morocco and Yemen. Since 2010 new infections among adults have increased by more than 40% in Egypt and by more than 30% in Lebanon and Yemen. Algeria and Morocco experienced declines in new HIV infections of 46% and 31%, respectively.

### HIV prevalence among gay men and other men who have sex with men, Middle East and North Africa, most recent data, 2013–2015



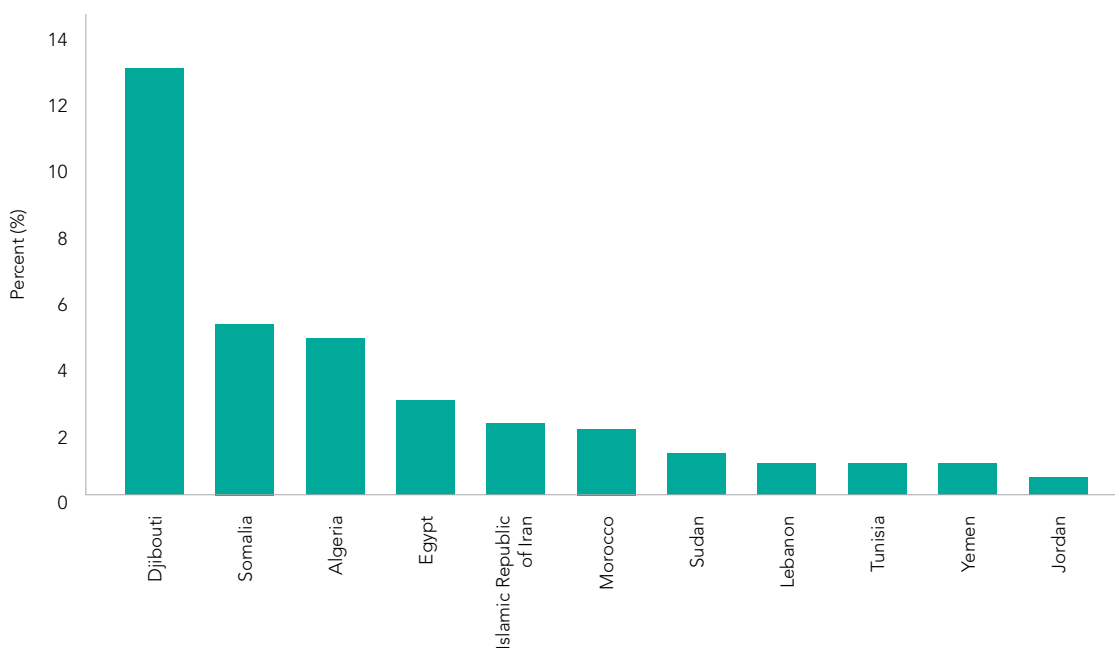
Source: 2016 Global AIDS Response Progress Reporting.

### HIV prevalence among people who inject drugs, Middle East and North Africa, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

## HIV prevalence among sex workers, Middle East and North Africa, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

More than 95% of new HIV infections occurred among key populations (predominantly people who inject drugs, gay men and other men who have sex with men and female sex workers) and their sexual partners. HIV prevalence was considerably higher among these key populations compared with the general population, although there was much variation among countries. Approximately 6 out of 10 of the region's people living with HIV were men and boys, reflecting the predominantly male profile of two of the region's three key populations.

### Progress and gaps in prevention

Effective prevention of HIV in the region depends on reaching and engaging with key populations and tailoring prevention packages to meet national and local needs.

In 2014 Egypt conducted a first comprehensive review of size estimates for gay men and other men who have sex with men, sex workers and people who inject drugs in 5 of its 27 administrative districts. The size estimation exercise was followed by scaling up services in these districts and a focus on "hotspots", resulting in a significant increase in coverage of prevention services. As an example, the number of sex workers who received an HIV test through the outreach services and linkage increased from 72 in 2014 to 295 in 2015. Provision of these services was led by a consortium of civil society organizations, which offered a comprehensive programme of activities, including condom promotion, needle and syringe distribution, targeted education, and voluntary counselling and testing for all individuals reached by the programme. About 3 000 people who inject drugs had been reached in 2015.

Sudan continued to make considerable progress in supporting the scale-up of comprehensive HIV prevention activities for key populations, conducting integrated biological and behavioural surveillance of these populations in 2015. The surveys provide detailed state-by-state figures on condom use, testing and HIV prevalence among sex workers and gay men and other men who have sex with men. Condom use among sex workers and gay men and other men who have sex with men increased to 35% and 27% in 2015, compared with 23% and 20% in 2013, respectively; HIV testing coverage figures were 29% and 17% in 2015, showing an increase from the 2013 figures of 9% and 5%, respectively.

In Morocco subregional and city-level programmes were also expanding. In Agadir, Casablanca, Marrakech and Tangier, gay men and other men who have sex with men have been reached with HIV prevention services, resulting in condom use figures above 50% in all but Marrakech (46%) and HIV testing coverage of above 50% in all but Marrakech (43%). Migrant populations (identified as a vulnerable population in the country) benefited from a comprehensive and targeted HIV programme. By the end of 2015, from an estimated number of 30 000 migrants, more than 10 000 had been tested for HIV and reached with combined prevention programmes delivered by nongovernmental organizations; approximately 300 migrants were receiving free antiretroviral therapy.

### People who inject drugs

There is moderate HIV prevalence among people who inject drugs in the region but much higher prevalence in the Islamic Republic of Iran and Morocco. In these countries, opioid substitution therapy was established practice (albeit on a far smaller scale in Morocco). In 2015 in the Islamic Republic of Iran, from an estimated number of 200 000 people who inject drugs, more than 24 000 were receiving opioid substitution therapy in communities and in prisons.

In Morocco new opioid substitution treatment centres were opened, including in one prison, and the number of people who inject drugs receiving treatment reached 820 in 2015. Two rehabilitation centres providing harm-reduction services for people who inject drugs were also opened. Needle and syringe programmes were key to increasing safe injection practices in both the Islamic Republic of Iran and Morocco, with needles and syringes distributed or available for purchase from pharmacies. Together these programmes resulted in rates of safe injection of 82% and 80% in the Islamic Republic of Iran (2014) and Morocco (2015), respectively.

In Lebanon, which has a much lower HIV prevalence among people who inject drugs, opioid substitution therapy programmes have been established. In 2015 more than 1500 people were receiving this service in communities. Safe injection practices have been reported by more than 90% of people who inject drugs in Beirut.

In Tunisia, although opioid substitution therapy programmes have not yet started, needle and syringe programmes have resulted in safe injection in more than 88% of people who inject drugs.

In Tripoli, Libya, where the HIV prevalence among people who inject drugs was reported to be above 80%, the current conflict situation has made it difficult to establish any programme for this population.

### Gay men and other men who have sex with men

A UNAIDS-supported project to address the vulnerabilities of gay men and other men who have sex with men in Egypt helped to achieve significant growth in reach and geographical coverage of related services from 2013. Innovations included outreach to men in slum areas through community-based organizations and awareness outreach and prevention services for the female sexual partners of gay men and other men who have sex with men. A third approach, online outreach, was particularly effective, as police action against this population had intensified, making street outreach more challenging. Following online outreach, meetings are arranged with beneficiaries to deliver condoms and lubricants; the project also facilitates access to good-quality, stigma-free health services and psychosocial and legal support. In the period 2014–2015 in Alexandria, the project reached around 1000 beneficiaries, distributed more than 3100 condoms and lubricants packages and facilitated 300 visits to project services. In Gharbya governorate, to which the project was expanded in 2015, nearly 300 beneficiaries were reached and over 500 preventive packages were distributed.

In Lebanon a programme for men who have sex with men reached impact-level coverage in Beirut, where a study in 2014 showed testing coverage and condom use above 75%.

### Sex workers

In Sudan a 2015 evaluation of interventions focused on key populations showed that peer education efforts had been effective: of the more than 1000 men who have sex with men and female sex workers who had received peer education, 92% had been tested for HIV at least once and about 70% reported using condoms both in the past six months and during last sexual intercourse.

### Prisoners

Many countries in the region have developed HIV programmes to offer prevention services to prisoners, mostly for those who inject drugs. Among the countries that have reported HIV prevalence among the prisoner population, the Islamic Republic of Iran has the highest prevalence of 1.4%; Morocco, Oman and Saudi Arabia reported prevalence ranging from 0.3–0.8%. and Tunisia reported a prevalence of 0.1%.

### Transgender people

For most of the countries in the region, transgender people have not been acknowledged as a separate key population. Accordingly, there are very limited data available on this key population. The Islamic Republic of Iran has identified male-to-female transgender people as a high-risk population and in 2014 conducted a study establishing a 2% HIV prevalence among this group. Large-scale programmes, however, are yet to be established.

Lebanon's national AIDS programme has acknowledged transgender people as a high-risk population, although no data have been published on this group.

## Summary of behavioural data among key populations, most recent data, 2013–2015

<50%	50% - 75%	>75%
<b>CONDOM USE</b>		
<b>Sex workers</b>		
Egypt Somalia Sudan	Djibouti Morocco Tunisia	Algeria Lebanon
<b>Gay men and other men who have sex with men</b>		
Egypt Sudan	Tunisia Morocco	Lebanon
<b>People who inject drugs</b>		
Algeria Egypt Lebanon Morocco Tunisia	Iran (Islamic Republic of)	
<b>HIV TESTING</b>		
<b>Sex workers</b>		
Egypt Morocco Somalia Sudan Tunisia	Lebanon	Algeria Djibouti
<b>Gay men and other men who have sex with men</b>		
Egypt Sudan Tunisia	Morocco	Algeria Lebanon
<b>People who inject drugs</b>		
Egypt Iran (Islamic Republic of) Morocco Oman Syrian Arab Republic Tunisia		Algeria Lebanon
<b>SAFE INJECTION PRACTICE</b>		
<b>People who inject drugs</b>		
Algeria Egypt		Iran (Islamic Republic of) Lebanon Morocco Tunisia

Source: 2016 Global AIDS Response Progress Reporting.

## Viral suppression

An estimated 37% [26–54%] of people living with HIV in the Middle East and North Africa in 2015 knew their HIV status, about 17% [12–24%] were on antiretroviral therapy and only 11% [8–16%] had achieved viral suppression. Considerable gaps to reach the 90–90–90 target remained for this region in particular cascade remained. To achieve the 90–90–90 target in 2015 required diagnosing nearly 122 000 people living with HIV who did not know their HIV status, starting an additional 148 000 people on antiretroviral therapy, and ensuring an additional 142 000 people living with HIV achieved viral suppression.

With only a little over a third of people aware of their HIV status in 2015, the most important barrier to achieving the 90–90–90 target in the Middle East and North Africa was limited access to and uptake of HIV testing services. Although the primary approach to service provision in the region is health facility-based voluntary counselling and testing, in some countries testing programmes are focused on premarital screening and pre-employment screening of migrants. In some cases this screening is conducted without informed and unforced consent, for example as a prerequisite for renewing a work permit or for issuing a marriage certificate. These practices are a violation of human rights and contrary to World Health Organization (WHO) and UNAIDS recommendations to ensure that all HIV tests are done confidentially and with informed consent (1).

Efforts have been made to increase testing coverage within a human rights framework. For example, several countries have expanded community support for testing and treatment programmes among key populations and in key locations. Algeria, Djibouti, Egypt, the Islamic Republic of Iran, Morocco and Sudan conducted community testing campaigns. In Morocco, where less than 40% of people living with HIV were aware of their status, HIV testing targets were revised to increase the focus on vulnerable populations and regions with higher HIV burden. In 2014, community testing, with HIV counselling and testing provided by non-clinical peer educators, was introduced by the Association de Lutte contre le Sida in Agadir, Casablanca, Marrakech and Rabat as part of a pilot prevention programme for key populations. External evaluation of the initiative was under way in preparation for potential scale-up. At the same time, efforts were made to integrate HIV testing services into basic health-care facilities. As a result, by 2015, nearly half of people living with HIV were aware of their status.

In Algeria more than 770 000 HIV tests were conducted in more than 2000 testing sites, resulting in an increase in estimated coverage of people living with HIV who know their HIV status from around 77% to more than 90%. In Djibouti more than 21 000 HIV tests were provided in 2015, pushing the proportion of people living with HIV who know their status to 70%. In Egypt, the Islamic Republic of Iran and Sudan the figures are still below 50%. These latter three countries and other countries of the region gathered together in December 2015 in a regional meeting and developed roadmaps for Fast-Tracking HIV testing and linkage to services to reach the 90–90–90 target. The meeting resulted in the Algiers Declaration on Fast-Tracking HIV Testing in the Middle East and North Africa. In the Declaration countries called for investment in strategic information to guide actions to increase HIV testing and set annual testing targets; implement strategic approaches for innovative, rights-based and participatory community-based testing; scale up services for key populations; increase resources for HIV testing; and reinforce partnerships between governments, civil society, the private sector and academia to Fast-Track testing.

Coverage of antiretroviral therapy in the Middle East and North Africa was 17% [12–24%] in 2015, far below the global average, in major part due to low levels of HIV testing and diagnosis. Like rates of testing, however, coverage had increased—by 37% between 2013 and 2015 in the region as a whole, and by more than 50% in Algeria and Egypt. If other countries replicate the pace of Algeria and Egypt, then the region will be able to reach its target of 81% treatment coverage among people living with HIV by 2020.

In Morocco national guidelines on antiretroviral therapy were reviewed in 2015 to ensure a “treat all” approach could be delivered across treatment facilities. A review of service delivery and care for people living with HIV was also conducted in this year. Combined with increased decentralization of the care system and increased testing, and attempts to address the challenges identified in a 2014 cascade analysis at main treatment sites, these efforts meant that the coverage of antiretroviral therapy among adults rose from 13% [11–15%] in 2013 to 35% [30–41%] in 2015.

In Egypt a similar approach of expanding testing sites and community testing resulted in a 46% increase in treatment coverage from 2013 to 2014 and another 25% increase from 2014 to 2015, although the treatment coverage is still lower than 20%. There is an urgent need to increase the pace.

In the Islamic Republic of Iran and Sudan the national strategic plans explicitly incorporated the 90–90–90 target.

Although only an estimated 11% [8–16%] of people living with HIV in the region have suppressed viral loads, it appears that the vast majority of people who know their status and initiate antiretroviral therapy remain on treatment. More than 80% of people on antiretroviral therapy in the region were retained in treatment after 12 months according to available data, but fewer countries have passed 90% retention on the first year. For the few countries with viral load suppression data from more than 75% of people on treatment, the figures vary widely: 90% in Jordan and Saudi Arabia, 80% in Lebanon, 75% in Oman and 53% in Algeria.

Egypt revised its clinical care guidelines in May 2014 and undertook a cascade analysis, which highlighted key gaps, including in retention on treatment. It then introduced innovative approaches to improve adherence during the first year of treatment (during which the highest dropout rates were identified). These approaches included enlisting civil society support, scaling up psychosocial counselling, implementing a “buddy system” of social workers for people living with HIV, and reviewing all case records to identify people whose access to treatment had been interrupted and to identify potential barriers to access and adherence. In addition, remote treatment centres were authorized to prescribe medication and provide follow-up to patients to improve adherence in remote locations. A referral protocol was established between the national AIDS programme and Cairo University hospitals to facilitate the exchange of information and strengthen the links between people newly diagnosed with HIV and the continuum of care. The outcome of these changes can be seen over the past 2 years, when the 12-month retention on treatment has increased from 73% in 2013 to 80% in 2015.

In Yemen until 2015, despite civil and political instability and intermittent power,



treatment sites continued to deliver services and to collect data.<sup>1</sup> International assistance was provided for peer support and patient transport. As a result, adherence improved and the number of patients lost to follow-up decreased. In 2014, 68% of people who had previously interrupted treatment restarted. New software was instrumental in improving follow-up, particularly of people who missed appointments.

## Challenges

### Legal and policy environment

In all of the countries in the Middle East and North African, members of at least one of the key populations can face criminal charges because of their sexual orientation, gender, identity, occupation or behaviours. Drug use is criminalized in all countries, and in some countries carrying even a small amount of drugs can lead to long-term imprisonment. Many countries have specific laws against sex work and sex outside marriage, with penalties that include capital punishment. Gay men and other men who have sex with men can face severe legal sanctions, with penalties that include death in many countries. Meanwhile, mandatory HIV testing of refugees and asylum seekers without pre- and post-test counselling and without guarantee for privacy is also a reality in a number of countries.

### Investment in HIV prevention among key populations

Prevention programmes for gay men and other men who have sex with men and sex workers rarely received support from domestic resources or through public services. Even though these populations have been included in many national strategic plans, public funding is rarely used for specific programmes for them, and it is usually grants from the Global Fund to Fight AIDS, Tuberculosis and Malaria or smaller-scale grants from other donors that provide the necessary resources for the relevant programmes. HIV testing and some other services that are provided through public health services do receive funding from public resources.

### HIV in humanitarian settings

Several of the countries in the region were challenged by conflict or humanitarian emergencies, with rapidly changing environments, violence, displacement of people within and across borders, resource constraints, and disruption of already stretched health and social services. These situations also disrupt responses to HIV. The protection of people who are affected by humanitarian emergencies, including refugees, asylum seekers and internally displaced people, and their human rights should be prioritised.

## Opportunities

### Leadership, commitment and partnerships

The political leadership of the League of Arab States and UNAIDS resulted in the development and endorsement of the Arab AIDS Strategy in March 2014 and the

<sup>1</sup> With the exception of active conflict areas in Aden and Taiz.

Council of Arab Health Ministers following up the implementation of the Strategy in all Member States in February 2015. This leadership is also clearly reflected in the Algiers Call for Action on Advancing Gender Equality and the HIV Response that followed the High-Level Meeting of Women Leaders in the region, held jointly by the League of Arab State, UNAIDS, UN Women and the Government of Algeria in November 2014.

In October 2015 Djibouti was the first Arab country to ratify the Arab Convention on Preventing HIV and Protecting the Rights of People Living with HIV, which was adopted in 2012 by the Arab Parliament and provides a legal framework for countries to apply human rights principles in their responses to HIV (2). Djibouti's First Lady also took the lead in promoting the elimination of mother-to-child transmission and female genital mutilation. The First Lady of Sudan, meanwhile, worked to engage multi-stakeholder commitment to the elimination of mother-to-child transmission, the acceleration of prevention, testing and treatment, and challenging stigma and discrimination against people living with HIV. The First Lady of Sudan is also pushing for law reform to raise the legal age of marriage for girls in Sudan to 18 years.

In an unprecedented step for civil society in the region, the Regional Arab Network Against AIDS signed a Memorandum of Agreement in December 2014 with the League of Arab States on the role of civil society in the implementation of the Arab AIDS Strategy. This represents the first partnership within the region between civil society and such a significant intergovernmental body.

People living with HIV and civil society organizations, including MENARosa (the first regional network dedicated to supporting women living with HIV), played key roles in supporting access to and retention in treatment through therapeutic education programmes, psychosocial support and income-generating activities.

In Lebanon, a circular by Lebanese Internal Security Forces (ISF) requesting emergency rooms to report any drug-related emergency to the police has been recently reversed by the Ministry of Public Health. Skoun, the Lebanese Addiction Centre, along with its key partners played a catalytic role in advocating for the policy change. Prior to the revocation, fear of arrest and prosecution deterred people who use drugs from accessing emergency services.

### **Domestic financing, shared responsibility and regional solidarity**

Limited amounts of international funding are available for AIDS responses in the region. Among the middle-income countries in the region, Algeria and the Islamic Republic of Iran financed more than 80% of their national HIV programmes. Jordan and Lebanon also financed more than 80% of their national HIV programmes, although their programmes were much smaller. Morocco has developed an ambitious plan to reach 70% national financing by 2018. Djibouti has developed a national strategy to implement the African Union Shared Responsibility and Global Solidarity roadmap to mobilize domestic resources for sustainable funding for the national response. In 2015 Somalia, Sudan and the Islamic Republic of Iran had their concept notes to the Global Fund to Fight AIDS, Tuberculosis and Malaria approved.

In 2015 the Organization of the Petroleum Exporting Countries (OPEC) Fund for International Development contributed US\$ 1.2 million for strengthening innovative approaches to testing, treatment and the prevention of mother-to-child transmission in the region. The Fund covers six non-OPEC countries (Djibouti, Morocco, Somalia, Sudan, Tunisia and Yemen) and region-wide activities.

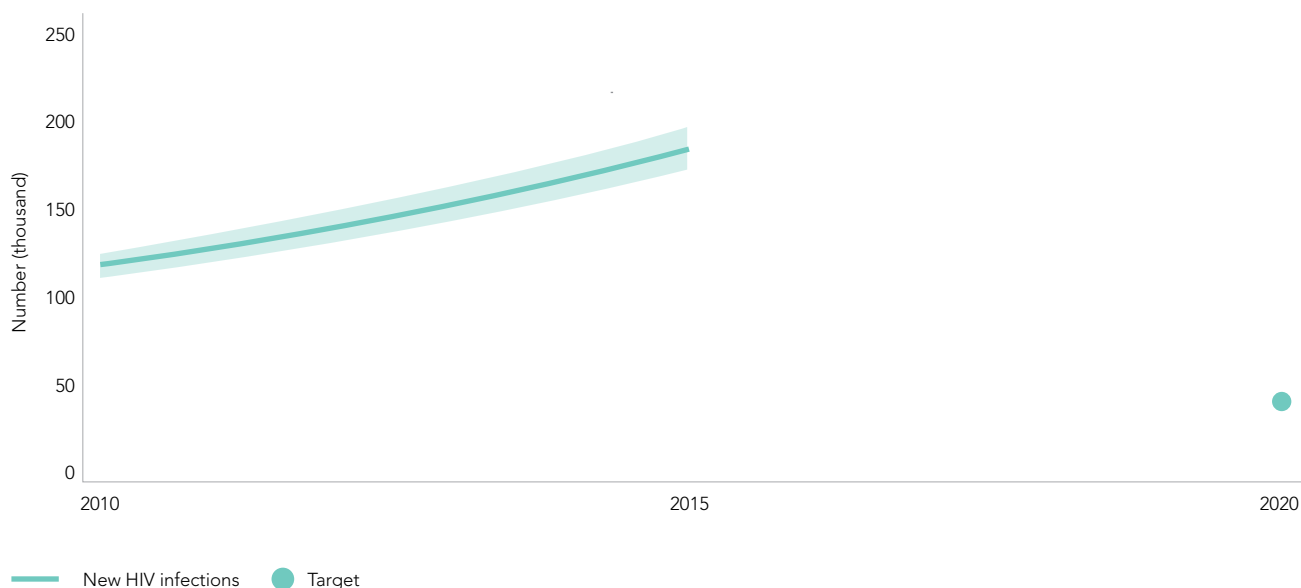
# EASTERN EUROPE AND CENTRAL ASIA

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Eastern Europe and central Asia is the only region in the world where the HIV epidemic continued to rise rapidly. The epidemic is concentrated predominantly among key populations, and in particular people who inject drugs, and there is low coverage of harm-reduction and other HIV prevention programmes in key countries within the region. Although sexual partners of key populations are at elevated risk of HIV infection, condom use is inconsistent among key populations across the region. There were big gaps in the HIV testing and treatment cascade, and coverage of antiretroviral therapy in the region remained significantly lower than the global average, resulting in low levels of viral suppression. Stigma and discrimination towards people living with HIV and key populations remain high. New conservative legislation is placing additional restrictions on same-sex relationships, sex work and drug use and , which could entrench barriers to HIV services for key populations. Prevention programmes are under threat as international support for HIV responses decreases and domestic funding for HIV prevention fails to keep pace.

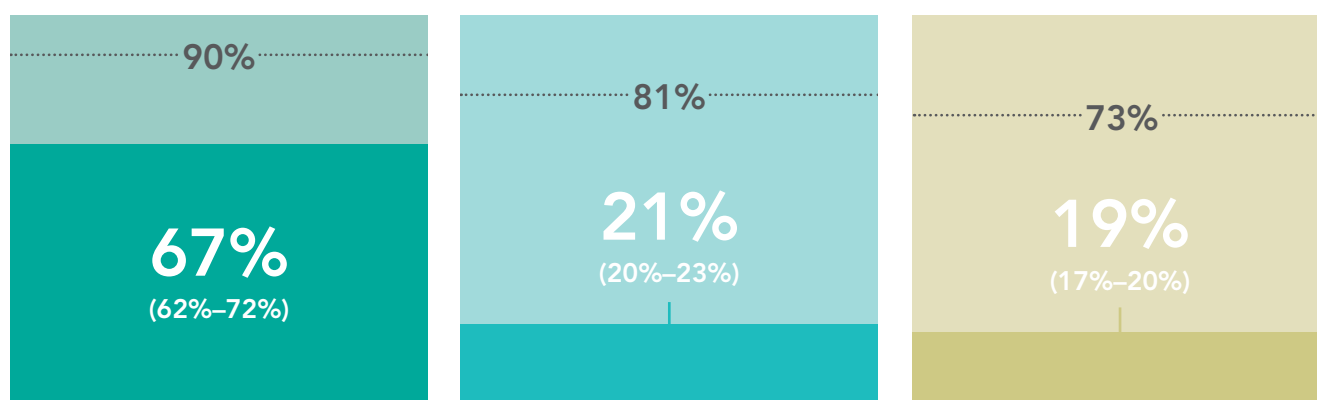
## TRENDS AND TARGETS

New HIV infections among adults (aged 15 years and older), eastern Europe and central Asia, 2010–2015



Source: UNAIDS 2016 estimates.

Progress towards the 90–90–90 target, eastern Europe and central Asia, 2015



Percentage of people living with HIV who know their HIV status<sup>1</sup>

Percentage of people living with HIV who are on antiretroviral treatment

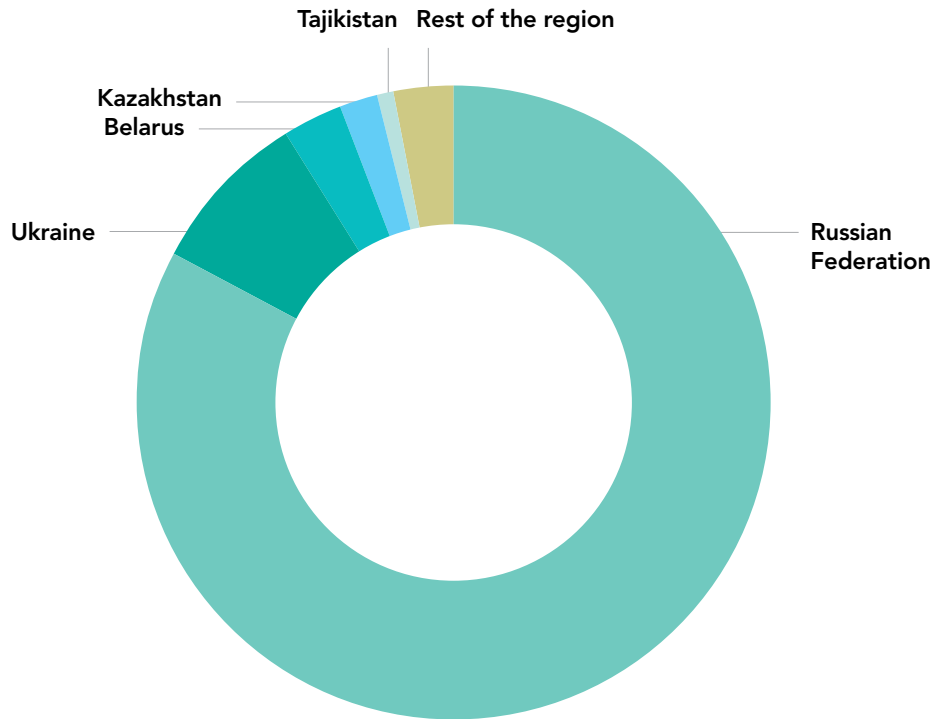
Percentage of people living with HIV who are virally suppressed<sup>2</sup>

<sup>1</sup> 2015 measure derived from data reported by 11 countries, which accounted for 98% of people living with HIV in the region.

<sup>2</sup> 2015 measure derived from data reported by 11 countries. Regionally, 77% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

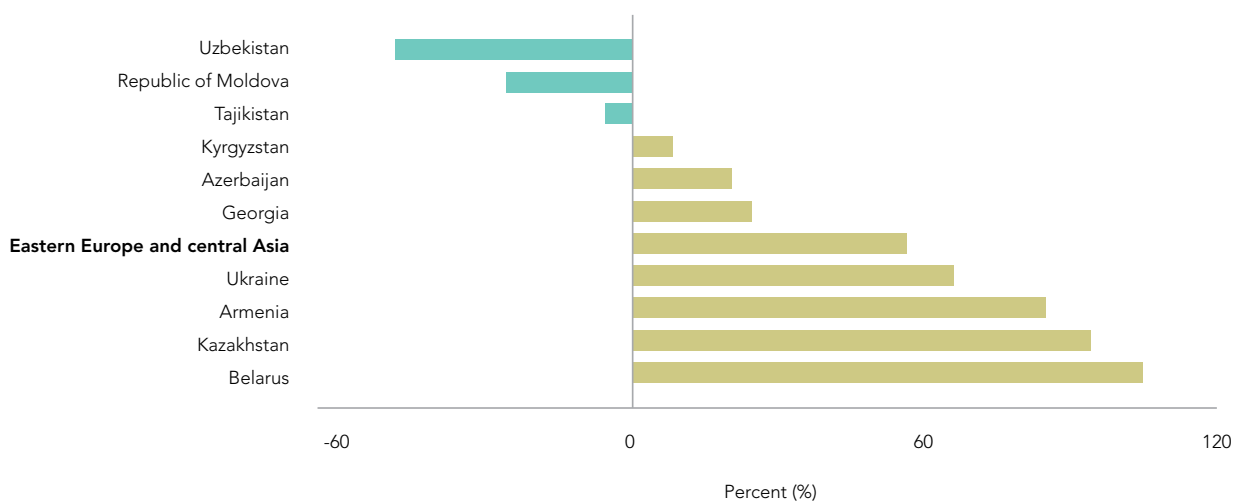
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Distribution of new HIV infections by country, eastern Europe and central Asia, 2015



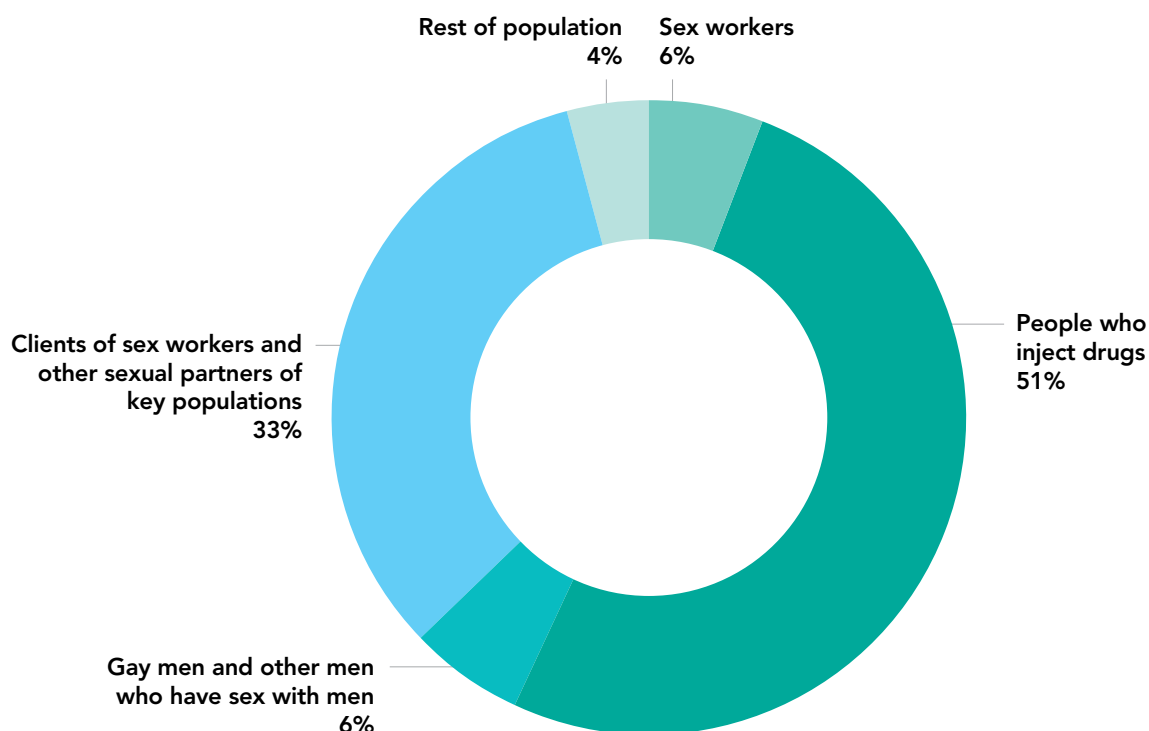
Source: UNAIDS 2016 estimates.

## Percent change in new HIV infections among adults (aged 15 years and older), eastern Europe and central Asia, from 2010 to 2015



Source: UNAIDS 2016 estimates.

## Distribution of new HIV infections among population groups, eastern Europe and Central Asia, 2014



Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

### HIV epidemic in eastern Europe and central Asia

Eastern Europe and central Asia is the only region in the world where the HIV epidemic continued to rise rapidly. There was a 57% increase in annual new HIV infections between 2010 and 2015.

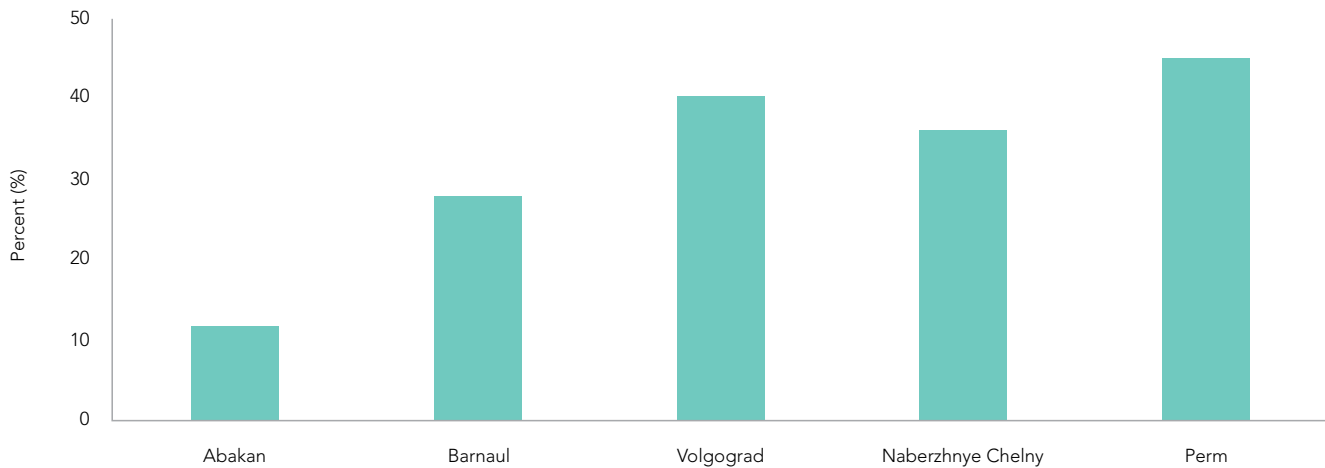
More than 80% of the region's new HIV infections in 2015 were in the Russian Federation, and an additional 15% occurred in Belarus, Kazakhstan, the Republic of Moldova, Tajikistan and Ukraine.

The epidemic is concentrated predominantly among key populations and their sexual partners, in particular people who inject drugs, who accounted for more than half of new HIV infections in 2015.

Low coverage of prevention programmes, in particular harm-reduction interventions among people who inject drugs, is largely to blame for this continued rise.

The vast majority of people living with HIV in the region resided in capitals or large cities where HIV prevalence among key populations is often extremely high. For example, a survey of people who inject drugs conducted in five Russian cities (Abakan, Barnaul, Volgograd, Naberezhnye Chelny, Perm) in 2015 found that one

## Prevalence of HIV among people who inject drugs in five cities of the Russian Federation, 2015



Source: Esvero. Report on results of bio-behavioural study among people who inject drugs in Abakan, Barnaul, Volgograd, Naberezhnye Chelny and Perm, 2015.

in three people who inject drugs were living with HIV. HIV prevalence among people who inject drugs was also high, exceeding 20% in some cities in Belarus (Svetlogorsk, Minsk, Pinsk) and 15 of 33 cities in Ukraine, but was under 10% in other countries in the region.

Prevention of mother-to-child transmission coverage in the region was more than 95%, and the transmission rate was less than 4% in seven of the region's 15 countries. In Belarus and Armenia the transmission rate was less than 2%, and all criteria have been met, allowing for validation of elimination of mother-to-child transmission.

### Progress and gaps in prevention

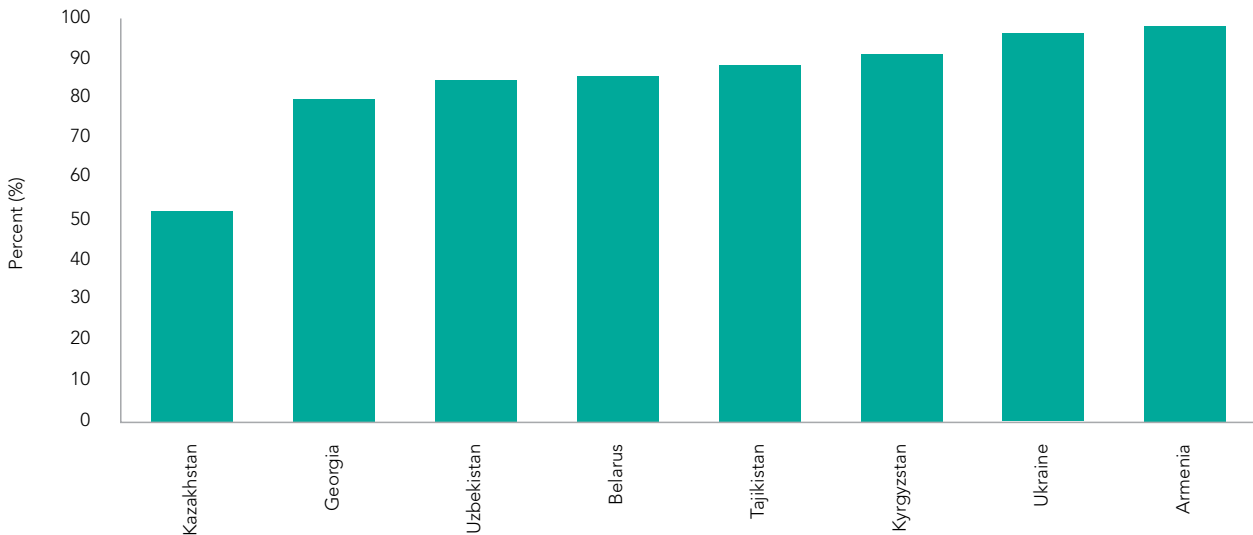
The scale of prevention programmes for key populations was insufficient to curb the region's surging epidemics. This was particularly true in the Russian Federation, home to the region's largest HIV epidemic and largest population of people who inject drugs (1.5 million) (1).

#### Harm reduction

Opioid substitution therapy was available in all countries except the Russian Federation, Turkmenistan and Uzbekistan. Capacity to provide such therapy remained low; coverage was 5.3% in Belarus, 4.9% in Kyrgyzstan, 3.5% in Ukraine and 0.2% in Kazakhstan. Similarly, the sterile injecting equipment distributed through needle-syringe programmes was insufficient across the region, except in Kyrgyzstan, where 241 needles were provided per client per year (target is 200).



## Use of clean needles at last injection, select countries, eastern Europe and central Asia, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

In most countries, people who use drugs reported high levels of use of clean needles at last injection. When the supply of clean syringes and needles via outreach workers and needle exchange points declines, however, there is a corresponding decline in the use of sterile injection equipment—for example, in Kazakhstan after a Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) grant ended. This trend must be urgently counteracted by all national AIDS programmes that transition from Global Fund support (2).

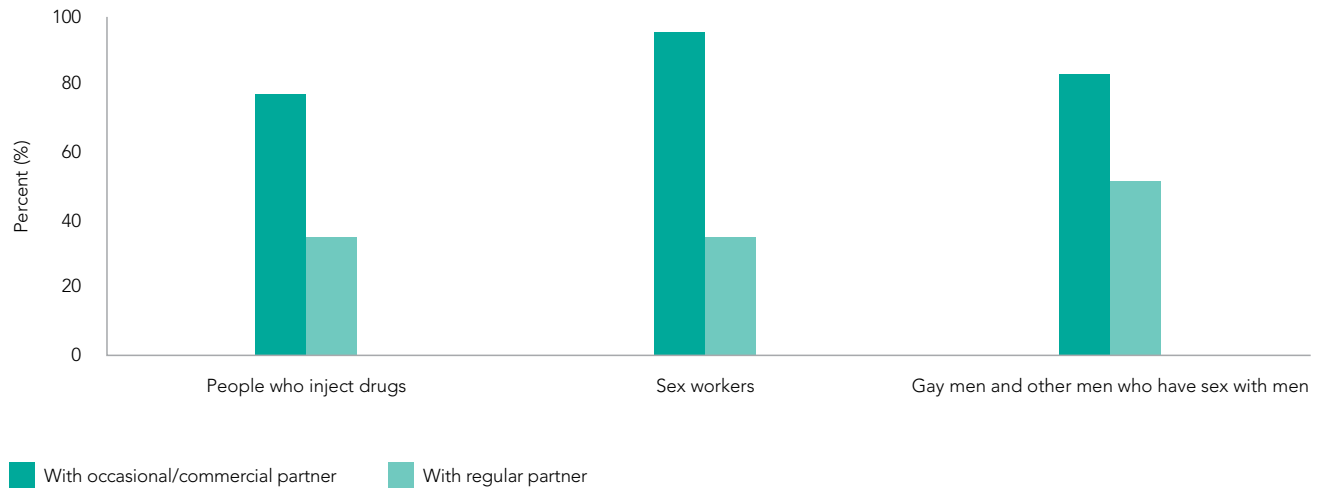
A needle-syringe programme in prisons is only available in Kyrgyzstan, Moldova and one prison in Tajikistan. Access to opioid substitution therapy for maintenance treatment in prisons is much lower than in the community, where accessible, in Moldova, Kyrgyzstan, and some police detention centres in Ukraine. (3)

Expanded coverage with a comprehensive harm reduction package of interventions will be required to have any noticeable effect on reducing the harms associated with injecting drug use.

### Sexual transmission of HIV

Unprotected sex is a cause of an ever growing number of new HIV infections. Sexual partners of key populations are at elevated risk of HIV infection. In certain countries key populations report high levels of condom use. For instance, self-reported condom use among gay men and other men who have sex with men ranged from 49% in the Republic of Moldova to 82% in Kyrgyzstan, among sex workers from 52% in Uzbekistan to 95% in Kazakhstan, and among people who inject drugs from 36% in Georgia to 60% in Belarus (4). Condom use is inconsistent, however, and levels of condom use vary between types of sexual

## Condom use among key populations, Kazakhstan, 2013–2015



Source: Ganina LY, et al. Review of HIV epidemic in Kazakhstan in 2013–2015. Almaty: 2016.

encounter. For instance, in Kazakhstan 95% of sex workers use condoms with clients but only 35% do so with stable partners; 84% of gay men and other men who have sex with men use condoms with occasional male partners but only 52% do so with regular male partners; and 77% of people who inject drugs use condoms with occasional sexual partners but only 35% do so with regular partners (2).

Drastically scaling up the number of people living with HIV on antiretroviral therapy to suppress viral load in combination with consistent condom use can help reduce the number of sexually transmitted HIV infections.

### Viral suppression

An estimated 67% [62–72%] of people living with HIV in eastern Europe and central Asia in 2015 knew their HIV status, and about 21% [20–23%] were on antiretroviral therapy. The gap to achieving the 90–90–90 target in 2015 was more than 354 500 people living with HIV who did not know their HIV status, 917 000 people in need of antiretroviral therapy, and 832 400 people living with HIV who were not virally suppressed. As a result of these gaps, only 19% [17–20%] of all people living with HIV in eastern Europe and central Asia had achieved the viral suppression necessary to prevent HIV transmission.

Country and regional HIV testing and treatment data presented in cascades emphasize that the biggest gaps are the number of people living with HIV who remain undiagnosed, and the number of people living with HIV who know their HIV status but have not started treatment.

Large proportions of key population groups remain undiagnosed in the region, presenting a major obstacle to achieving 90–90–90. Status awareness among sex

## Treatment cascade of services for people living with HIV in Ukraine, 2015



Source: CDC Ukraine, 2016.

workers ranges from 22% in the Republic of Moldova and 35% in Uzbekistan to 80% in Kazakhstan. Testing coverage was generally higher among gay men and other men who have sex with men and lower among people who inject drugs. In Ukraine available survey data suggest that less than 60% of gay men and other men who have sex with men reported taking an HIV test and receiving the results within the previous 12 months. Among female sex workers in Ukraine and Kyrgyzstan, 59% had an HIV test and received the results. The highest recorded rate of HIV testing among people who inject drugs was 58%, in Kazakhstan. The proportion is lower in other countries in the region. HIV testing is offered in some prison systems, however, several countries in the region have mandatory HIV testing in prisons, which the UN does not condone. A major barrier to expanded ART coverage is the lack of continuity between treatment in the community and prison system (5).

Coverage of antiretroviral therapy in the region remained significantly lower than the global average. Kazakhstan, Kyrgyzstan and Tajikistan reported less than 20% of sex workers living with HIV receiving antiretroviral therapy. Coverage among gay men and other men who have sex with men was lower. Kazakhstan and Ukraine reported 27% and 26% antiretroviral therapy coverage, respectively, among people who inject drugs, while coverage in Kyrgyzstan and Tajikistan was below 20%. Almost all countries in the region had not revised their AIDS treatment guidelines to reflect the latest World Health Organization recommendations to offer antiretroviral therapy immediately after diagnosis.

The price of antiretroviral medications and the unit costs for treatment-related services also remained high in several countries with large numbers of people living with HIV, impeding scale-up.

On average, 82% of people on antiretroviral therapy have a suppressed viral load. The highest rate was in the Russian Federation (85.2% of people on antiretroviral therapy), followed by Ukraine (77.7% of people on antiretroviral therapy); the lowest rate was in Tajikistan (32%). Given that only 21% of people living with HIV were on treatment, however, the prevention effect of the suppressed viral load would have only a marginal effect on reduction in HIV incidence.

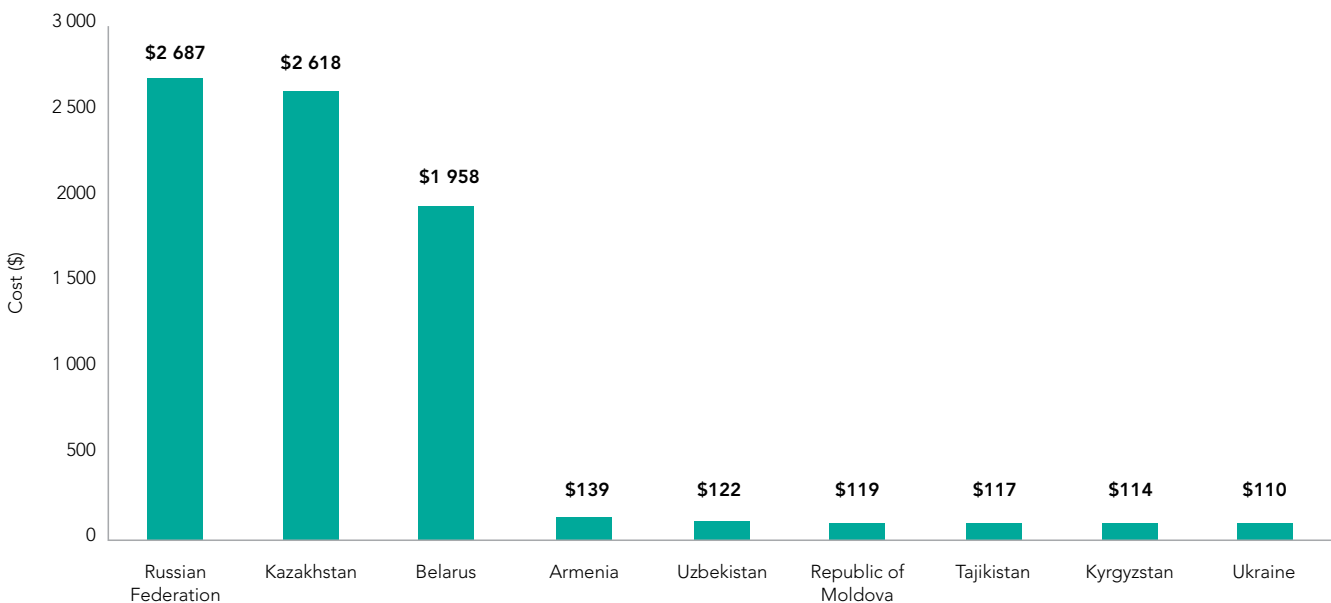
## Challenges

### Lack of national commitment to combination prevention

Even the limited coverage by prevention programmes was under threat. The Global Fund has been the region's largest donor for HIV prevention among key populations since 2004. As of July 2013, however, the Russian Federation was classified by the World Bank as a high-income country; 7 of the other 14 countries are classified as lower-middle-income countries. As a result, international support to HIV programmes in the region is decreasing, and new domestic funding for HIV prevention is not keeping pace as the priority of HIV programmes in many countries is to increase coverage of antiretroviral treatment.

In the Russian Federation, 30 projects serving some 27 000 people who inject drugs were left without financial support after the Global Fund grant ended in 2014. Although remaining projects in 16 cities continued to provide essential HIV services to people who inject drugs in 2015, their scale is not sufficient to change the trajectory of the HIV epidemic in the Russian Federation.

## Cost of fixed-dose TDF/FTC/EFV per person per year, 2015



Source: Median prices from the 2014 MSH/WHO International Drug Price Indicator Guide, 2014 edition. Geneva: World Health Organization; 2015 (<http://apps.who.int/medicinedocs/en/m/abstract/Js21983en/>).

### Legislative barriers to access for key populations

A new wave of conservative legislation in the region places additional restrictions on same-sex relationships, sex work and drug use and risks entrenching the barriers to HIV services for key populations.

On several occasions in 2014 and 2015 the Parliament of Kyrgyzstan tried to pass a homophobic bill that would make creating a positive attitude to non-traditional sexual relations a criminal offence. In October 2015 the Parliament of Tajikistan doubled the fine for sex work; a sex worker can also be given up to 15 days of home arrest. In Belarus, in 2015, fines were introduced for non-medical drug use; second-time offenders within one year may be sentenced to a two-year prison term. In the Russian Federation a so-called “law on foreign agents” interrupted the work of community-based organizations that receive international funding to provide HIV prevention services to key populations in the absence of domestic funding for these purposes.

Stigma and discrimination towards people living with HIV and key populations also remained high. Over 50% of men and women aged 15–49 years in eight countries with available data reported they would not buy fresh vegetables from a shopkeeper living with HIV, a question used to measure discriminatory attitudes towards people living with HIV (6). People living with HIV surveyed as part of the People Living with HIV Stigma Index in 2015 reported experiencing stigma and discrimination in many aspects of their lives, including denial of health or dental services in the previous 12 months (17.6% in Kazakhstan, 8.0% in Kyrgyzstan, 17.0% in Tajikistan) and refusal of employment (5.8% in Kazakhstan, 9.3% in Kyrgyzstan, 14.8% in Tajikistan) (7).

### Urban centres: high prevalence, large numbers of key populations

Moscow (Russian Federation), Kyiv (Ukraine), Almaty (Kazakhstan), Tashkent (Uzbekistan), Minsk (Belarus) and Chisinau (Republic of Moldova) are large urban centres and home to a considerable proportion of the region’s key populations and people living with HIV. The city of Kyiv has signed the 2014 Paris Declaration on Fast-Track Cities, which committed cities to focusing on vulnerable and marginalized people, including key populations, in order to reduce vulnerability and foster tolerance and achieve the 90–90–90 treatment targets by 2020.

### Services for vulnerable and marginalized women and children

Despite the overall progress in this area, access to prevention of mother-to-child transmission and other HIV services was still insufficient for the most vulnerable and socially marginalized groups of women, including irregular migrants and pregnant women who use drugs. This resulted in an increased risk of HIV transmission for these women and their infants. For instance, in Kyrgyzstan there is an increasing trend of denial of prevention of mother-to-child transmission services and antiretroviral therapy by women for religious reasons; such women choose not to be examined by a doctor or to discover their HIV status, and even if they do know their status refuse prevention of mother-to-child transmission services. They also refuse to have their children examined and treated for HIV. According to the 2015 mid-term evaluation of the state programme on HIV (8), 89 children were born to women living with HIV in 2012; only 59 children were tested for HIV (66.3%), and the status of the remaining 30 children was unclear.

In addition, children in the region who are living with HIV continue to need support as they become adolescents to attend school and ensure a smooth transition from paediatric to adult care.

## Opportunities

### Potential efficiency gains

Political commitment to Fast-Track the AIDS response by 2020 in the region remains uncertain, especially against the backdrop of limited government budgets and diminishing donor funding. Significant gains could still be made, however, through more efficient use of existing resources. An analysis of the allocation of existing resource in nine countries found that optimization of the use of these resources by focusing on the most effective HIV services among the populations and locations in greatest need could reduce new HIV infections by 6–36% (9–15).

Some countries in the region are already addressing this issue. In Belarus, one of the region's upper-middle-income countries, HIV prevalence among the estimated 67 000 people who inject drugs is 25%. The Government of Belarus has pledged to increase national funding for HIV services from 35% in 2016 to 62% in 2018, and to 100% following the cessation of Global Fund funding. Resourcing plans include using new social contracting mechanisms and local budgets to directly contract nongovernmental organizations to provide HIV services. Targets include expanding HIV prevention services to 60% of people, including needle–syringe distribution to 45 000 people who inject drugs and opioid substitution therapy to 4900 people, by the end of 2018 (16).

### Innovative HIV testing strategies

Increasing the number of people living with HIV who know their HIV status will require innovative strategies that focus on key populations who may feel uncomfortable or even afraid to access services at public health clinics. In the Republic of Moldova nongovernmental organizations are conducting saliva-based HIV test for key populations and serodiscordant couples alongside harm-reduction and other HIV prevention services. Special regulation and bylaws have been approved by the Moldovan Ministry of Health to ensure the quality and legitimacy of these screening tests and referral to the health system for confirmatory diagnosis (17). Since May 2016 HIV self-testing kits have been available in Moldovan pharmacies for US\$ 25. A leaflet accompanies the test kit to explain the steps to be taken depending on the screening test result. A communication campaign on testing was simultaneously organized with the launch of the self-test to encourage uptake. Early evidence suggests that the self-test is well accepted and empowering for people who may otherwise not seek to learn their HIV status.



# WESTERN AND CENTRAL EUROPE AND NORTH AMERICA

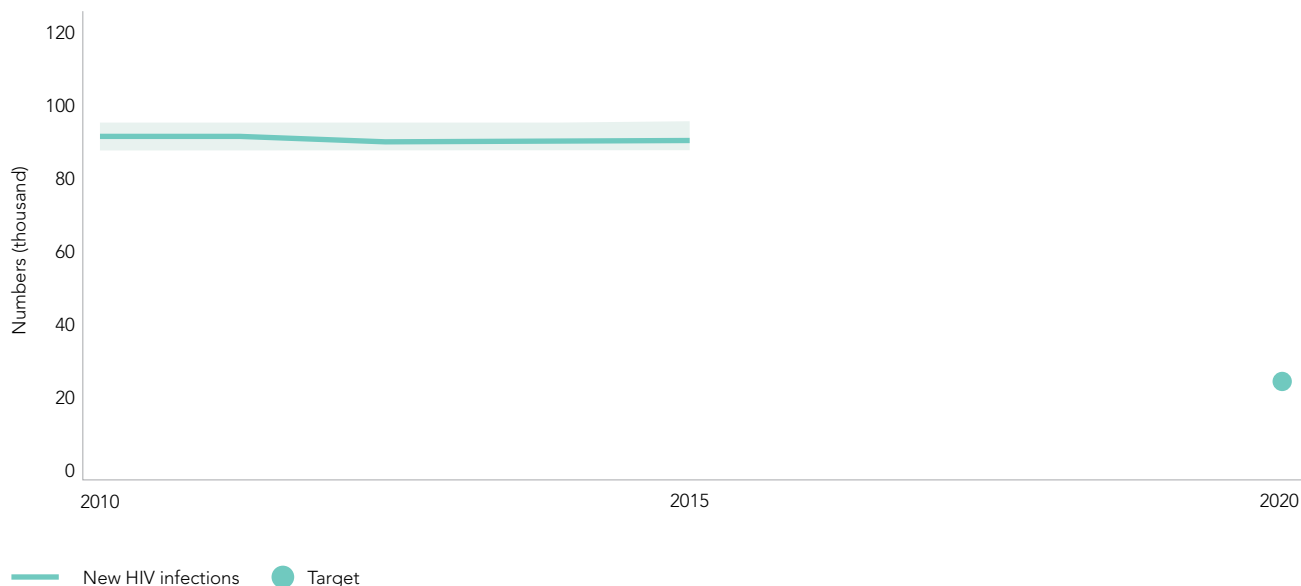
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In 2015 there were an estimated 91 000 [89 000-97 000] new HIV infections in western and central Europe and North America, including fewer than 1000 new infections among children. The annual number of new adult HIV infections remained stable between 2010 and 2015, but there were considerable variations among key populations and modes of transmission in different countries. Nine out of 10 new HIV infections in 2014 were among key populations and their sexual partners. In western and central Europe long-term high coverage of harm reduction programmes has reduced the number of new infections among people who inject drugs, but there are indications that levels of condom use have not improved among gay men and other men who have sex with men. Pre-exposure prophylaxis (PrEP) was available in Canada, France and the United States of America, and 17 European countries had pre-exposure prophylaxis demonstration projects in process or planned. The number of HIV tests performed in western and central Europe and the United States has increased steadily. Testing levels were highest among gay men and other men who have sex with men, however, and there is evidence that diagnoses are often made several years after infection. A major challenge is the continued disproportionate effect of HIV on gay men and other men who have sex with men, people who inject drugs, African American men and women, and migrants originating from high-endemic areas.



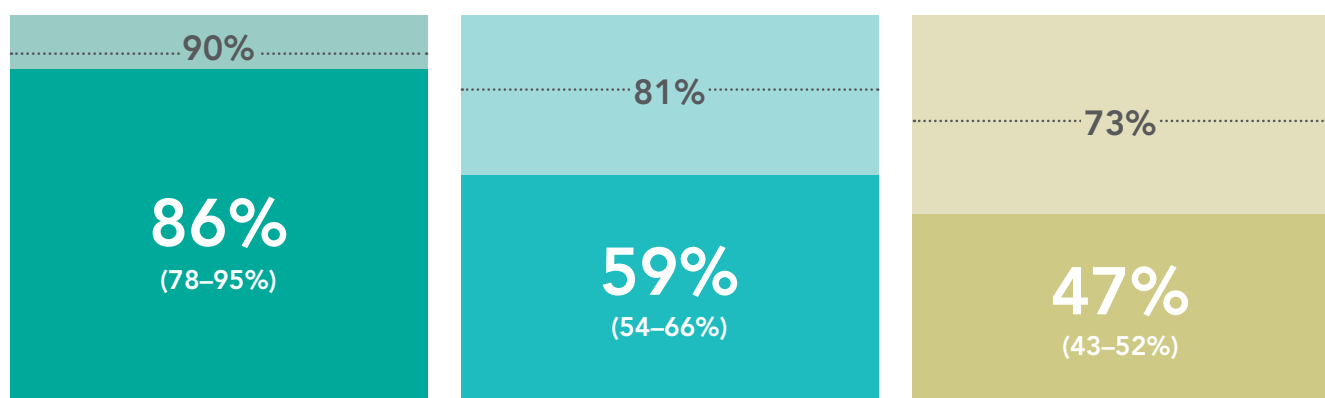
## TRENDS AND TARGETS

New HIV infections among adults (aged 15 years and older), western and central Europe and North America, 2010–2015



Source: UNAIDS 2016 estimates.

Progress towards the 90–90–90 target, western and central Europe and North America, 2015



Percentage of people living with HIV who know their HIV status<sup>1</sup>

Percentage of people living with HIV who are on antiretroviral treatment

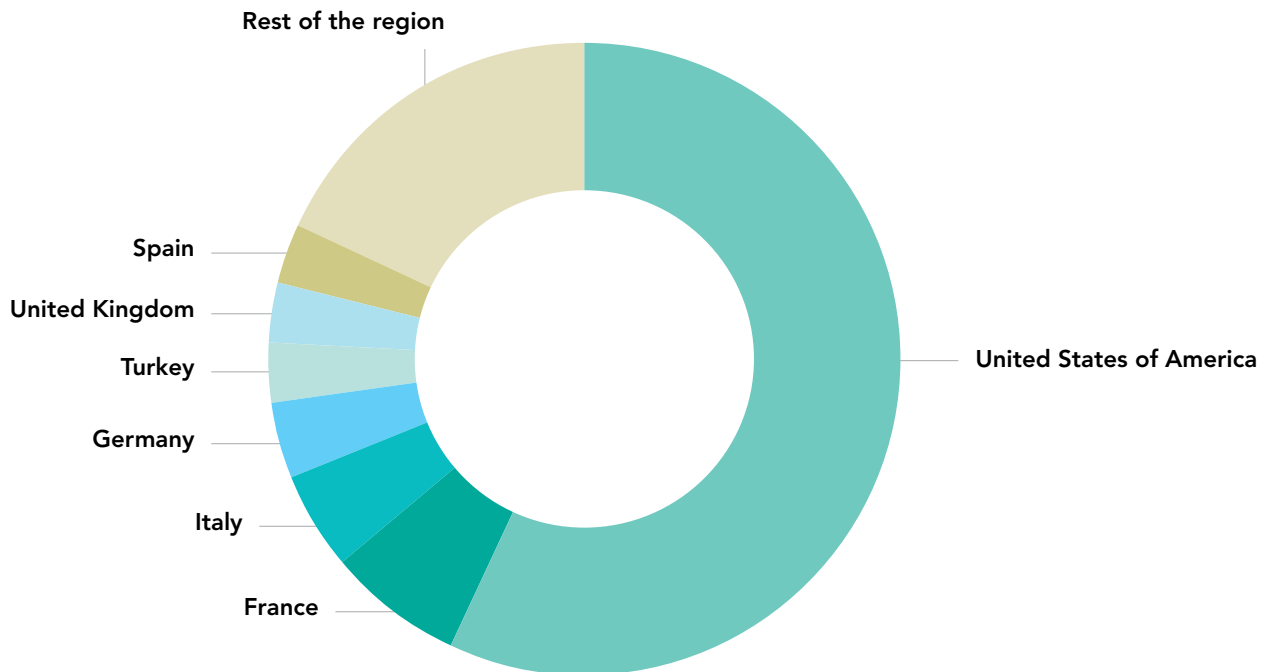
Percentage of people living with HIV who are virally suppressed<sup>2</sup>

<sup>1</sup> 2015 measure derived from data reported by 14 countries, which accounted for 83% of people living with HIV in the region.

<sup>2</sup> 2015 measure derived from data reported by 16 countries. Regionally, 44% of all people on antiretroviral therapy were reported to have received a viral load test during the reporting period.

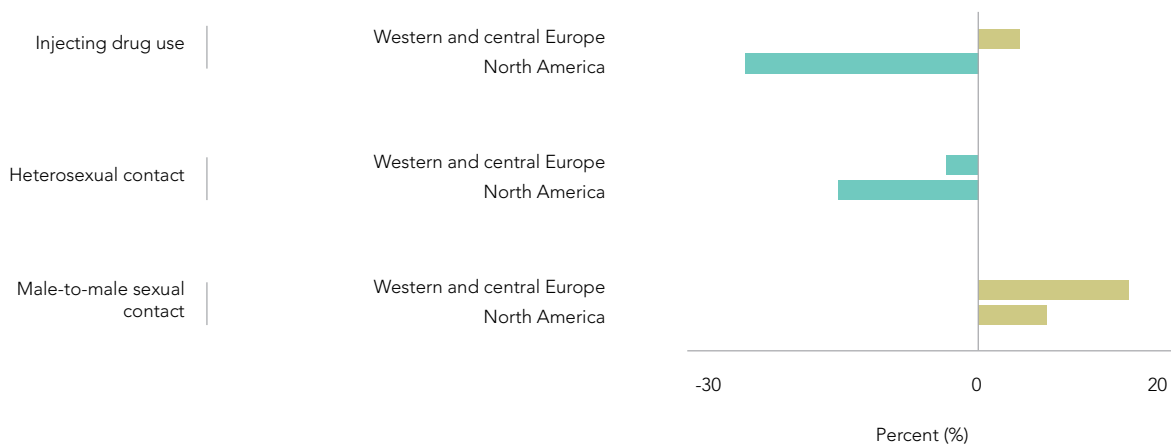
Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

## Distribution of new HIV infections by country, western and central Europe and North America, 2015



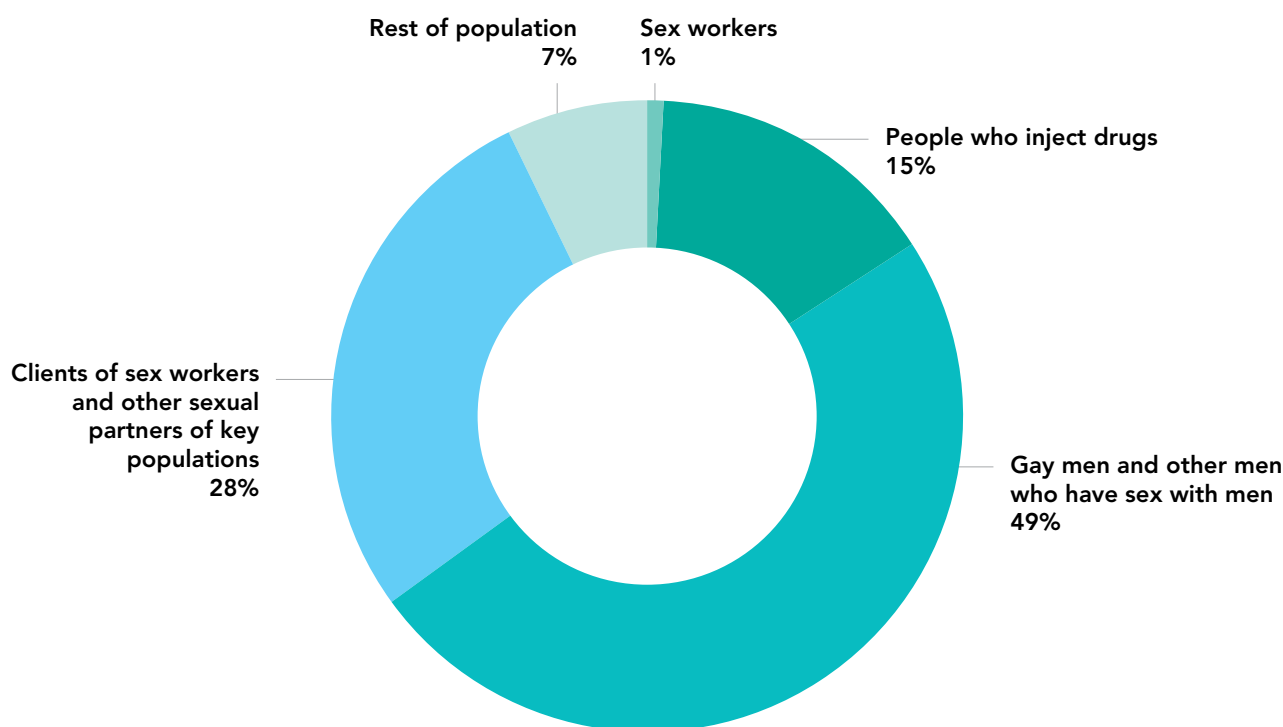
Source: UNAIDS 2016 estimates.

## Percent change in new HIV diagnoses by mode of transmission, western and central Europe and North America, from 2010 to 2014



Source: UNAIDS analysis using data from: European Centre for Disease Prevention, WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2014; United States Centers for Disease Control and Prevention. HIV Surveillance Report, 2014; vol. 26; Public Health Agency of Canada. HIV and AIDS in Canada: Surveillance Report to December 31, 2014. Countries not included in the analysis: Estonia, Poland, Italy, Spain, Turkey, Israel and Switzerland.

## Distribution of new HIV infections among population groups, western and central Europe and North America, 2014



Source: UNAIDS special analysis, 2016; for more details, see annex on methods.

### HIV epidemic in western and central Europe and North America

There were an estimated 91 000 [89 000–97 000] new HIV infections in western and central Europe and North America in 2015, including fewer than 1000 new infections among children. More than half of all new HIV infections occurred in the United States of America, and more than a quarter occurred in six countries: France, Germany, Italy, Spain, Turkey and the United Kingdom of Great Britain and Northern Ireland (1).

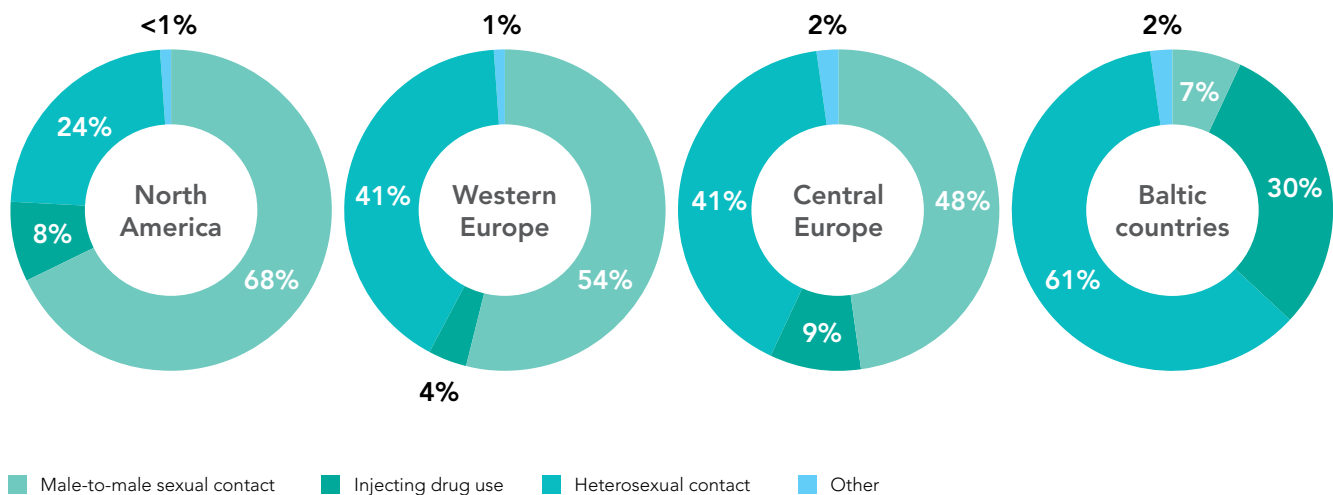
The annual number of new HIV infections among adults in western and central Europe and North America remained stable between 2010 and 2015, raising concerns regarding the region's progress towards its 2020 target of 23 000 new HIV infections. Stability in the overall trend of new infections hides changes among key populations that accounted for the vast majority of new HIV infections. New diagnoses among gay men and other men who have sex with men increased by 17% in western and central Europe and by 8% in North America between 2010 and 2014 (2,3). Over the same period, the annual number of new diagnoses among people who inject drugs in North America decreased by 26%. In western and central Europe several outbreaks of HIV among people who inject drugs caused new diagnoses within this population to increase in 2011 and 2012, following

several years of decline. Outbreaks related to injecting drug use in areas of Greece and Romania led to approximately a 20-fold increase in HIV diagnoses among people who inject drugs in these two countries between 2010 and 2012 and still had an effect on the number of new diagnoses in 2015 (4,5). The annual number of new diagnoses attributed to heterosexual transmission in North America declined by 16%, reflecting reductions in new HIV infections among women of African descent (3,5,22). However, in 2014 African American women accounted for 4654 new HIV diagnoses in the United States (2). In 2010 the rate of new HIV infections among African American women was estimated to be 20 times that of Caucasian women and nearly five times that of Hispanic women (22).

In western and central Europe the number of heterosexually acquired HIV diagnoses also decreased. This trend is mostly due to reduced number of diagnoses among migrants from high-endemic areas (1). Nonetheless, HIV diagnoses among migrants remain high accounting for 32% of all new HIV diagnoses in Europe in 2014. There is evidence that a considerable proportion of the infections were acquired post-migration (23).

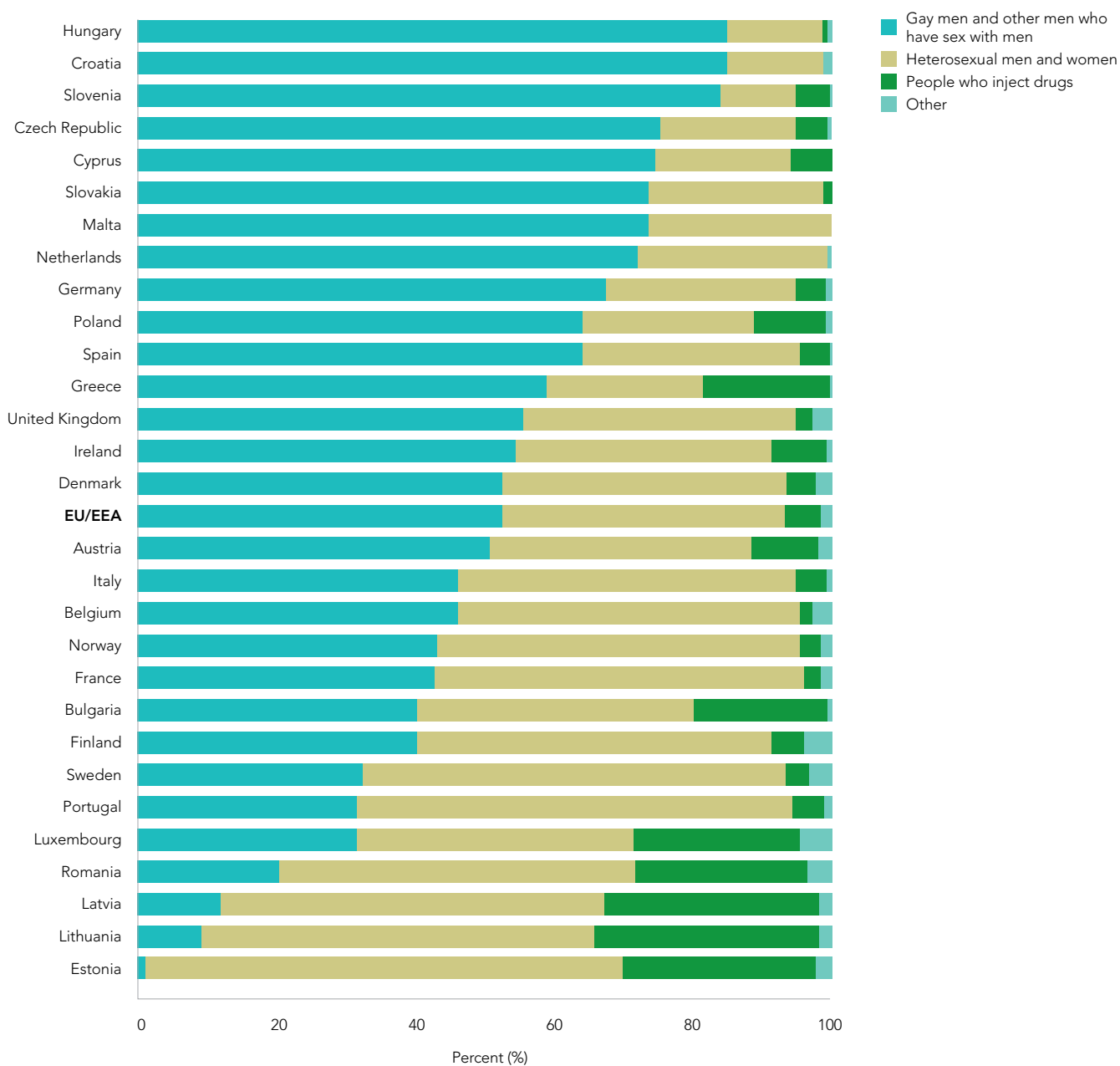
A UNAIDS analysis of available data across western and central Europe and North America suggests that 9 out of 10 new HIV infections in 2014 were among key populations and their sexual partners, with gay men and other men who have sex with men accounting for nearly half of all infections. HIV testing data from 2014 show that gay men and other men who have sex with men accounted for more than two-thirds of HIV diagnoses in North America and more than half of HIV diagnoses in western Europe. In central Europe a larger proportion of new diagnoses were attributed to injecting drug use, including nearly a third of diagnoses in 2014 in the Baltic countries of Estonia, Latvia and Lithuania (2).

## Distribution of new HIV diagnoses by mode of transmission, western and central Europe and North America, 2014



Source: UNAIDS analysis using data from: European Centre for Disease Prevention, WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2014; Centers for Disease Control and Prevention. HIV Surveillance Report, 2014; vol. 26; Public Health Agency of Canada. HIV and AIDS in Canada: Surveillance Report to December 31, 2014.

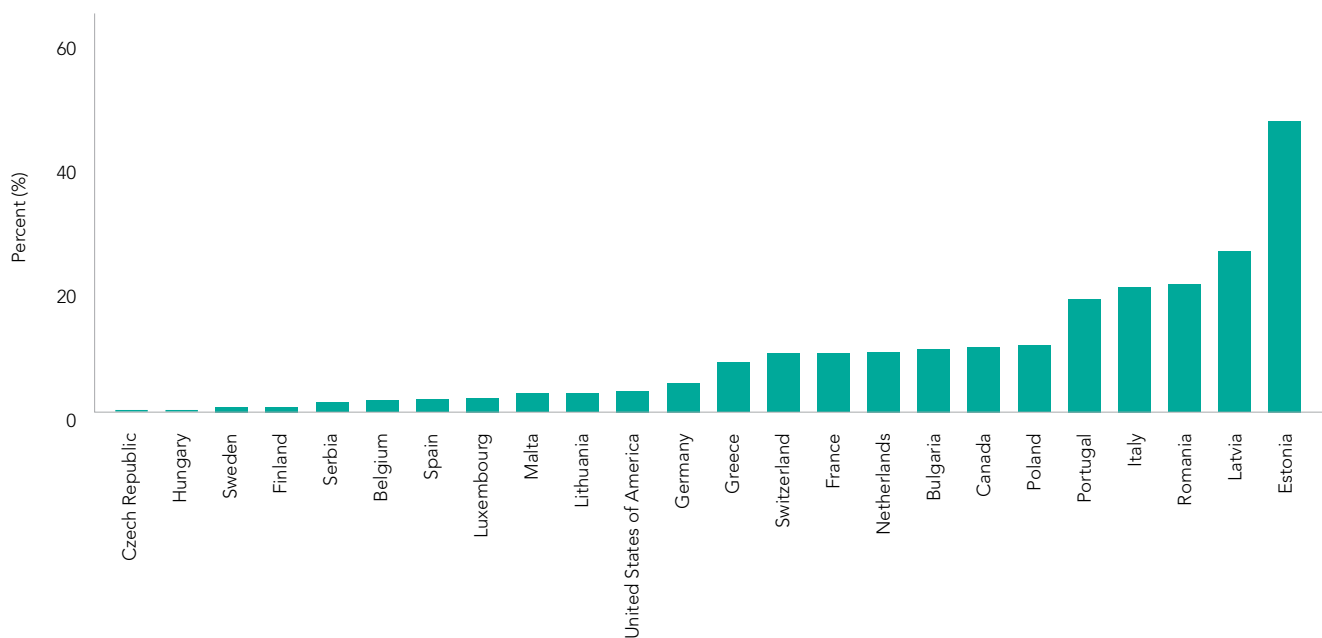
## Percent of new HIV diagnoses, by mode of transmission and country, EU/EEA, 2014



Source: European Centre for Disease Prevention and Control, WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2014.

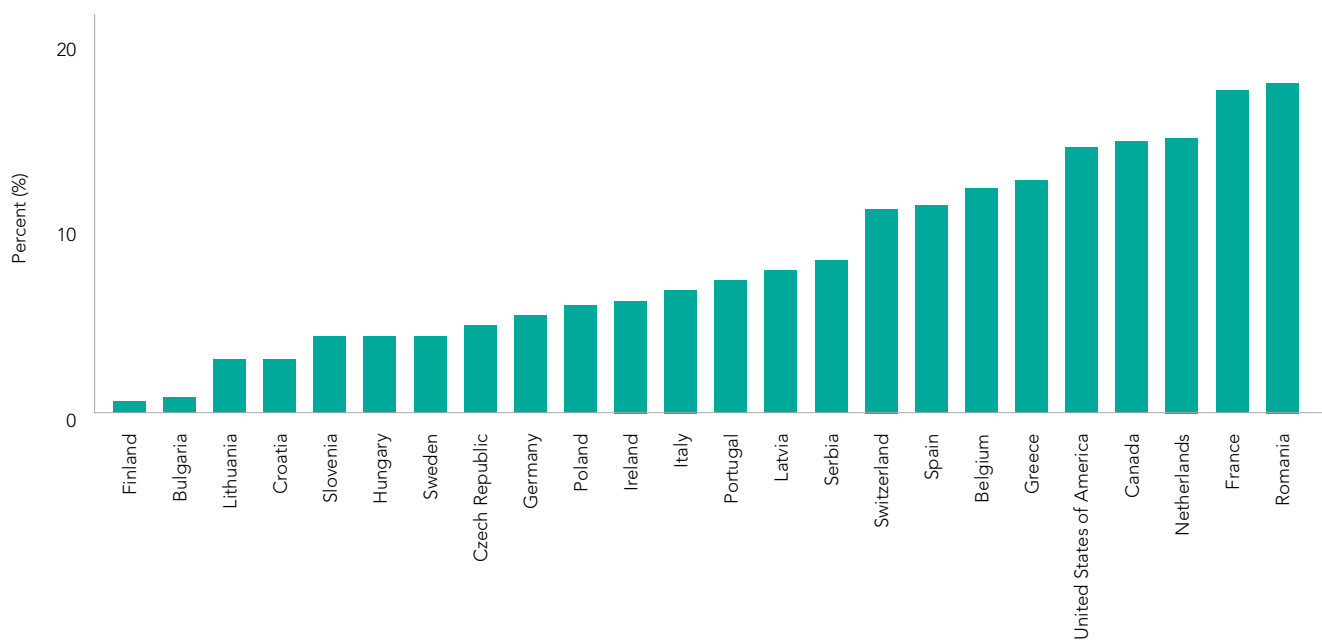
There was considerable variation among countries in the proportion of new diagnoses by mode of transmission. In western and central Europe the percentage of new HIV diagnoses in 2014 among gay men and other men who have sex with men ranged from less than 10% in Latvia, Lithuania and Estonia to more than 80% in Hungary, Croatia and Slovenia.

## HIV prevalence among people who inject drugs, western and central Europe and North America, most recent data, 2011–2015



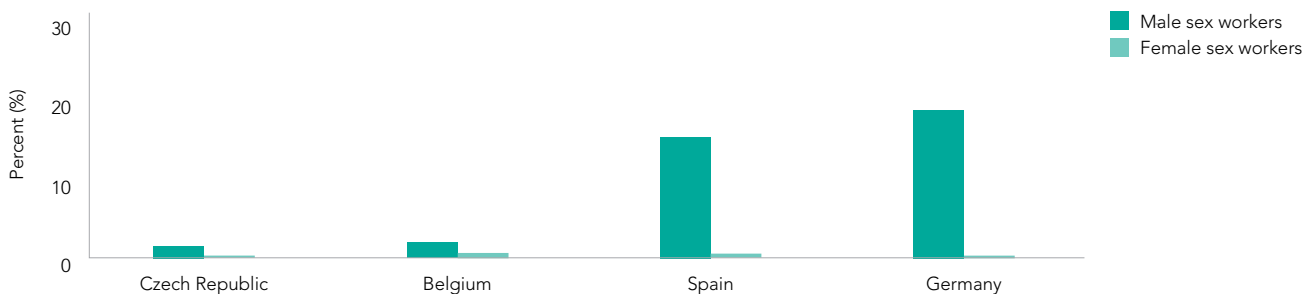
Source: 2016 Global AIDS Response Progress Reporting.

## HIV prevalence among gay men and other men who have sex with men, western and central Europe and North America, most recent data, 2013–2015



Source: 2016 Global AIDS Response Progress Reporting.

## HIV prevalence among male and female sex workers in Europe, select countries, most recent data, 2011–2015



Source: 2016 Global AIDS Response Progress Reporting.

HIV prevalence remained considerably higher among key populations, again with large variations among countries. The highest prevalence of HIV infection among people who inject drugs in the region in 2015 was in Estonia (48%), followed by Latvia (27%) and Romania (21%). In the Czech Republic, where drug use is decriminalised and coverage of harm-reduction services is relatively high, HIV prevalence among people who inject drugs was 0.2% in 2013. In 2010 the rate of new HIV infections among African American women was estimated to be 20 times that of white women and nearly five times that of Hispanic women (22).

In 2014, 32% of all HIV diagnoses in Europe were among migrants. There is evidence that a considerable proportion of the infections were acquired after migration (23).

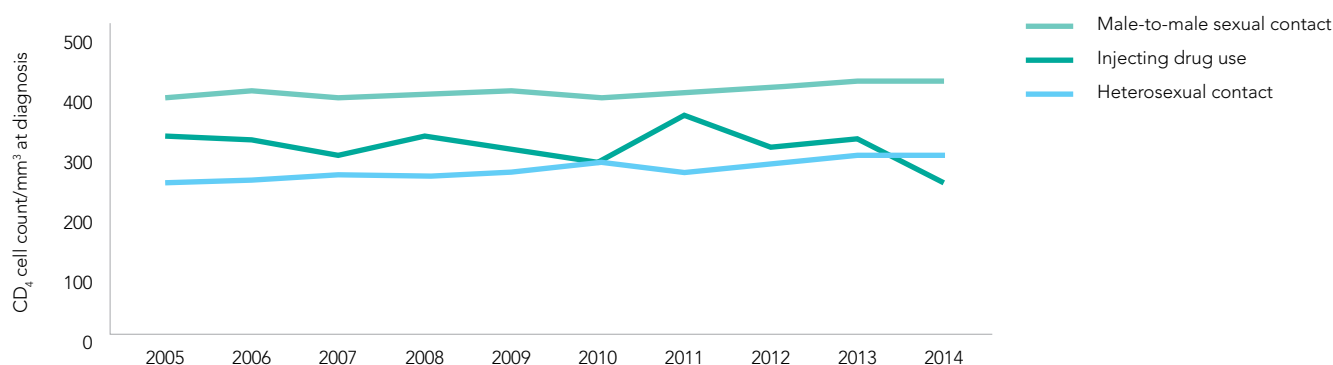
## Progress and gaps in prevention

### Key populations

In western and central Europe high coverage of harm-reduction programmes for more than a decade has reduced the number of people who inject drugs newly diagnosed with HIV from 2161 in 2005 to 1126 in 2014 (2). In the United States heroin use increased among men and women in most age groups and across all income levels, with a total increase of 63% between 2002 and 2013. This trend coincided with an increase in hepatitis C virus infections and new outbreaks of HIV associated with injecting drug use (10).

Increases in the annual number of cases of sexually transmitted infections such as gonorrhoea, syphilis and HIV diagnoses in the European Union and the United States (9) suggest that levels of condom use among gay men and other men who have sex with men have not improved.

## Median CD<sub>4</sub> cell count per mm<sup>3</sup> at HIV diagnosis, by mode of transmission, EU/EEA, 2005–2014



Source: European Centre for Disease Prevention and Control, WHO Regional Office for Europe. HIV/AIDS surveillance in Europe 2014.

### Pre-exposure prophylaxis

In the United States PrEP has been recommended since 2012 for people at ongoing substantial risk of HIV infection, including HIV-negative people in a sexual relationship with a person living with HIV, people who inject drugs, and gay men and other men who have sex with men who do not consistently use condoms. Of the 1.2 million people who were eligible for PrEP, however, only an estimated 30 000 were prescribed it in 2015 (11). Increasing PrEP coverage in the United States could prevent around 48 000 new infections within five years and up to 185 000 new infections in the same period if increased coverage were combined with expanded testing and treatment (12). Canada approved the use of PrEP among adults at high risk of HIV infection in February 2016 (13).

In France, following the issuing of temporary regulatory approval in November 2015, 60 clinics were offering PrEP by mid-2016, and 437 people were enrolled during the first three months of the programme, which represents around 2–4% of the 10 000–20 000 people at high risk of acquiring HIV (14). A survey conducted by the European Centre for Disease Prevention and Control found that 17 European countries had PrEP demonstration projects in process or planned. The survey found that national health systems view the relatively high cost of PrEP as the biggest barrier to full adoption of this HIV prevention option (15).

### Viral suppression

An estimated 86% [78–95%] of people living with HIV in western and central Europe and North America in 2015 knew their HIV status, and about 59% [54–66%] were on antiretroviral therapy. In 2015 approximately 90% of the people who had initiated antiretroviral therapy remained on treatment after 12 months (6). Nearly half of all people living with HIV in western and central Europe and North America had achieved the viral suppression necessary to prevent HIV transmission (47% [43–52]). Achieving the 90–90–90 target required diagnosing around 102 000 people living with HIV who did not know their HIV status, starting an additional 521 800 people on antiretroviral therapy, and ensuring an additional 613 900 people living with HIV achieved viral suppression.



## HIV testing among key populations, western and central Europe and North America, most recent data, 2011–2015

<50%	50% - 75%	>75%
<b>GAY MEN AND OTHER MEN WHO HAVE SEX WITH MEN</b>		
Canada Croatia Czech Republic Estonia Germany Latvia Lithuania Luxembourg Montenegro Netherlands Romania Serbia Spain Sweden Switzerland	Belgium Bulgaria France Italy Norway Poland Portugal Slovenia United States of America	
<b>PEOPLE WHO INJECT DRUGS</b>		
Italy Malta Portugal Romania Serbia	Bulgaria Czech Republic Estonia Finland France Germany Greece Hungary Lithuania Netherlands Slovenia Switzerland United States of America	Canada Latvia Luxembourg Sweden
<b>FEMALE SEX WORKERS</b>		
Latvia Romania Serbia	Estonia France Germany Greece Portugal	Bulgaria Czech Republic
<b>MALE SEX WORKERS</b>		
Serbia	Bulgaria Germany	Czech Republic Romania France Portugal

Source: 2016 Global AIDS Response Progress Reporting.

Evidence suggests that diagnoses of HIV infection are often made several years after infection. Nearly half of all people diagnosed with HIV in western and central Europe in 2014 had a CD4 count below 350 cells/mm<sup>3</sup>, and 27% had advanced HIV infection (CD4 count below 200 cells/mm<sup>3</sup>). CD4 counts below 350 cells/mm<sup>3</sup> at diagnosis were more common among people who inject drugs (61%) and less common among gay men and other men who have sex with men (37%).

The median CD4 count at diagnosis in western and central Europe has improved over time among gay men and other men who have sex with men and among people who acquired HIV through heterosexual contact, but the average CD4 count at diagnosis among people who inject drugs has fluctuated (2).

In the United States the median CD4 count at presentation for care for the years 2010–2012 was 341 cells/mm<sup>3</sup>, while in Canada it was 285 cells/mm<sup>3</sup> (16). There are indications that CD4 counts at initiation of treatment are increasing in the United States: in New York state the median initial CD4 count at diagnosis rose from 315 cells/mm<sup>3</sup> in 2006 to 378 cells/mm<sup>3</sup> in 2013 (17).

Of the 24 countries in the western and central Europe and North American region with available data, the percentage of gay men and other men who have sex with men who reported taking an HIV test and receiving the results between 2011 and 2015 was more than half in only 9 countries. In the United States a survey of gay men and other men who have sex with men found that 75% of respondents living with HIV were aware of their HIV status, compared with 71% of HIV-negative respondents (18). Across the region, levels of testing were lowest among gay men and other men who have sex with men, at 41% in 2015.

## Opportunities

### HIV Care Continuum Initiative and Affordable Care Act in the United States

In the United States the HIV Care Continuum Initiative was launched in 2013 to accelerate improvements in HIV prevention and care by enhancing capacity in all states of the United States to systematically identify and re-engage people living with HIV. Key priorities for improving outcomes along the care continuum include expanding the workforce by engaging and training non-traditional providers and expanding proven models of team-based, patient-centred approaches that facilitate ongoing engagement in care. The initiative was later incorporated into the National HIV/AIDS Strategy for the United States.

At the same time, thousands of additional people living with HIV in the United States have been enrolled in comprehensive health insurance through the implementation of the Affordable Care Act (20). Early studies of the Affordable Care Act's effect on the health care of people living with HIV in the United States suggest that many people have used the systems established under the Act to find more affordable and comprehensive health insurance coverage (21).

### Harm reduction in western and central Europe

Decriminalization and de-penalization of drugs for personal consumption, similar to Portugal and Czech Republic, would reduce the pressures on people who

inject drugs to avoid engaging with HIV prevention and treatment services. This would also create opportunities to expand needle-syringe programmes, which should occur regardless of the legal status of drug consumption. Similarly, decriminalization of sex work could empower women and men engaged in commercial sex work to seek and utilize HIV prevention and treatment services.

#### **Innovative engagement strategies**

The widespread use of mobile dating apps among gay men and other men who have sex with men offers opportunities for collaboration to engage with men, to inform users of the locations of HIV testing or prevention services.

#### **Reduction of legislative barriers**

Increasing levels of official recognition of same sex marriages and other steps toward improved integration of the lesbian, gay, bisexual, transgender and intersex people community needs can reduce stigma and discrimination of community members, aiding access to needed HIV services.

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# CONCLUSION

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Progress on preventing HIV infections among adults has stalled in recent years. The rates of new HIV infections among young women and girls and their male sexual partners in high-prevalence settings in Africa remains unacceptably high, and among key populations globally they have hardly changed since 2010. Antiretroviral therapy roll-out has led to a massive reduction in AIDS-related deaths, but viral suppression rates are still too low to realize the prevention dividend of treatment.

The United Nations General Assembly has agreed on an ambitious impact target: reducing new HIV infections to fewer than 500 000 globally by 2020. Enhanced treatment roll-out and greater progress on viral suppression will contribute to reaching this target. Fully closing the prevention gap will require intensive focus on five pillars delivered through a people-centred, combination approach:

1. Combination prevention including comprehensive sexuality education, economic empowerment, and access to sexual and reproductive health services for **young women and adolescent girls and their male partners** in high-prevalence locations.
2. Evidence-informed and human rights-based prevention programmes for **key populations**, including dedicated services and community mobilization and empowerment.
3. Strengthened national **condom programmes**, including procurement, distribution, social marketing, private-sector sales and demand creation.
4. **Voluntary medical male circumcision** in priority countries that have high levels of HIV prevalence and low levels of male circumcision, as part of wider sexual and reproductive health service provision for boys and men.
5. **Pre-exposure prophylaxis** for population groups at higher risk of HIV infection.

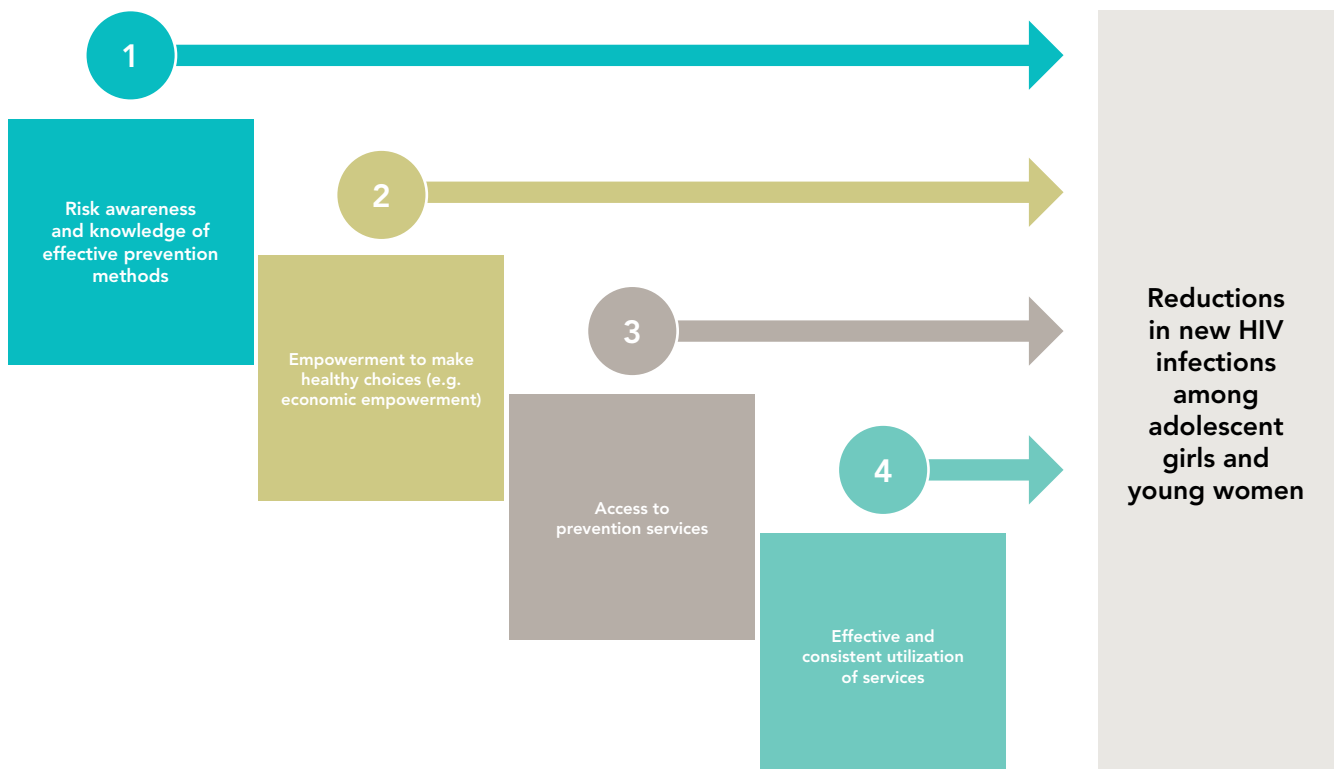
Evidence from a diversity of countries shows that a combination approach to prevention—comprehensive packages of behavioural, biomedical and structural components, tailored to priority population groups within their specific local contexts—produces the strongest results. Research in South Africa has shown that combining cash transfers with free education and psychosocial support interventions boosted reductions HIV risk behaviours among adolescents (1). In three countries of Central America, the combination of integrated prevention campaigns with biomedical and structural components improved condom use by sex workers with regular partners, in part by allowing sex workers to address deeper factors that influence their behaviours (2).

## Strategies for success

Translating evidence into policies and programmes and bringing HIV prevention programmes to scale requires strengthening prevention management capacity to oversee decentralized planning, and to ensure the procurement and supply of critical prevention commodities. The quality and effectiveness of prevention can be improved by using prevention demand-and-supply cascades to highlight bottlenecks. While prevention cascades are inherently more difficult to define and use than the HIV testing and treatment cascades, interest has grown, with several methods and country-specific cascades now under development, aiming to improve prevention management.

A location–population approach, with local-level actions based on local-level data, will be critical to addressing the heterogeneity of the epidemic, and to ensuring local ownership of the response. Further progress on prevention also requires re-thinking community outreach and service delivery models for key populations. More than ever an integrated approach is needed in which key populations are reached by a range of programmes that provide basic prevention services, such as access to condoms, injecting equipment, testing, PrEP and treatment, as well as a range of non-HIV specific services including social and legal support. But as long as most key population programmes are funded by external donors, and reluctance remains among many governments to invest in services to these marginalized members of society, it will be difficult to further expand and systematize existing community-based outreach approaches and also provide community-based testing, PrEP and immediate access to treatment.

## Conceptualizing prevention demand-and-supply cascades for adolescent girls and young women



Of critical importance for the future of the prevention response will be the relationship between government and community actors. Renewed prevention activism and a new compact between government and civil society organizations are needed. This partnership must go beyond grass-roots advocacy for risk awareness and “staying HIV free”. Country compacts should include strengthened and clearly defined civil society roles in prevention programme planning, implementation and joint monitoring of progress against ambitious targets. Experience from Australia, India, South Africa and several countries in western and central Europe and North America shows that while government commitment and funding provide the foundation of successful prevention responses, prevention programme implementation, especially with regards to key populations, should be carried out in collaboration with civil society and peer organizations that have the trust and ear of the populations at greatest need of services. Formal contractual arrangements between government and civil society organizations, including supervision and mentoring, and capacity building, should be put in place across countries.

Greater ambition can only be realized with greater investment. In late 2015, UNAIDS, launched a campaign to stimulate progress on prevention investments, the Quarter for prevention campaign, which calls on all countries to examine their investment portfolios, and for at least 25% of global HIV resources to be invested in effective primary prevention programmes. This call was taken up the United Nations General Assembly at the High Level Meeting on Ending AIDS. However, investments in effective HIV prevention in low- and middle-income countries remain inadequate and are too often dependent on international donors who themselves face constraints in their allocation of financial resources for prevention. Larger and more balanced investments in AIDS responses are needed, in line with commitments made within the 2016 Political Declaration on HIV and AIDS.

## **Pulling together for prevention: translating global commitments into country action**

The targets and commitments in the 2016 Political Declaration on HIV and AIDS establish the basis for action. Global targets need to be translated into national and sub-national implementation plans that focus on the populations and locations in greatest need, and address the legal, social and economic barriers to prevention service access and uptake at national and local levels.

Key partners must pull together for prevention and ensure that sufficient technical capacity and financial resources are made available. A key catalyst for country action will be global guidance on how to define service reach, access or coverage within each of the five pillars. With countries and communities at the centre, a re-doubling of effort on combination prevention will put the world on track to achieving fewer than 500 000 new infections by 2020, and to ending the AIDS epidemic by 2020.

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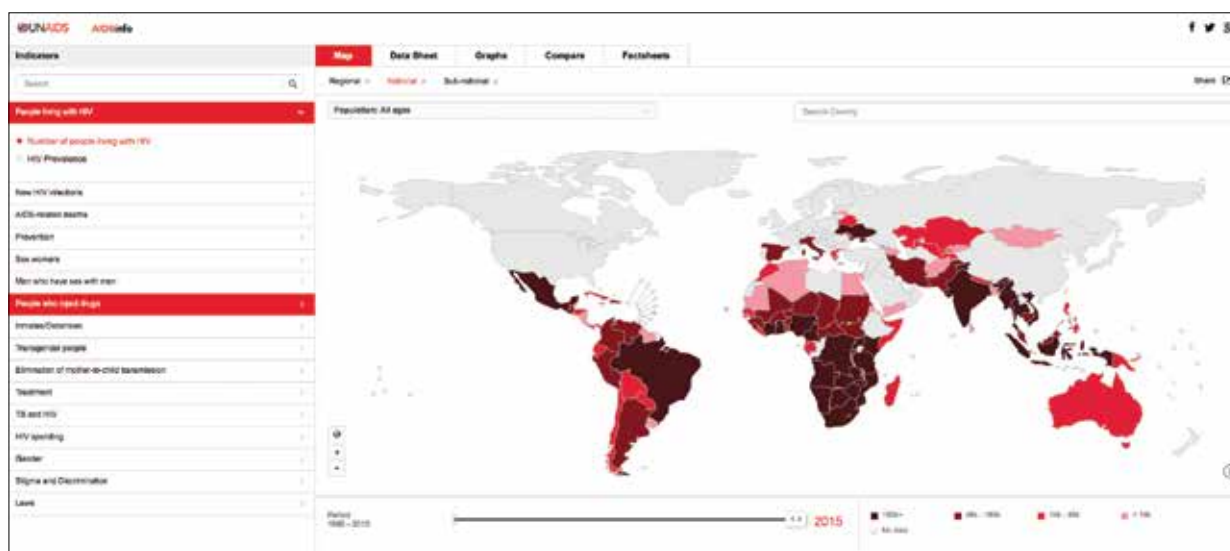
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**For more information:** [aidsinfo.unaids.org](http://aidsinfo.unaids.org)

The data provided in this document are just a sample of the data available from UNAIDS.

Additional data are available at [aidsinfo.unaids.org](http://aidsinfo.unaids.org), including:

- Additional Global AIDS Response Progress Reporting Indicators on prevention, mother-to-child transmission, 90–90–90 targets, stigma and discrimination
- A Key Population Atlas of maps on key populations, including the latest available data on key populations at increased risk of HIV infection.
- Estimates of new HIV infections, people living with HIV and AIDS-related deaths by different age groups, children (age 0–14 years), adolescents (age 10–19 years), young people (age 15–24 years), adults (age 15–49) older people (age 50 years and over), and by sex
- Subnational data for selected countries
- Data in different formats: spreadsheet, maps, graphics
- Comparable data over multiple years, and across countries, which can also be extracted to spreadsheets for further analysis.









## ANNEXES

# ANNEX ON METHODS

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## Part 1. HIV estimates in annex tables and in report

### Introduction

UNAIDS annually provides revised global, regional and country-specific modelled estimates to track the HIV epidemic, using the best available epidemiological and programmatic data. 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. Knowing this for certain requires testing every person for HIV regularly 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 to describe 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 comprise primarily epidemiologists, demographers, monitoring and evaluation specialists and technical partners.

The software used to produce the estimates is Spectrum—developed by Avenir Health ([www.avenirhealth.org](http://www.avenirhealth.org))—and the Estimates and Projections Package, which is developed by the East-West Center ([www.eastwestcenter.org](http://www.eastwestcenter.org)). The UNAIDS Reference Group on Estimates, Modelling and Projections provides technical guidance on the development of the HIV component of the software ([www.epidem.org](http://www.epidem.org)).

### Brief description of methods used by UNAIDS to create estimates

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 surveillance among pregnant women attending antenatal care clinics and from nationally representative population-based surveys.

Because antenatal clinic surveillance is performed regularly, these data can be used to inform 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 national HIV prevalence levels. 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. The HIV prevalence curves 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 (such as at the province or state level) 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 using Spectrum.

In countries with low-level HIV epidemics where HIV transmission occurs largely among key populations at higher risk of HIV infection (such as people who inject drugs, sex workers or gay men and other men who have sex with men), the data from repeated HIV prevalence studies—usually focused on key populations—are most often used to inform national estimates and trends. Estimates of the size of key populations are increasingly derived empirically in each country or, when studies are not available, based on regional values and consensus among experts. Other data sources—including population-based surveys, surveillance among pregnant women and HIV case reporting data—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 many countries in western and central Europe and North America and in Latin America and the Caribbean that have insufficient HIV surveillance or survey data—but have strong vital registration and disease reporting systems—HIV case reporting and AIDS-related mortality data are used to directly 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 age- and sex-specific estimates of the number of people living with HIV, the number of people newly infected with HIV and the number of people dying from AIDS-related causes as well as other important indicators (including programme coverage statistics). These assumptions are based on systematic literature reviews and analyses of raw study data by scientific experts. Demographic population data, including fertility estimates, are derived from the latest revision of the United Nations Population Division's World Population Prospects.

Selected inputs into the model—including the number of people on antiretroviral therapy and the number of women accessing services for preventing the mother-to-child transmission of HIV by type of regimen—are reviewed and validated in partnership with the World Health Organization (WHO), the United Nations Children's Fund (UNICEF) 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.

### Uncertainty bounds around UNAIDS estimates

The software calculates uncertainty bounds around each estimate that define the range within which the true value (if it could be measured) lies. Narrow bounds indicate that an estimate is precise, and 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. 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 number of assumptions required to arrive at the estimate also contributes 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 because the latter is based on prevalence among pregnant women and the probability of mother-to-child HIV transmission.

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 to the 2016 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, including for past years. Second, improvements are incorporated into the model based on the latest available science and understanding of the epidemic. Because of these improvements to the model and the addition of new data to create the estimates for each year, the results from previous years cannot be compared with the results from this year. A full historical set of estimates has also been created for this year, enabling a description of trends over time.

Between the previous and 2016 rounds of 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.

- Updated demographic data from the United Nations Population Division's *World Population Prospects, 2015 Revision* were used as the basis for the demographic projections in the model.
- For countries with high-burden epidemics that model separate HIV prevalence and incidence trends for rural and urban areas, the distribution of the urban population was updated using the *World Urbanization Prospects 2014* data set.
- In the adult estimation model, the probability of dying for those on antiretroviral therapy was updated based on data provided to UNAIDS by the leDEA Consortium.
- The probabilities of HIV transmission during pregnancy, delivery and breastfeeding have been updated based on a comprehensive and recent review of published literature. Most importantly, the estimated transmission probability among women who seroconvert during pregnancy or breastfeeding was significantly lower than a previous review of the literature had found. As a result, the number of children estimated to have become infected was revised downward in the current model.
- The estimation model for children was modified to apply a probability of initiating antiretroviral therapy by the child's age, year and geographical region rather than assuming that antiretroviral therapy was initiated when the child became eligible for treatment. The new probabilities were based on special analyses done for UNAIDS by the leDEA Consortium and provided region-specific probabilities. As a result of more accurately reflecting when children initiate antiretroviral therapy, the number of children estimated to have survived in previous years has been corrected downwards.
- Wider use was made of the AIDS Epidemic Model developed by the East-West Center and the case reporting and mortality fitting tools in Spectrum to construct national prevalence and incidence trends in countries with concentrated epidemics. This improved the overall accuracy of the estimates in these countries.
- For countries using HIV case reporting and mortality data as model inputs, uncertainty around the incidence curve has been integrated into the incidence fitting process. As a result, the uncertainty bounds for countries using this approach were narrower than in the previous year.

More detailed information on these revisions to the 2016 model can be found at [www.epidem.org](http://www.epidem.org) and in a collection of topical articles by the UNAIDS Reference Group on Estimates, Modelling and Projections to be published in a journal supplement to be released in December 2016.

### Measuring antiretroviral therapy coverage

Since 2013, UNAIDS has provided the number and estimates of the proportion of adults and children living with HIV who are on antiretroviral therapy (rather than estimates of the proportion of adults and children eligible according to national

or international guidelines who are on antiretroviral therapy). This coverage reflects the WHO recommendations of starting antiretroviral therapy among everyone diagnosed as HIV-positive.

### Publication of country-specific estimates

UNAIDS aims to publish estimates for all countries with populations of 250 000 or more. For the countries with populations of 250 000 or more that did not submit estimates, UNAIDS developed estimates using the Spectrum software that were based on published or otherwise available information. These estimates contributed to regional and global totals but were not included in our reports or website.

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, people who use drugs or sexual partners of people who use drugs or gay men or other men who have sex with men, and thus they are likely to have different fertility levels than the general population. UNAIDS does not present estimates of mother-to-child HIV transmission or estimates related to children infected with HIV through mother-to-child transmission in some countries with concentrated epidemics unless adequate data are available to validate these estimates.

With regard to reporting incidence trends, if there are not enough historical data to confidently state whether a decline in incidence has occurred, UNAIDS will not publish earlier data to avoid users 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.

Finally, in a few instances, UNAIDS will not publish country estimates when further data or analyses are needed to produce valid estimates. More information on the UNAIDS estimates and the individual Spectrum files for most countries can be found on the UNAIDS website ([www.unaids.org](http://www.unaids.org))

## Methods for measuring progress against the 90–90–90 target

To measure progress against the 90–90–90 target worldwide and by region in 2015, UNAIDS analysed HIV surveillance, survey and programme data reported by 121 countries through the Global AIDS Response Progress Reporting (GARPR) tool and other published and unpublished data provided to UNAIDS especially for this purpose. A description of the GARPR system and indicators is available in the Global AIDS response progress reporting 2016 guidelines. Data reported by countries through GARPR are available at <http://aidsinfo.unaids.org/>. Not all countries were able to report on all three measures of the target.

All progress measures in this report, unless otherwise stated, are based on UNAIDS global, regional and country-specific modelled estimates of the numbers of people living with HIV in 2015. Upper and lower uncertainty bounds

around the measures were calculated from the range of estimated numbers of people living with HIV. More details about how UNAIDS derives estimates and uncertainty bounds can be found earlier in this section.

### Knowledge of HIV status among people living with HIV

Global and regional measures of the number of people living with HIV who know their status were derived using the most recent HIV case-based surveillance and nationally-representative population-based survey data available for 87 countries. Where data were available separately for children (aged 0-14 years) and adults (aged 15 years and older), age-specific measures were calculated and then aggregated to produce a national measure.

For 66 countries, knowledge of status was taken as the cumulative number of people notified to the HIV surveillance system, minus deaths among people known to have been HIV-positive, divided by the estimate of people living with HIV. If the measure from the HIV surveillance system was lower than the UNAIDS estimate of antiretroviral therapy coverage in the country, the reported value from the surveillance system was excluded from the analysis.

A country's measure was included only if the case-based surveillance system had been in place since 2011 and was able to report on notifications and deaths. Countries with more recent systems may not have yet captured all people living with HIV who were diagnosed prior to 2011. Even in countries with long-standing HIV surveillance systems where data were included, biases may still exist. For example, a country's measure of the knowledge of status may be underestimated if not all people who are diagnosed are reported to the HIV surveillance system in a timely manner. On the other hand, the measure may be overestimated if people are notified to the system more than once, but these duplicate reports are not detected. Equally, if people die or emigrate but are not removed from the system, the percentage of people living with HIV who know their status will be overstated.

	Countries with available data	Percentage of people living with HIV represented in the reporting countries
Asia and Pacific	41% (16 of 39)	93%
Eastern and southern Africa	57% (12 of 21)	85%
Eastern Europe and central Asia	65% (11 of 17)	98%
Latin America and the Caribbean	45% (15 of 33)	76%
Middle East and North Africa	33% (7 of 21)	77%
West and Central Africa	48% (12 of 25)	73%
Western and central Europe and North America	83% (14 of 40)	83%
<b>Global</b>	<b>44% (87 of 196)</b>	<b>84%</b>

For 19 countries in sub-Saharan Africa and two countries in Latin America, knowledge of status was based on nationally representative population-based surveys conducted since 2010 and other care and treatment data reported through GARPR. In these countries, a mid-point value was calculated from the percentage of people living with HIV reporting to have ever been tested and the UNAIDS estimate of the country's antiretroviral therapy coverage or the percentage of people living with HIV reported to be in care, whichever was greater.

Knowledge of status based on survey data may tend to underestimate actual knowledge of status since the survey data provide a proxy of people who did not know their status at the time when the survey was conducted, while the estimate of the number of people living with HIV are from 2015. It may be the case that that people living with HIV who did not know their status in the earlier survey year have subsequently gone on to test and are now aware of their status in 2015.

### **Coverage of antiretroviral therapy among people living with HIV**

Global and regional measures of antiretroviral therapy coverage are derived from country-reported programme data through GARPR and the UNAIDS-supported Spectrum software. For a small number of countries where reported numbers of people on treatment are not available— primarily in western and central Europe and North America—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 other published data sources.

UNAIDS— in partnership with the World Health Organization and the United Nations Children's Fund and other partners that support treatment service delivery in countries—reviews and validates treatment numbers reported through GARPR and Spectrum on an annual basis. UNAIDS staff also provide technical assistance and training to country public health and clinical officers to ensure the quality of the treatment data that are reported. Nevertheless, this measure may overestimate coverage if people who transfer from one facility to another are reported by both facilities. Similarly, coverage may be overestimated if people who have died, who have disengaged from care, or who have emigrated are not identified.

### **Viral suppression among people living with HIV**

Progress towards reaching regional and global viral suppression targets was determined using HIV case-based surveillance and nationally representative population-based survey data available from 86 countries between 2013 and 2015. The measure was defined as the number of people with viral suppression (<1000 copies per ml) among people tested. This proportion was applied to the total number of people on antiretroviral therapy to obtain an estimate of the number and percentage of people on antiretroviral therapy who were virally suppressed.

### **Availability of data on viral load testing, global and by region**

There are several limitations in the availability and quality of data on viral suppression that are important to note when using findings from this report. First, for many countries, viral load testing may not be universally available or may be episodic (i.e., to assess suspected treatment failure) rather than routine,



possibly leading to an underestimate of viral suppression. Second, viral load testing may be done only for people who have been on antiretroviral treatment for 12 months, which could lead to higher viral suppression levels in the testing population, especially if retention is low or the number newly initiating treatment is high. Finally, countries may be reporting according to different detection thresholds, ranging from an undetectable viral load (<50 copies) to the WHO-defined standard (<1000 copies), although there is no evidence to suggest that these differences will result in a severe bias in comparability.

While country reported data were reviewed to exclude small cohorts or episodic testing, the quality of this measure will vary within and across the regions.

	Countries with available data	Percentage of people on antiretroviral therapy who received a viral load test in the reporting period
Asia and Pacific	38% (15 of 39)	29%
Eastern and southern Africa	38% (8 of 21)	14%
Eastern Europe and central Asia	77% (11 of 17)	77%
Latin America and the Caribbean	65% (21 of 33)	77%
Middle East and North Africa	64% (8 of 21)	41%
West and Central Africa	38% (7 of 25)	2%
Western and central Europe and North America	28% (16 of 40)	44%
<b>Global</b>	<b>40% (86 of 196)</b>	<b>22%</b>

## Part 2. HIV incidence among young women ages 15–19 and 20–24 years in eastern and southern Africa

Subnational modelled estimates were used to calculate HIV incidence among young women aged 15–19 and 20–24 years for Ethiopia, Kenya, Malawi, Mozambique, Namibia, the United Republic of Tanzania, Uganda, Zambia and Zimbabwe. The values are based on Spectrum-derived estimates for provincial or district level areas. With the exception of Ethiopia and Uganda, sub-national estimates were produced in 2016 using data up until 2015. For Ethiopia and Uganda, files produced in 2015, with data updated up until 2014, were used as more recent subnational estimates files were not available. National modelled estimates were used to calculate HIV incidence for Lesotho and Swaziland.

Incidence was calculated for the respective age groups as the proportion of new HIV infections in 2015 (2014 for Ethiopia and Uganda) over the non-HIV-positive population in the previous year.

For Botswana and South Africa, the district level incidence calculations used alternative sources. The number of young women living with HIV for each age group was calculated based on the proportion of infections among young women, aged 15–19 years and 20–24 years respectively, to the total prevalence

among adults, aged 15–49 years. The relative proportion was then applied to the new adult infections in each district. The number of young women aged 15–19 and 20–24 years living with HIV was calculated using the same method. The population aged 15–19 and 20–24 years by district was pulled from census data. Incidence was then calculated using the method described above. For Botswana, the HIV prevalence data came from the 2012 Botswana AIDS Indicator Survey and the 2011 census. For South Africa, the district prevalence was calculated based on surveillance estimates and Statistics South Africa 2014 population data.

### **Part 3. Distribution of new HIV infections by subpopulation**

The distribution of new HIV infections by region was estimated based on data for 163 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 2015 files. This source provided data from 63 countries for sex workers, 36 countries for people who inject drugs, 57 countries for men who have sex with men and 11 countries—only in Latin America and Asia—for transgender people.

The second source was of 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 adult (15–49) infections, by relevant gender, to derive an estimated number of new infections by subpopulation. This source provided data from 18 countries for sex workers, 23 countries for people who inject drugs and 22 countries for men who have sex with men.

New HIV infections for European countries with neither of the aforementioned data were derived from the European Centre for Disease Prevention and Control (ECDC) HIV Surveillance Report 2014. The proportions of new diagnoses for each region in Europe (West, central and East) were applied to UNAIDS estimates of new infections in each country for people who inject drugs and men who have sex with men. Data for sex workers were not available from the ECDC report. New HIV infections in China, Russia and the United States of America were taken from 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 93 countries which used benchmark values for the sex work estimate, 63 countries for the people who inject drugs estimate, 66 countries for the men who have sex with men estimate and 44 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 transmission probabilities from the literature.

## Part 4. Estimating the cost of homophobia

The two studies considered in this report are aiming to compare the level of homophobia among countries and regions and then to estimate the corresponding economic cost. To do so requires analysis of variables that are available for most countries. We collected data on 171 countries and reduced the final sampling to 162 countries, corresponding to those with sufficient data to complete the Homophobic Climate Index (HCI).

Data on gay men and other men who have sex with men were obtained from AIDSinfo (<http://aidsinfo.unaids.org>), peer-reviewed articles and grey literature. Available data include population size estimations for gay men and other men who have sex with men.

Data on the level of institutionalised homophobia were obtained from the International Lesbian, Gay, Bisexual, Trans and Intersex Association (ILGA) 2016 report "State-sponsored homophobia: a world survey of laws—criminalisation, protection and recognition of same-sex love" (1). This report provides a global overview of lesbian, gay and bisexual legislations for all countries in the world.

Data on the human and economic development of United Nations countries were based on the United Nations Development Programme "Human development report 2015" (2).

For all calculations, we used the latest data available, including gross domestic product values from the International Monetary Fund (3). Population estimates come from the Department of Economic and Social Affairs of the United Nations Population Division (4). Country income categories refer to those published by the World Bank in July 2016. We used waves 4, 5 and 6 of the World Values Survey (<http://www.worldvaluessurvey.org>) as well as the European Values Survey (<http://www.europeanvaluesstudy.eu>) for measuring social homophobia at the country level. Behavioural homophobia is measured with reported homophobic violence and internalised homophobia. The level of reported homophobic violence is measured by the share of the 93 000 individuals among 38 European countries in the framework of the EU LGBT survey conducted in 2012 (<http://fra.europa.eu/en/survey/2012/eu-lgbt-survey>). We considered the data related to internalised homonegativity from the work of Ross and colleagues (5), who studied the data of more than 144 000 participants in the European MSM Internet Survey conducted in 2010 in 38 European countries (<http://www.emis-project.eu/project.html>). All statistical calculations were performed with Stata 14.

Homophobia, or homonegativity, includes negative responses to and prejudice against lesbian, gay, bisexual, transgender and intersex people. The study conducted by Lamontagne and colleagues (6) built an index of the level of homophobia based on three types of homophobic reactions, as developed by O'Donohue and Caselles (7); The index reflects i) institutional homophobia; ii) social homophobia; and iii) behavioural homophobia. The latter component has only been included in a subset of 38 European countries for which the corresponding variables are currently available. The set of variables describing each type of homophobia has been checked for internal consistency and

collinearity, as we verified the collinearity among the three components themselves. See the study for more details (6).

The economic cost of homophobia is assessed through two key components, the productivity cost (PC) and the health-related cost (HC) for each country (i).

$$CH_i = PC_i + HC_i \quad (1)$$

For the productivity cost, we estimate the wage differential for each country based on its level of homophobia (Homophobic Climate Index, HCI):

$$PC_i = MSM_i^e \cdot 0.11\delta HCI \cdot GDPpc_i \quad (2)$$

For each country (i) we use the level of homophobia given from the Homophobic Climate Index described above for 162 countries. We assume that for each country, the population of gay men and other men who have sex with men represents 1–3% of all 15- to 64-year-old males.

For health-related costs, let  $\beta_i$  define the number of life-years lost due to homophobia for country i, adjusted for the country-specific level of homophobia and the life expectancy at age 15 years for the male population  $LE_i^{m15y}$ . The health-related economic cost can then be defined as follows, where  $MSM_i^e$  represents the number of gay men and other men who have sex with men as a share of the male 15–64 years population, with lower (1%) and an upper (3%) bound:

$$HC_i = MSM_i^e \cdot \beta_i \cdot \frac{GDPpc_i}{LE_i^{m15y}} \quad HC_i = MSM_i^e \quad (3)$$

See the complete study for more details (8).

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### Annex on Methods

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## 1. Estimated number of people newly infected with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	310 000	270 000	360 000	300 000	240 000	380 000
Afghanistan	<1000	<500	1400	<1000	<500	2700
Australia	1100	1100	1200	1200	1200	1300
Bangladesh	1400	1200	1500	1100	<1000	1100
Bhutan <sup>a</sup>	...	...	...	...	...	...
Brunei Darussalam <sup>a</sup>	...	...	...	...	...	...
Cambodia	1700	1500	1800	<1000	<1000	<1000
China <sup>a</sup>	...	...	...	...	...	...
Democratic People's Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Fiji <sup>a</sup>	...	...	...	...	...	...
India <sup>b</sup>	100 000	82 000	130 000	86 000	67 000	110 000
Indonesia	69 000	62 000	75 000	73 000	66 000	80 000
Japan <sup>a</sup>	...	...	...	...	...	...
Lao People's Democratic Republic <sup>a</sup>	...	...	...	...	...	...
Malaysia	8500	7700	9300	5200	4700	5600
Maldives <sup>a</sup>	...	...	...	...	...	...
Mongolia	<100	<100	<100	<100	<100	<100
Myanmar	15 000	14 000	17 000	12 000	11 000	13 000
Nepal	2300	2100	2600	1300	1200	1500
New Zealand <sup>a</sup>	...	...	...	...	...	...
Pakistan	11 000	7900	17 000	17 000	12 000	30 000
Papua New Guinea	2400	2100	2600	2700	2300	3200
Philippines	4200	3100	6300	6400	3400	34 000
Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Singapore <sup>a</sup>	...	...	...	...	...	...
Sri Lanka	<500	<500	<1000	<1000	<500	1100
Thailand	12 000	10 000	13 000	6900	6300	7600
Timor-Leste <sup>a</sup>	...	...	...	...	...	...
Viet Nam	19 000	17 000	20 000	14 000	13 000	15 000
<b>Eastern and southern Africa</b>	1 100 000	1 000 000	1 200 000	960 000	830 000	1 100 000
Angola	28 000	19 000	41 000	26 000	16 000	41 000
Botswana	12 000	11 000	13 000	9700	8200	11 000
Eritrea	<500	<500	<1000	<1000	<500	<1000
Ethiopia <sup>a</sup>	...	...	...	...	...	...
Kenya	83 000	67 000	100 000	78 000	57 000	110 000
Lesotho	19 000	17 000	21 000	18 000	16 000	20 000
Madagascar	3300	2700	4000	6300	4300	8700
Malawi	56 000	47 000	68 000	33 000	24 000	44 000
Mauritius	<1000	<500	<1000	<500	<200	<500
Mozambique	130 000	97 000	160 000	81 000	56 000	120 000
Namibia	9200	7700	11 000	7800	6000	9500
Rwanda	9000	7300	11 000	7500	5300	9800
South Africa	350 000	310 000	400 000	380 000	330 000	430 000
South Sudan	15 000	9200	21 000	15 000	6400	23 000

## 1. Estimated number of people newly infected with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Swaziland	15 000	14 000	16 000	11 000	9700	14 000
Uganda	130 000	110 000	140 000	83 000	63 000	110 000
United Republic of Tanzania	82 000	72 000	92 000	54 000	45 000	64 000
Zambia	73 000	65 000	81 000	60 000	52 000	69 000
Zimbabwe	79 000	69 000	88 000	64 000	52 000	76 000
<b>Eastern Europe and central Asia</b>	120 000	110 000	130 000	190 000	170 000	200 000
Albania <sup>a</sup>	...	...	...	...	...	...
Armenia	<500	<200	<500	<500	<500	<1000
Azerbaijan	<1000	<1000	1400	1200	<1000	1800
Belarus	2600	2000	3300	5300	4100	6900
Bosnia and Herzegovina <sup>a</sup>	...	...	...	...	...	...
Georgia	<1000	<1000	1100	1100	<1000	1500
Kazakhstan	1900	1600	2100	3700	2700	5000
Kyrgyzstan	<1000	<1000	1100	<1000	<1000	1500
Montenegro <sup>a</sup>	...	...	...	...	...	...
Republic of Moldova	1800	1500	2300	1400	1100	1700
Russian Federation <sup>a</sup>	...	...	...	...	...	...
Tajikistan	1600	1300	2000	1600	1100	2400
The former Yugoslav Republic of Macedonia <sup>a</sup>	...	...	...	...	...	...
Ukraine	9500	7000	12 000	16 000	12 000	21 000
Uzbekistan	<1000	<500	1100	<500	<500	<1000
<b>Latin America and the Caribbean</b>	100 000	86 000	120 000	100 000	86 000	120 000
Argentina	5300	4500	5700	5100	4400	5600
Bahamas	<500	<500	<500	<500	<500	<1000
Barbados	<200	<200	<200	<200	<200	<200
Belize	<200	<200	<200	<200	<200	<200
Bolivia (Plurinational State of)	1500	<1000	2200	1300	<1000	2000
Brazil	43 000	31 000	58 000	44 000	32 000	59 000
Chile	1700	<1000	2600	1800	<1000	3600
Colombia	10 000	8800	11 000	11 000	9000	11 000
Costa Rica	<1000	<1000	<1000	<1000	<1000	<1000
Cuba	1700	1400	1800	3100	2500	3400
Dominican Republic	2300	1500	3400	2000	1300	3300
Ecuador	1500	1100	1900	1300	<1000	1700
El Salvador	1100	<1000	1200	<1000	<500	<1000
Guatemala	3000	1700	5500	3700	1800	6400
Guyana	<500	<500	<1000	<500	<500	<500
Haiti	3700	2700	5100	1500	1000	2300
Honduras	<1000	<1000	<1000	<500	<500	<1000
Jamaica	1600	1300	2100	1700	1300	2100
Mexico	10 000	9300	11 000	11 000	9800	12 000
Nicaragua	<1000	<500	<1000	<1000	<500	1200
Panama	<1000	<1000	1000	<1000	<1000	1100

## 1. Estimated number of people newly infected with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Paraguay	1200	<1000	2100	1100	<1000	1800
Peru	3100	2100	4400	2800	1800	4500
Suriname	<200	<200	<500	<200	<200	<500
Trinidad and Tobago	<1000	<500	<1000	<500	<500	<500
Uruguay	<1000	<500	<1000	<500	<500	<1000
Venezuela (Bolivarian Republic of)	6000	5500	6500	5600	5000	6100
<b>Middle East and North Africa</b>	20 000	15 000	29 000	21 000	12 000	37 000
Algeria	<1000	<1000	<1000	<500	<100	<1000
Djibouti	<1000	<500	<1000	<1000	<500	1000
Egypt	1000	<1000	1700	1500	<1000	2800
Iran (Islamic Republic of)	6600	4500	11 000	7100	4400	16 000
Lebanon	<200	<200	<200	<200	<200	<500
Morocco	1800	1400	2300	1200	<1000	1600
Oman <sup>a</sup>	...	...	...	...	...	...
Somalia	2800	1900	3800	3000	1600	4400
Sudan	5400	3200	8100	5600	2000	11 000
Tunisia	<500	<200	<500	<500	<200	<500
Yemen	<1000	<500	1400	1000	<1000	2100
<b>Western and central Africa</b>	450 000	350 000	560 000	410 000	310 000	530 000
Benin	4400	3200	6000	4200	2900	6600
Burkina Faso	5000	3600	6700	4200	2300	6300
Burundi	3100	1600	4100	1200	<500	2200
Cameroon	45 000	40 000	49 000	44 000	35 000	51 000
Cape Verde	<200	<200	<500	<200	<200	<500
Central African Republic	7700	6700	8700	7000	5700	8900
Chad	11 000	7900	15 000	8300	5400	12 000
Congo <sup>a</sup>	...	...	...	...	...	...
Côte d'Ivoire	26 000	19 000	32 000	25 000	18 000	33 000
Democratic Republic of the Congo	23 000	17 000	30 000	15 000	8800	21 000
Equatorial Guinea	2300	1900	2600	<500	<200	<1000
Gabon	2300	1700	2800	1500	<1000	2400
Gambia	1600	1200	2000	1400	1100	1900
Ghana	18 000	15 000	22 000	13 000	9800	16 000
Guinea	9400	7700	11 000	7600	5700	9800
Guinea-Bissau <sup>a</sup>	...	...	...	...	...	...
Liberia	1700	1300	2100	1600	1100	2200
Mali	9700	7900	12 000	10 000	7500	15 000
Mauritania	<1000	<1000	1500	<1000	<500	1400
Niger	1900	1700	2200	2400	2100	2800
Nigeria	260 000	180 000	350 000	250 000	180 000	350 000
Senegal	1600	1100	2100	1600	<1000	2500
Sierra Leone	4000	3300	4700	2500	1700	3400
Togo	5100	4100	6300	4400	3200	6100



## 1. Estimated number of people newly infected with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Western and central Europe and North America</b>	92 000	89 000	97 000	91 000	89 000	97 000
Austria <sup>a</sup>	...	...	...	...	...	...
Belgium <sup>a</sup>	...	...	...	...	...	...
Bulgaria <sup>a</sup>	...	...	...	...	...	...
Canada <sup>a</sup>	...	...	...	...	...	...
Croatia <sup>a</sup>	...	...	...	...	...	...
Cyprus <sup>a</sup>	...	...	...	...	...	...
Czech Republic <sup>a</sup>	...	...	...	...	...	...
Denmark <sup>a</sup>	...	...	...	...	...	...
Estonia <sup>a</sup>	...	...	...	...	...	...
Finland <sup>a</sup>	...	...	...	...	...	...
France <sup>a</sup>	...	...	...	...	...	...
Germany <sup>a</sup>	...	...	...	...	...	...
Greece	<1000	<1000	1000	<1000	<1000	1000
Hungary <sup>a</sup>	...	...	...	...	...	...
Iceland <sup>a</sup>	...	...	...	...	...	...
Ireland <sup>a</sup>	...	...	...	...	...	...
Israel <sup>a</sup>	...	...	...	...	...	...
Italy	4700	4600	5000	4500	4400	4800
Latvia	<1000	<1000	<1000	<500	<500	<1000
Lithuania <sup>a</sup>	...	...	...	...	...	...
Luxembourg <sup>a</sup>	...	...	...	...	...	...
Malta <sup>a</sup>	...	...	...	...	...	...
Netherlands <sup>a</sup>	...	...	...	...	...	...
Norway <sup>a</sup>	...	...	...	...	...	...
Poland <sup>a</sup>	...	...	...	...	...	...
Portugal <sup>a</sup>	...	...	...	...	...	...
Romania <sup>a</sup>	...	...	...	...	...	...
Serbia <sup>a</sup>	...	...	...	...	...	...
Slovakia <sup>a</sup>	...	...	...	...	...	...
Slovenia <sup>a</sup>	...	...	...	...	...	...
Spain	3600	2500	4700	3000	2000	4000
Sweden <sup>a</sup>	...	...	...	...	...	...
Switzerland <sup>a</sup>	...	...	...	...	...	...
Turkey <sup>a</sup>	...	...	...	...	...	...
United Kingdom <sup>a</sup>	...	...	...	...	...	...
United States of America <sup>a</sup>	...	...	...	...	...	...
<b>Global</b>	<b>2 200 000</b>	<b>2 000 000</b>	<b>2 500 000</b>	<b>2 100 000</b>	<b>1 800 000</b>	<b>2 400 000</b>

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

## 2. Estimated number of children (0–14 years old) newly infected with HIV, 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	26 000	21 000	29 000	19 000	16 000	21 000
Afghanistan	<100	<100	<100	<100	<100	<200
Australia	<100	<100	<100	<100	<100	<100
Bangladesh	<100	<100	<100	<100	<100	<100
Bhutan <sup>a</sup>	...	...	...	...	...	...
Brunei Darussalam <sup>a</sup>	...	...	...	...	...	...
Cambodia <sup>d</sup>	...	...	...	...	...	...
China <sup>a</sup>	...	...	...	...	...	...
Democratic People's Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Fiji <sup>a</sup>	...	...	...	...	...	...
India <sup>b</sup>	...	...	...	...	...	...
Indonesia	3000	2300	3800	5000	3900	6100
Japan <sup>a</sup>	...	...	...	...	...	...
Lao People's Democratic Republic <sup>a</sup>	...	...	...	...	...	...
Malaysia	<100	<100	<100	<100	<100	<100
Maldives <sup>a</sup>	...	...	...	...	...	...
Mongolia	<100	<100	<100	<100	<100	<100
Myanmar	1800	1300	2300	<1000	<1000	<1000
Nepal	<500	<500	<500	<200	<100	<200
New Zealand <sup>a</sup>	...	...	...	...	...	...
Pakistan	<500	<500	<1000	<1000	<1000	1400
Papua New Guinea	<1000	<1000	<1000	<500	<500	<1000
Philippines	<100	<100	<100	<100	<100	<500
Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Singapore <sup>a</sup>	...	...	...	...	...	...
Sri Lanka	<100	<100	<100	<100	<100	<100
Thailand	<500	<200	<500	<100	<100	<200
Timor-Leste <sup>a</sup>	...	...	...	...	...	...
Viet Nam	<1000	<500	<1000	<500	<500	<500
<b>Eastern and southern Africa</b>	170 000	140 000	190 000	56 000	40 000	76 000
Angola	5700	3900	8200	4300	2300	7100
Botswana	<1000	<1000	<1000	<500	<200	<1000
Eritrea	<500	<200	<500	<200	<100	<500
Ethiopia <sup>a</sup>	...	...	...	...	...	...
Kenya	12 000	9500	16 000	6600	4100	9800
Lesotho	2000	1700	2300	1300	<1000	1600
Madagascar	<1000	<1000	<1000	<1000	<1000	<1000
Malawi	16 000	14 000	18 000	4800	3400	6500
Mauritius <sup>c</sup>	...	...	...	...	...	...
Mozambique	29 000	21 000	38 000	6600	2700	15 000
Namibia	1500	1200	1800	<500	<500	<1000
Rwanda	1700	1300	2100	<500	<200	<1000
South Africa	16 000	14 000	22 000	5100	4500	7900
South Sudan	2800	1800	3800	2000	<1000	3200

## 2. Estimated number of children (0–14 years old) newly infected with HIV, 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Swaziland	1600	1400	1900	<500	<500	<1000
Uganda	25 000	22 000	29 000	3500	1600	6500
United Republic of Tanzania	14 000	11 000	18 000	6500	3800	9500
Zambia	13 000	12 000	15 000	4700	3400	6100
Zimbabwe	12 000	11 000	14 000	4900	3700	6300
<b>Eastern Europe and central Asia<sup>a</sup></b>	...	...	...	...	...	...
Albania <sup>a</sup>	...	...	...	...	...	...
Armenia <sup>c</sup>	...	...	...	...	...	...
Azerbaijan	<100	<100	<100	<100	<100	<100
Belarus	<100	<100	<100	<100	<100	<200
Bosnia and Herzegovina <sup>a</sup>	...	...	...	...	...	...
Georgia	<100	<100	<100	<100	<100	<100
Kazakhstan	<100	<100	<100	<100	<100	<200
Kyrgyzstan <sup>d</sup>	<100	<100	<100	<100	<100	<100
Montenegro <sup>a</sup>	...	...	...	...	...	...
Republic of Moldova	<100	<100	<100	<100	<100	<100
Russian Federation <sup>a</sup>	...	...	...	...	...	...
Tajikistan	<100	<100	<100	<100	<100	<100
The former Yugoslav Republic of Macedonia <sup>a</sup>	...	...	...	...	...	...
Ukraine	<500	<500	<1000	<500	<500	<1000
Uzbekistan	<100	<100	<500	<100	<100	<100
<b>Latin America and the Caribbean</b>	4700	3500	6400	2100	1600	2900
Argentina	<100	<100	<100	<100	<100	<100
Bahamas	<100	<100	<100	<100	<100	<100
Barbados <sup>c</sup>	...	...	...	...	...	...
Belize	<100	<100	<100	<100	<100	<100
Bolivia (Plurinational State of)	<100	<100	<200	<100	<100	<100
Brazil	<1000	<500	1900	<500	<500	<1000
Chile <sup>c</sup>	...	...	...	...	...	...
Colombia	<200	<100	<500	<200	<200	<500
Costa Rica	<100	<100	<100	<100	<100	<100
Cuba	<100	<100	<100	<100	<100	<100
Dominican Republic	<500	<200	<1000	<100	<100	<500
Ecuador	<100	<100	<100	<100	<100	<100
El Salvador	<100	<100	<100	<100	<100	<100
Guatemala	<500	<200	<500	<500	<500	<1000
Guyana	<100	<100	<100	<100	<100	<100
Haiti	1900	1400	2500	<500	<200	<500
Honduras	<100	<100	<200	<100	<100	<100
Jamaica	<100	<100	<100	<100	<100	<100
Mexico	<500	<500	<500	<200	<100	<200
Nicaragua	<100	<100	<100	<100	<100	<100

## 2. Estimated number of children (0–14 years old) newly infected with HIV, 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Panama	<100	<100	<100	<100	<100	<100
Paraguay	<100	<100	<100	<100	<100	<100
Peru	<200	<200	<500	<100	<100	<200
Suriname	<100	<100	<100	<100	<100	<100
Trinidad and Tobago	<100	<100	<100	<100	<100	<100
Uruguay	<100	<100	<100	<100	<100	<100
Venezuela (Bolivarian Republic of)	<500	<500	<500	<500	<500	<500
<b>Middle East and North Africa</b>	2100	1700	2600	2100	1400	3200
Algeria	<100	<100	<100	<100	<100	<100
Djibouti	<200	<200	<500	<100	<100	<200
Egypt	<100	<100	<100	<100	<100	<200
Iran (Islamic Republic of)	<500	<500	<1000	<500	<200	<1000
Lebanon <sup>c</sup>	...	...	...	...	...	...
Morocco	<100	<100	<100	<100	<100	<100
Oman <sup>a</sup>	...	...	...	...	...	...
Somalia	<1000	<500	<1000	<1000	<500	<1000
Sudan	<1000	<1000	<1000	<1000	<500	1300
Tunisia <sup>c</sup>	...	...	...	...	...	...
Yemen	<100	<100	<200	<200	<100	<200
<b>Western and central Africa</b>	96 000	75 000	120 000	66 000	47 000	87 000
Benin	<1000	<1000	1100	<1000	<500	<1000
Burkina Faso	1300	1000	1700	<500	<100	<1000
Burundi	1500	1100	1900	<500	<100	<1000
Cameroon	6500	5300	7800	4100	2800	5600
Cape Verde	<100	<100	<100	<100	<100	<100
Central African Republic	1700	1500	2000	<1000	<1000	1200
Chad	3800	3000	4800	2000	1300	3000
Congo <sup>a</sup>	...	...	...	...	...	...
Côte d'Ivoire	4800	3800	5900	3600	2600	4600
Democratic Republic of the Congo	8800	7100	11 000	3300	1900	4800
Equatorial Guinea	<1000	<500	<1000	<200	<200	<500
Gabon	<1000	<500	<1000	<200	<100	<500
Gambia	<500	<500	<500	<500	<500	<500
Ghana	3700	2900	4500	2200	1600	2900
Guinea	1900	1600	2200	<500	<500	<500
Guinea-Bissau <sup>a</sup>	...	...	...	...	...	...
Liberia	<1000	<1000	<1000	<500	<500	<1000
Mali	2300	1900	2700	2100	1600	2700
Mauritania	<500	<200	<500	<200	<200	<500
Niger	<1000	<1000	1000	<1000	<1000	1000
Nigeria	50 000	35 000	67 000	41 000	28 000	57 000
Senegal	<1000	<1000	1000	<1000	<500	<1000
Sierra Leone	1200	1000	1400	<500	<200	<1000
Togo	1800	1500	2200	<500	<200	<1000

## 2. Estimated number of children (0–14 years old) newly infected with HIV, 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Western and central Europe and North America<sup>a</sup></b>	...	...	...	...	...	...
<b>Austria<sup>a</sup></b>	...	...	...	...	...	...
<b>Belgium<sup>a</sup></b>	...	...	...	...	...	...
<b>Bulgaria<sup>a</sup></b>	...	...	...	...	...	...
<b>Canada<sup>a</sup></b>	...	...	...	...	...	...
<b>Croatia<sup>a</sup></b>	...	...	...	...	...	...
<b>Cyprus<sup>a</sup></b>	...	...	...	...	...	...
<b>Czech Republic<sup>a</sup></b>	...	...	...	...	...	...
<b>Denmark<sup>a</sup></b>	...	...	...	...	...	...
<b>Estonia<sup>a</sup></b>	...	...	...	...	...	...
<b>Finland<sup>a</sup></b>	...	...	...	...	...	...
<b>France<sup>a</sup></b>	...	...	...	...	...	...
<b>Germany<sup>a</sup></b>	...	...	...	...	...	...
<b>Greece</b>	<100	<100	<100	<100	<100	<100
<b>Hungary<sup>a</sup></b>	...	...	...	...	...	...
<b>Iceland<sup>a</sup></b>	...	...	...	...	...	...
<b>Ireland<sup>a</sup></b>	...	...	...	...	...	...
<b>Israel<sup>a</sup></b>	...	...	...	...	...	...
<b>Italy</b>	<200	<200	<200	<200	<200	<200
<b>Latvia</b>	<100	<100	<100	<100	<100	<100
<b>Lithuania<sup>a</sup></b>	...	...	...	...	...	...
<b>Luxembourg<sup>a</sup></b>	...	...	...	...	...	...
<b>Malta<sup>a</sup></b>	...	...	...	...	...	...
<b>Netherlands<sup>a</sup></b>	...	...	...	...	...	...
<b>Norway<sup>a</sup></b>	...	...	...	...	...	...
<b>Poland<sup>a</sup></b>	...	...	...	...	...	...
<b>Portugal<sup>a</sup></b>	...	...	...	...	...	...
<b>Romania<sup>a</sup></b>	...	...	...	...	...	...
<b>Serbia<sup>a</sup></b>	...	...	...	...	...	...
<b>Slovakia<sup>a</sup></b>	...	...	...	...	...	...
<b>Slovenia<sup>a</sup></b>	...	...	...	...	...	...
<b>Spain</b>	<100	<100	<100	<100	<100	<100
<b>Sweden<sup>a</sup></b>	...	...	...	...	...	...
<b>Switzerland<sup>a</sup></b>	...	...	...	...	...	...
<b>Turkey<sup>a</sup></b>	...	...	...	...	...	...
<b>United Kingdom<sup>a</sup></b>	...	...	...	...	...	...
<b>United States of America<sup>a</sup></b>	...	...	...	...	...	...
<b>Global</b>	290 000	250 000	350 000	150 000	110 000	190 000

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

<sup>c</sup> The estimates for children are not published because of small numbers.

<sup>d</sup> The estimates for children are not published.

### 3. People living with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	4 700 000	4 100 000	5 500 000	5 100 000	4 400 000	5 900 000
Afghanistan	4500	2800	8500	6900	3800	16 000
Australia	21 000	19 000	25 000	27 000	24 000	30 000
Bangladesh	8100	7100	9000	9600	8400	11 000
Bhutan <sup>a</sup>	...	...	...	...	...	...
Brunei Darussalam <sup>a</sup>	...	...	...	...	...	...
Cambodia	84 000	74 000	98 000	74 000	67 000	82 000
China <sup>a</sup>	...	...	...	...	...	...
Democratic People's Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Fiji <sup>a</sup>	...	...	...	...	...	...
India <sup>b</sup>	2 200 000	1 800 000	2 700 000	2 100 000	1 700 000	2 600 000
Indonesia	500 000	440 000	560 000	690 000	600 000	790 000
Japan <sup>a</sup>	...	...	...	...	...	...
Lao People's Democratic Republic <sup>a</sup>	...	...	...	...	...	...
Malaysia	110 000	92 000	120 000	92 000	80 000	110 000
Maldives <sup>a</sup>	...	...	...	...	...	...
Mongolia	<200	<200	<500	<500	<500	<1000
Myanmar	230 000	200 000	280 000	220 000	200 000	260 000
Nepal	46 000	39 000	53 000	39 000	34 000	46 000
New Zealand <sup>a</sup>	...	...	...	...	...	...
Pakistan	48 000	36 000	74 000	100 000	77 000	160 000
Papua New Guinea	36 000	32 000	39 000	40 000	37 000	44 000
Philippines	16 000	13 000	21 000	42 000	30 000	120 000
Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Singapore <sup>a</sup>	...	...	...	...	...	...
Sri Lanka	2500	1700	3600	4200	2800	6500
Thailand	480 000	420 000	560 000	440 000	400 000	490 000
Timor-Leste <sup>a</sup>	...	...	...	...	...	...
Viet Nam	230 000	210 000	270 000	260 000	230 000	290 000
<b>Eastern and southern Africa</b>	17 200 000	16 100 000	18 500 000	19 000 000	17 700 000	20 500 000
Angola	260 000	190 000	350 000	320 000	220 000	440 000
Botswana	320 000	300 000	340 000	350 000	330 000	370 000
Eritrea	15 000	12 000	20 000	14 000	11 000	18 000
Ethiopia <sup>a</sup>	...	...	...	...	...	...
Kenya	1 400 000	1 100 000	1 600 000	1 500 000	1 300 000	1 800 000
Lesotho	280 000	260 000	300 000	310 000	280 000	330 000
Madagascar	42 000	35 000	48 000	48 000	39 000	58 000
Malawi	960 000	880 000	1 000 000	980 000	900 000	1 100 000
Mauritius	9200	7700	10 000	8200	6800	9600
Mozambique	1 300 000	1 100 000	1 600 000	1 500 000	1 200 000	1 900 000
Namibia	190 000	180 000	210 000	210 000	200 000	230 000
Rwanda	190 000	170 000	210 000	200 000	180 000	220 000
South Africa	6 400 000	6 000 000	6 800 000	7 000 000	6 700 000	7 400 000
South Sudan	160 000	110 000	210 000	180 000	110 000	240 000

### 3. People living with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Swaziland	180 000	170 000	190 000	220 000	200 000	240 000
Uganda	1 200 000	1 100 000	1 300 000	1 500 000	1 300 000	1 600 000
United Republic of Tanzania	1 400 000	1 200 000	1 500 000	1 400 000	1 200 000	1 600 000
Zambia	1 100 000	1 000 000	1 100 000	1 200 000	1 200 000	1 300 000
Zimbabwe	1 200 000	1 100 000	1 300 000	1 400 000	1 300 000	1 500 000
<b>Eastern Europe and central Asia</b>	1 000 000	950 000	1 100 000	1 500 000	1 400 000	1 700 000
Albania <sup>a</sup>	...	...	...	...	...	...
Armenia	3000	2200	3900	3600	2900	4900
Azerbaijan	6800	4900	9700	11 000	7400	15 000
Belarus	21 000	17 000	27 000	35 000	29 000	43 000
Bosnia and Herzegovina <sup>a</sup>	...	...	...	...	...	...
Georgia	6200	5000	7700	9600	7700	12 000
Kazakhstan	13 000	12 000	14 000	23 000	20 000	27 000
Kyrgyzstan	5700	4600	7100	8100	6400	10 000
Montenegro <sup>a</sup>	...	...	...	...	...	...
Republic of Moldova	15 000	13 000	19 000	18 000	15 000	21 000
Russian Federation <sup>a</sup>	...	...	...	...	...	...
Tajikistan	12 000	10 000	15 000	16 000	13 000	20 000
The former Yugoslav Republic of Macedonia <sup>a</sup>	...	...	...	...	...	...
Ukraine	230 000	200 000	260 000	220 000	190 000	250 000
Uzbekistan	49 000	35 000	72 000	33 000	24 000	47 000
<b>Latin America and the Caribbean</b>	1 800 000	1 500 000	2 100 000	2 000 000	1 700 000	2 300 000
Argentina	99 000	89 000	110 000	110 000	99 000	120 000
Bahamas	7400	6700	8300	8100	7500	9000
Barbados	2100	2000	2300	2600	2500	2900
Belize	3300	2900	3800	3600	3200	4000
Bolivia (Plurinational State of)	16 000	11 000	22 000	18 000	11 000	25 000
Brazil	700 000	520 000	940 000	830 000	610 000	1 100 000
Chile	26 000	20 000	33 000	32 000	22 000	45 000
Colombia	110 000	100 000	130 000	150 000	130 000	160 000
Costa Rica	8000	7200	8700	10 000	9000	11 000
Cuba	11 000	9200	12 000	22 000	19 000	24 000
Dominican Republic	80 000	59 000	120 000	68 000	53 000	92 000
Ecuador	28 000	23 000	33 000	29 000	23 000	35 000
El Salvador	20 000	18 000	22 000	20 000	18 000	22 000
Guatemala	44 000	32 000	65 000	55 000	38 000	80 000
Guyana	6800	6400	7600	7800	7200	8700
Haiti	180 000	150 000	230 000	130 000	110 000	160 000
Honduras	24 000	20 000	29 000	20 000	17 000	24 000
Jamaica	29 000	25 000	33 000	29 000	25 000	34 000
Mexico	170 000	150 000	190 000	200 000	180 000	220 000
Nicaragua	8900	6400	15 000	9900	7600	14 000
Panama	15 000	13 000	16 000	17 000	16 000	19 000

### 3. People living with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Paraguay	16 000	11 000	26 000	17 000	12 000	27 000
Peru	61 000	51 000	73 000	66 000	56 000	79 000
Suriname	3800	3400	4200	3800	3300	4400
Trinidad and Tobago	10 000	9700	11 000	11 000	10 000	11 000
Uruguay	9800	8400	12 000	10 000	8700	12 000
Venezuela (Bolivarian Republic of)	94 000	85 000	100 000	110 000	99 000	120 000
<b>Middle East and North Africa</b>	190 000	150 000	240 000	230 000	160 000	330 000
Algeria	6900	6200	7500	8800	6800	11 000
Djibouti	10 000	7100	15 000	9400	6600	13 000
Egypt	6700	4600	10 000	11 000	7200	19 000
Iran (Islamic Republic of)	60 000	44 000	82 000	73 000	50 000	130 000
Lebanon	1700	1500	1900	2400	2100	2700
Morocco	23 000	19 000	27 000	24 000	21 000	28 000
Oman <sup>a</sup>	...	...	...	...	...	...
Somalia	29 000	22 000	38 000	30 000	21 000	41 000
Sudan	44 000	37 000	53 000	56 000	33 000	90 000
Tunisia	1600	1100	2500	2600	1700	3800
Yemen	6400	4400	9800	9200	5700	16 000
<b>Western and central Africa</b>	6 300 000	5 200 000	7 700 000	6 500 000	5 300 000	7 800 000
Benin	64 000	50 000	82 000	69 000	54 000	92 000
Burkina Faso	98 000	81 000	120 000	95 000	79 000	120 000
Burundi	93 000	77 000	110 000	77 000	61 000	92 000
Cameroon	580 000	520 000	640 000	620 000	550 000	690 000
Cape Verde	3300	2700	4000	3200	2700	3900
Central African Republic	130 000	120 000	150 000	120 000	100 000	130 000
Chad	180 000	150 000	210 000	170 000	130 000	210 000
Congo <sup>a</sup>	...	...	...	...	...	...
Côte d'Ivoire	470 000	400 000	530 000	460 000	400 000	530 000
Democratic Republic of the Congo	450 000	360 000	550 000	370 000	290 000	460 000
Equatorial Guinea	29 000	28 000	31 000	27 000	25 000	30 000
Gabon	48 000	42 000	54 000	47 000	40 000	54 000
Gambia	19 000	16 000	23 000	21 000	17 000	25 000
Ghana	290 000	240 000	340 000	270 000	230 000	330 000
Guinea	100 000	89 000	120 000	120 000	100 000	140 000
Guinea-Bissau <sup>a</sup>	...	...	...	...	...	...
Liberia	34 000	29 000	39 000	30 000	25 000	35 000
Mali	110 000	96 000	130 000	120 000	100 000	150 000
Mauritania	15 000	12 000	20 000	14 000	8800	21 000
Niger	58 000	51 000	67 000	49 000	43 000	55 000
Nigeria	3 200 000	2 400 000	4 200 000	3 500 000	2 600 000	4 500 000
Senegal	50 000	43 000	59 000	46 000	38 000	56 000
Sierra Leone	53 000	47 000	58 000	51 000	44 000	58 000
Togo	120 000	99 000	140 000	110 000	92 000	120 000



### 3. People living with HIV (all ages), 2000 and 2015

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Western and central Europe and North America</b>	2 100 000	1 900 000	2 300 000	2 400 000	2 200 000	2 700 000
Austria <sup>a</sup>	...	...	...	...	...	...
Belgium <sup>a</sup>	...	...	...	...	...	...
Bulgaria <sup>a</sup>	...	...	...	...	...	...
Canada <sup>a</sup>	...	...	...	...	...	...
Croatia <sup>a</sup>	...	...	...	...	...	...
Cyprus <sup>a</sup>	...	...	...	...	...	...
Czech Republic <sup>a</sup>	...	...	...	...	...	...
Denmark <sup>a</sup>	...	...	...	...	...	...
Estonia <sup>a</sup>	...	...	...	...	...	...
Finland <sup>a</sup>	...	...	...	...	...	...
France <sup>a</sup>	...	...	...	...	...	...
Germany <sup>a</sup>	...	...	...	...	...	...
Greece	14 000	13 000	15 000	16 000	15 000	18 000
Hungary <sup>a</sup>	...	...	...	...	...	...
Iceland <sup>a</sup>	...	...	...	...	...	...
Ireland <sup>a</sup>	...	...	...	...	...	...
Israel <sup>a</sup>	...	...	...	...	...	...
Italy	120 000	110 000	130 000	140 000	120 000	150 000
Latvia	6800	6000	7700	6800	6100	7700
Lithuania <sup>a</sup>	...	...	...	...	...	...
Luxembourg <sup>a</sup>	...	...	...	...	...	...
Malta <sup>a</sup>	...	...	...	...	...	...
Netherlands <sup>a</sup>	...	...	...	...	...	...
Norway <sup>a</sup>	...	...	...	...	...	...
Poland <sup>a</sup>	...	...	...	...	...	...
Portugal <sup>a</sup>	...	...	...	...	...	...
Romania <sup>a</sup>	...	...	...	...	...	...
Serbia <sup>a</sup>	...	...	...	...	...	...
Slovakia <sup>a</sup>	...	...	...	...	...	...
Slovenia <sup>a</sup>	...	...	...	...	...	...
Spain	150 000	120 000	170 000	150 000	130 000	180 000
Sweden <sup>a</sup>	...	...	...	...	...	...
Switzerland <sup>a</sup>	...	...	...	...	...	...
Turkey <sup>a</sup>	...	...	...	...	...	...
United Kingdom <sup>a</sup>	...	...	...	...	...	...
United States of America <sup>a</sup>	...	...	...	...	...	...
<b>Global</b>	<b>33 300 000</b>	<b>30 800 000</b>	<b>36 100 000</b>	<b>36 700 000</b>	<b>34 000 000</b>	<b>39 800 000</b>

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

#### 4. Estimated number of people dying from AIDS-related causes (all ages), 2000 and 2014

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	240 000	200 000	270 000	180 000	150 000	220 000
Afghanistan	<500	<200	<500	<500	<200	<1000
Australia	<500	<500	<500	<200	<200	<500
Bangladesh	<1000	<500	<1000	<1000	<1000	<1000
Bhutan <sup>a</sup>	...	...	...	...	...	...
Brunei Darussalam <sup>a</sup>	...	...	...	...	...	...
Cambodia	3200	2100	4500	2000	1500	3300
China <sup>a</sup>	...	...	...	...	...	...
Democratic People's Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Fiji <sup>a</sup>	...	...	...	...	...	...
India <sup>b</sup>	120 000	86 000	200 000	68 000	47 000	99 000
Indonesia	18 000	14 000	21 000	35 000	31 000	40 000
Japan <sup>a</sup>	...	...	...	...	...	...
Lao People's Democratic Republic <sup>a</sup>	...	...	...	...	...	...
Malaysia	8000	7200	8900	7200	6400	8100
Maldives <sup>a</sup>	...	...	...	...	...	...
Mongolia	<100	<100	<100	<100	<100	<100
Myanmar	16 000	14 000	18 000	9700	7600	12 000
Nepal	2600	2200	2900	2300	1900	2700
New Zealand <sup>a</sup>	...	...	...	...	...	...
Pakistan	1500	<1000	2600	3600	2300	6100
Papua New Guinea	1500	1200	1700	<1000	<1000	1100
Philippines	<500	<200	<500	<1000	<500	1200
Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Singapore <sup>a</sup>	...	...	...	...	...	...
Sri Lanka	<100	<100	<200	<200	<100	<500
Thailand	19 000	12 000	29 000	14 000	11 000	21 000
Timor-Leste <sup>a</sup>	...	...	...	...	...	...
Viet Nam	7700	6400	9000	8900	7400	11 000
<b>Eastern and southern Africa</b>	760 000	670 000	860 000	470 000	390 000	560 000
Angola	12 000	8100	18 000	12 000	6900	19 000
Botswana	5300	4500	6000	3200	2800	3600
Eritrea	<1000	<1000	1100	<500	<500	<1000
Ethiopia <sup>a</sup>	...	...	...	...	...	...
Kenya	51 000	40 000	63 000	36 000	26 000	47 000
Lesotho	9100	7700	10 000	9900	8700	11 000
Madagascar	3600	3000	4300	3200	2800	3800
Malawi	47 000	41 000	52 000	27 000	22 000	31 000
Mauritius	<1000	<1000	<1000	<500	<500	<500
Mozambique	54 000	39 000	73 000	39 000	26 000	56 000
Namibia	4900	4000	5800	3100	2500	3900
Rwanda	5000	3900	6200	2900	2300	3500
South Africa	320 000	280 000	370 000	180 000	150 000	220 000
South Sudan	11 000	7200	15 000	12 000	7300	16 000

#### 4. Estimated number of people dying from AIDS-related causes (all ages), 2000 and 2014

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Swaziland	5400	4800	6000	3800	3300	4200
Uganda	50 000	43 000	59 000	28 000	22 000	35 000
United Republic of Tanzania	66 000	58 000	74 000	36 000	29 000	42 000
Zambia	29 000	24 000	34 000	20 000	16 000	24 000
Zimbabwe	52 000	46 000	56 000	29 000	25 000	34 000
Eastern Europe and central Asia	38 000	33 000	45 000	47 000	39 000	55 000
Albania <sup>a</sup>	...	...	...	...	...	...
Armenia	<200	<100	<500	<200	<100	<200
Azerbaijan	<500	<200	<500	<500	<200	<1000
Belarus	<1000	<1000	1200	<1000	<1000	1400
Bosnia and Herzegovina <sup>a</sup>	...	...	...	...	...	...
Georgia	<200	<200	<500	<500	<200	<500
Kazakhstan	<500	<500	<1000	<1000	<500	<1000
Kyrgyzstan	<200	<200	<500	<500	<200	<500
Montenegro <sup>a</sup>	...	...	...	...	...	...
Republic of Moldova	<1000	<1000	<1000	<1000	<1000	1100
Russian Federation <sup>a</sup>	...	...	...	...	...	...
Tajikistan	<1000	<1000	<1000	<1000	<1000	<1000
The former Yugoslav Republic of Macedonia <sup>a</sup>	...	...	...	...	...	...
Ukraine	14 000	12 000	17 000	7900	6000	10 000
Uzbekistan	3700	2700	5300	2600	1600	4200
Latin America and the Caribbean	60 000	51 000	70 000	50 000	41 000	59 000
Argentina	2200	1900	2500	2300	2000	2600
Bahamas	<500	<500	<500	<500	<500	<500
Barbados	<100	<100	<100	<100	<100	<100
Belize	<200	<100	<200	<200	<100	<200
Bolivia (Plurinational State of)	<1000	<1000	1200	<1000	<500	1200
Brazil	15 000	11 000	21 000	15 000	11 000	21 000
Chile	<1000	<500	<1000	<500	<500	<1000
Colombia	4600	4000	5300	2300	1800	2700
Costa Rica	<200	<200	<500	<500	<200	<500
Cuba	<200	<200	<500	<500	<200	<500
Dominican Republic	5000	3300	7700	3100	1800	5500
Ecuador	1000	<1000	1400	<1000	<1000	1300
El Salvador	<500	<500	<500	<500	<500	<1000
Guatemala	<1000	<500	1400	1700	<1000	2900
Guyana	<200	<100	<200	<200	<100	<200
Haiti	14 000	11 000	18 000	8000	5500	11 000
Honduras	1500	1100	1900	1000	<1000	1400
Jamaica	1400	1100	1700	1200	<1000	1600
Mexico	5200	4400	5900	4000	3200	4500
Nicaragua	<1000	<500	<1000	<500	<500	<1000

#### 4. Estimated number of people dying from AIDS-related causes (all ages), 2000 and 2014

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Panama	<500	<500	<500	<500	<500	<1000
Paraguay	<1000	<500	1100	<1000	<500	1300
Peru	2000	1600	2600	1600	1100	2300
Suriname	<200	<200	<200	<200	<200	<200
Trinidad and Tobago	<500	<500	<500	<500	<200	<500
Uruguay	<1000	<500	<1000	<500	<200	<500
Venezuela (Bolivarian Republic of)	1700	1500	2000	3300	2900	3700
<b>Middle East and North Africa</b>	9500	7400	12 000	12 000	8700	16 000
Algeria	<200	<200	<200	<200	<100	<200
Djibouti	<1000	<1000	1100	<1000	<500	<1000
Egypt	<500	<200	<500	<500	<200	<1000
Iran (Islamic Republic of)	3200	2400	4300	4000	2700	6000
Lebanon	<100	<100	<100	<100	<100	<100
Morocco	<1000	<1000	1300	<1000	<1000	1300
Oman <sup>a</sup>	...	...	...	...	...	...
Somalia	2100	1600	2800	2000	1500	2700
Sudan	1800	1200	2300	3000	2100	4300
Tunisia	<100	<100	<100	<100	<100	<200
Yemen	<500	<200	<500	<500	<200	<1000
<b>Western and central Africa</b>	370 000	290 000	470 000	330 000	250 000	430 000
Benin	2400	1700	3500	2800	1900	4100
Burkina Faso	5200	3600	6900	3600	2500	4900
Burundi	6100	5100	7100	3000	1800	4000
Cameroon	28 000	26 000	31 000	33 000	30 000	36 000
Cape Verde	<200	<200	<500	<200	<100	<200
Central African Republic	9500	8700	10 000	7800	7000	8600
Chad	8400	6600	11 000	8500	6400	11 000
Congo <sup>a</sup>	...	...	...	...	...	...
Côte d'Ivoire	22 000	18 000	26 000	25 000	20 000	30 000
Democratic Republic of the Congo	33 000	27 000	41 000	22 000	16 000	28 000
Equatorial Guinea	1300	1100	1600	1100	<1000	1200
Gabon	2500	2000	3000	1300	<1000	1600
Gambia	1100	<1000	1400	1000	<1000	1300
Ghana	19 000	16 000	22 000	13 000	10 000	16 000
Guinea	4700	3800	5600	4600	3700	5600
Guinea-Bissau <sup>a</sup>	...	...	...	...	...	...
Liberia	2600	2300	2900	1900	1600	2300
Mali	5100	4300	6100	6500	5400	7800
Mauritania	<1000	<1000	1100	<1000	<1000	1300
Niger	4200	3500	5000	3600	3100	4200
Nigeria	190 000	130 000	270 000	180 000	120 000	250 000
Senegal	1800	1300	2400	2200	1800	2800
Sierra Leone	2600	2100	3200	2500	2100	2900
Togo	7900	6600	9500	5100	4000	6500

#### 4. Estimated number of people dying from AIDS-related causes (all ages), 2000 and 2014

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Western and central Europe and North America</b>	29 000	27 000	31 000	22 000	20 000	24 000
Austria <sup>a</sup>	...	...	...	...	...	...
Belgium <sup>a</sup>	...	...	...	...	...	...
Bulgaria <sup>a</sup>	...	...	...	...	...	...
Canada <sup>a</sup>	...	...	...	...	...	...
Croatia <sup>a</sup>	...	...	...	...	...	...
Cyprus <sup>a</sup>	...	...	...	...	...	...
Czech Republic <sup>a</sup>	...	...	...	...	...	...
Denmark <sup>a</sup>	...	...	...	...	...	...
Estonia <sup>a</sup>	...	...	...	...	...	...
Finland <sup>a</sup>	...	...	...	...	...	...
France <sup>a</sup>	...	...	...	...	...	...
Germany <sup>a</sup>	...	...	...	...	...	...
Greece	<1000	<500	<1000	<500	<500	<500
Hungary <sup>a</sup>	...	...	...	...	...	...
Iceland <sup>a</sup>	...	...	...	...	...	...
Ireland <sup>a</sup>	...	...	...	...	...	...
Israel <sup>a</sup>	...	...	...	...	...	...
Italy	<1000	<1000	<1000	<1000	<1000	<1000
Latvia	<500	<500	<500	<500	<500	<500
Lithuania <sup>a</sup>	...	...	...	...	...	...
Luxembourg <sup>a</sup>	...	...	...	...	...	...
Malta <sup>a</sup>	...	...	...	...	...	...
Netherlands <sup>a</sup>	...	...	...	...	...	...
Norway <sup>a</sup>	...	...	...	...	...	...
Poland <sup>a</sup>	...	...	...	...	...	...
Portugal <sup>a</sup>	...	...	...	...	...	...
Romania <sup>a</sup>	...	...	...	...	...	...
Serbia <sup>a</sup>	...	...	...	...	...	...
Slovakia <sup>a</sup>	...	...	...	...	...	...
Slovenia <sup>a</sup>	...	...	...	...	...	...
Spain	1300	1100	1500	1200	1000	1400
Sweden <sup>a</sup>	...	...	...	...	...	...
Switzerland <sup>a</sup>	...	...	...	...	...	...
Turkey <sup>a</sup>	...	...	...	...	...	...
United Kingdom <sup>a</sup>	...	...	...	...	...	...
United States of America <sup>a</sup>	...	...	...	...	...	...
<b>Global</b>	<b>1 500 000</b>	<b>1 300 000</b>	<b>1 700 000</b>	<b>1 100 000</b>	<b>940 000</b>	<b>1 300 000</b>

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

## 5. Estimated percentage of pregnant women living with HIV who received effective antiretroviral medicines to prevent the mother-to-child transmission of HIV, 2015

	Number of pregnant women receiving antiretroviral medicines	Estimated number of pregnant women living with HIV			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	29 600	77 000	67 000	87 000	39	34	44
Afghanistan	7	<200	<200	<500	4	2	8
Australia	119	<200	<200	<200	>95	95	>95
Bangladesh	20	<200	<200	<200	14	11	16
Bhutan <sup>a</sup>	...	...	...	...	...	...	...
Brunei Darussalam <sup>a</sup>	...	...	...	...	...	...	...
Cambodia <sup>d</sup>	...	...	...	...	...	...	...
China <sup>a</sup>	...	...	...	...	...	...	...
Democratic People's Republic of Korea <sup>a</sup>	...	...	...	...	...	...	...
Fiji <sup>a</sup>	...	...	...	...	...	...	...
India <sup>b</sup>	13 511	35 000	29 000	44 000	38	31	47
Indonesia	1466	16 000	13 000	18 000	9	8	11
Japan <sup>a</sup>	...	...	...	...	...	...	...
Lao People's Democratic Republic <sup>a</sup>	...	...	...	...	...	...	...
Malaysia	320	<500	<500	<500	80	75	87
Maldives <sup>a</sup>	...	...	...	...	...	...	...
Mongolia	2	<100	<100	<100	>95	50	>95
Myanmar	3923	5100	4500	5700	77	68	88
Nepal	145	<500	<500	<500	35	30	41
New Zealand <sup>a</sup>	...	...	...	...	...	...	...
Pakistan	103	2400	1800	3700	4	3	7
Papua New Guinea	497	1500	1400	1700	33	29	36
Philippines	32	<500	<500	<1000	10	7	22
Republic of Korea <sup>a</sup>	...	...	...	...	...	...	...
Singapore <sup>a</sup>	...	...	...	...	...	...	...
Sri Lanka	16	<100	<100	<200	24	17	36
Thailand	4280	4500	3800	5200	>95	81	>95
Timor-Leste <sup>a</sup>	...	...	...	...	...	...	...
Viet Nam	1692	2900	2500	3300	58	49	65
<b>Eastern and southern Africa</b>	861 600	960 000	880 000	1 000 000	90	82	>95
Angola	8398	21 000	15 000	29 000	40	29	57
Botswana	11 899	13 000	12 000	14 000	92	86	>95
Eritrea	300	<1000	<1000	<1000	45	35	59
Ethiopia <sup>a</sup>	...	...	...	...	...	...	...
Kenya	59 024	79 000	67 000	92 000	74	63	86
Lesotho	8061	12 000	10 000	13 000	70	64	77
Madagascar	54	1800	1500	2200	3	2	4
Malawi	44 023	55 000	50 000	61 000	80	73	89
Mauritius <sup>c</sup>	90	...	...	...	...	...	...
Mozambique	99 823	110 000	82 000	130 000	95	74	>95
Namibia	8641	9100	8300	10 000	>95	87	>95
Rwanda	9604	10 000	9200	11 000	93	82	>95
South Africa	257 456	250 000	230 000	270 000	>95	94	>95

## 5. Estimated percentage of pregnant women living with HIV who received effective antiretroviral medicines to prevent the mother-to-child transmission of HIV, 2015

	Number of pregnant women receiving antiretroviral medicines	Estimated number of pregnant women living with HIV			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
South Sudan	3879	9500	6100	13 000	41	26	57
Swaziland	10 830	11 000	11 000	12 000	95	87	>95
Uganda	117 887	120 000	110 000	130 000	>95	88	>95
United Republic of Tanzania	74 190	86 000	77 000	96 000	86	77	>95
Zambia	70 991	81 000	75 000	88 000	87	81	94
Zimbabwe	57 378	68 000	62 000	75 000	84	77	92
<b>Eastern Europe and Central Asia<sup>a</sup></b>	...	...	...	...	...	...	...
Albania <sup>a</sup>	...	...	...	...	...	...	...
Armenia <sup>c</sup>	29	...	...	...	...	...	...
Azerbaijan	56	<200	<100	<200	49	32	71
Belarus	270	<1000	<500	<1000	48	37	62
Bosnia and Herzegovina <sup>a</sup>	...	...	...	...	...	...	...
Georgia	57	<100	<100	<100	>95	81	>95
Kazakhstan	354	<500	<500	<1000	89	67	>95
Kyrgyzstan <sup>d</sup>	87	<100	<100	<200	89	74	>95
Montenegro <sup>a</sup>	...	...	...	...	...	...	...
Republic of Moldova	175	<500	<200	<500	76	62	94
Russian Federation <sup>a</sup>	...	...	...	...	...	...	...
Tajikistan	168	<500	<500	<500	58	48	71
The former Yugoslav Republic of Macedonia <sup>a</sup>	...	...	...	...	...	...	...
Ukraine	2698	2800	2200	3400	>95	78	>95
Uzbekistan	543	<500	<500	<500	>95	>95	>95
<b>Latin America and the Caribbean</b>	24 300	28 000	24 000	32 000	88	77	>95
Argentina	1481	1600	1500	1800	93	85	>95
Bahamas	52	<200	<100	<200	50	46	54
Barbados <sup>c</sup>	15	...	...	...	...	...	...
Belize	54	<100	<100	<100	63	54	72
Bolivia (Plurinational State of)	284	<500	<500	<1000	76	47	>95
Brazil	10 541	8500	6300	11 000	>95	91	>95
Chile <sup>c</sup>	232	...	...	...	...	...	...
Colombia	805	1600	1500	1800	49	45	54
Costa Rica	41	<200	<100	<200	41	36	46
Cuba	157	<200	<200	<200	>95	>95	>95
Dominican Republic	894	1200	<1000	1700	72	57	>95
Ecuador	285	<500	<500	<1000	60	48	71
El Salvador	158	<500	<500	<500	55	51	60
Guatemala	214	1600	1100	2400	13	9	21
Guyana	167	<500	<200	<500	76	67	86
Haiti	4568	4800	3900	5700	>95	79	>95
Honduras	175	<500	<500	<500	53	45	63
Jamaica	414	<500	<500	<1000	>95	82	>95

## 5. Estimated percentage of pregnant women living with HIV who received effective antiretroviral medicines to prevent the mother-to-child transmission of HIV, 2015

	Number of pregnant women receiving antiretroviral medicines	Estimated number of pregnant women living with HIV			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Mexico	1395	1800	1700	2000	76	70	82
Nicaragua	117	<200	<100	<200	>95	89	>95
Panama	180	<500	<500	<500	78	71	85
Paraguay	175	<500	<500	<500	56	41	87
Peru	790	1000	<1000	1200	79	66	>95
Suriname	122	<100	<100	<200	>95	>95	>95
Trinidad and Tobago	113	<200	<200	<200	63	57	68
Uruguay	155	<200	<100	<200	>95	>95	>95
Venezuela (Bolivarian Republic of)	761	1800	1600	2000	43	39	47
<b>Middle East and North Africa</b>	900	7000	4900	10 000	12	9	18
Algeria	112	<500	<500	<500	34	28	38
Djibouti	114	<500	<500	<500	37	26	53
Egypt	27	<500	<200	<500	10	6	16
Iran (Islamic Republic of)	186	<1000	<1000	1600	20	14	34
Lebanon <sup>c</sup>	3	...	...	...	...	...	...
Morocco	171	<500	<500	<500	46	39	53
Oman <sup>a</sup>	...	...	...	...	...	...	...
Somalia	74	1800	1200	2400	4	3	6
Sudan	114	2600	1400	4000	4	2	7
Tunisia <sup>c</sup>	18	...	...	...	...	...	...
Yemen	31	<500	<500	<1000	9	5	15
<b>Western and central Africa</b>	162 900	340 000	280 000	410 000	48	40	58
Benin	2031	3600	2800	4700	57	45	75
Burkina Faso	4731	5300	4500	6300	89	75	>95
Burundi	3885	4400	3300	5300	89	67	>95
Cameroon	26 678	33 000	29 000	36 000	82	73	91
Cape Verde	73	<100	<100	<100	>95	79	>95
Central African Republic	2721	4800	4200	5500	56	49	64
Chad	4671	10 000	8000	13 000	46	36	60
Congo <sup>a</sup>	...	...	...	...	...	...	...
Côte d'Ivoire	17 711	22 000	19 000	26 000	79	67	91
Democratic Republic of the Congo	14 476	22 000	17 000	27 000	67	53	82
Equatorial Guinea	1010	1300	1200	1500	75	68	84
Gabon	1665	2100	1800	2500	78	66	91
Gambia	874	1400	1100	1600	64	52	76
Ghana	7813	12 000	10 000	15 000	63	53	74
Guinea	5437	6400	5400	7500	85	72	>95
Guinea-Bissau <sup>a</sup>	...	...	...	...	...	...	...
Liberia	1358	2000	1600	2300	70	57	84
Mali	2628	7900	6700	9500	33	28	40
Mauritania	80	<1000	<500	1000	12	7	18
Niger	981	3500	3200	4000	28	25	31
Nigeria	52 711	180 000	140 000	230 000	30	23	39



## 5. Estimated percentage of pregnant women living with HIV who received effective antiretroviral medicines to prevent the mother-to-child transmission of HIV, 2015

	Number of pregnant women receiving antiretroviral medicines	Estimated number of pregnant women living with HIV			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Senegal	1143	3200	2700	3800	36	31	43
Sierra Leone	3212	3900	3300	4500	83	70	>95
Togo	4642	4900	4200	5600	>95	82	>95
Western and central Europe and North America <sup>a</sup>	...	...	...	...	...	...	...
Austria <sup>a</sup>	...	...	...	...	...	...	...
Belgium <sup>a</sup>	...	...	...	...	...	...	...
Bulgaria <sup>a</sup>	...	...	...	...	...	...	...
Canada <sup>a</sup>	...	...	...	...	...	...	...
Croatia <sup>a</sup>	...	...	...	...	...	...	...
Cyprus <sup>a</sup>	...	...	...	...	...	...	...
Czech Republic <sup>a</sup>	...	...	...	...	...	...	...
Denmark <sup>a</sup>	...	...	...	...	...	...	...
Estonia <sup>a</sup>	...	...	...	...	...	...	...
Finland <sup>a</sup>	...	...	...	...	...	...	...
France <sup>a</sup>	...	...	...	...	...	...	...
Germany <sup>a</sup>	...	...	...	...	...	...	...
Greece	72	<100	<100	<100	>95	92	>95
Hungary <sup>a</sup>	...	...	...	...	...	...	...
Iceland <sup>a</sup>	...	...	...	...	...	...	...
Ireland <sup>a</sup>	...	...	...	...	...	...	...
Israel <sup>a</sup>	...	...	...	...	...	...	...
Italy	382	1200	1100	1300	31	29	34
Latvia	64	<100	<100	<100	>95	86	>95
Lithuania <sup>a</sup>	...	...	...	...	...	...	...
Luxembourg <sup>a</sup>	...	...	...	...	...	...	...
Malta <sup>a</sup>	...	...	...	...	...	...	...
Netherlands <sup>a</sup>	...	...	...	...	...	...	...
Norway <sup>a</sup>	...	...	...	...	...	...	...
Poland <sup>a</sup>	...	...	...	...	...	...	...
Portugal <sup>a</sup>	...	...	...	...	...	...	...
Romania <sup>a</sup>	...	...	...	...	...	...	...
Serbia <sup>a</sup>	...	...	...	...	...	...	...
Slovakia <sup>a</sup>	...	...	...	...	...	...	...
Slovenia <sup>a</sup>	...	...	...	...	...	...	...
Spain	544	<1000	<500	<1000	>95	77	>95
Sweden <sup>a</sup>	...	...	...	...	...	...	...
Switzerland <sup>a</sup>	...	...	...	...	...	...	...
Turkey <sup>a</sup>	...	...	...	...	...	...	...
United Kingdom <sup>a</sup>	...	...	...	...	...	...	...
United States of America <sup>a</sup>	...	...	...	...	...	...	...
Global	1 110 000	1 400 000	1 300 000	1 600 000	77	69	86

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

<sup>c</sup> The estimates for children are not published because of small numbers.

<sup>d</sup> The estimates for children are not published.

## 6. Estimated percentage of adults (age 15+ years) living with HIV receiving antiretroviral therapy, 2015

	Number of adults (age 15+ years) living with HIV receiving antiretroviral therapy	Adults (age 15+ years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	1 991 000	4 900 000	4 200 000	5 700 000	41	35	47
<b>Afghanistan</b>	338	6700	3600	15 000	5	3	11
<b>Australia</b>	24 150	27 000	24 000	30 000	90	82	>95
<b>Bangladesh</b>	1393	9300	8100	11 000	15	13	17
<b>Bhutan<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Brunei Darussalam<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Cambodia</b>	51 088	70 000	64 000	78 000	73	66	81
<b>China<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Democratic People's Republic of Korea<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Fiji<sup>a</sup></b>	255	...	...	...	...	...	...
<b>India<sup>b</sup></b>	868 165	2 000 000	1 600 000	2 500 000	44	36	55
<b>Indonesia</b>	60 358	680 000	590 000	780 000	9	8	10
<b>Japan<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Lao People's Democratic Republic<sup>a</sup></b>	3657	...	...	...	...	...	...
<b>Malaysia</b>	25 213	91 000	80 000	110 000	28	25	32
<b>Maldives<sup>a</sup></b>	9	...	...	...	...	...	...
<b>Mongolia</b>	147	<500	<500	<1000	36	28	45
<b>Myanmar</b>	99 404	220 000	190 000	250 000	46	40	54
<b>Nepal</b>	11 029	38 000	33 000	44 000	29	25	35
<b>New Zealand<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Pakistan</b>	6433	100 000	75 000	160 000	6	5	10
<b>Papua New Guinea</b>	20 028	37 000	33 000	41 000	54	49	60
<b>Philippines</b>	12 492	42 000	30 000	120 000	30	19	81
<b>Republic of Korea<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Singapore<sup>a</sup></b>	1533	...	...	...	...	...	...
<b>Sri Lanka</b>	768	4100	2800	6400	19	13	29
<b>Thailand</b>	278 322	430 000	400 000	480 000	64	59	72
<b>Timor-Leste<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Viet Nam</b>	101 508	250 000	220 000	280 000	41	36	46
<b>Eastern and southern Africa</b>	9 594 000	18 000 000	16 700 000	19 400 000	53	50	57
<b>Angola</b>	84 172	290 000	200 000	410 000	29	20	41
<b>Botswana</b>	264 482	340 000	320 000	360 000	78	73	83
<b>Eritrea</b>	7961	13 000	10 000	16 000	62	49	80
<b>Ethiopia<sup>a</sup></b>	364 114	...	...	...	...	...	...
<b>Kenya</b>	826 097	1 400 000	1 200 000	1 700 000	58	49	68
<b>Lesotho</b>	121 661	290 000	270 000	320 000	41	37	45
<b>Madagascar</b>	1218	44 000	36 000	54 000	3	2	3
<b>Malawi</b>	543 699	890 000	820 000	970 000	61	56	66
<b>Mauritius</b>	2514	8100	6700	9600	31	26	36
<b>Mozambique</b>	738 386	1 400 000	1 100 000	1 700 000	53	43	65
<b>Namibia</b>	134 486	200 000	190 000	220 000	67	62	73
<b>Rwanda</b>	150 462	190 000	170 000	210 000	79	70	87
<b>South Africa</b>	3 209 270	6 700 000	6 400 000	7 200 000	48	45	51

## 6. Estimated percentage of adults (age 15+ years) living with HIV receiving antiretroviral therapy, 2015

	Number of adults (age 15+ years) living with HIV receiving antiretroviral therapy	Adults (age 15+ years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
South Sudan	18 825	170 000	110 000	220 000	11	7	15
Swaziland	139 211	210 000	190 000	230 000	67	62	72
Uganda	774 902	1 400 000	1 300 000	1 500 000	57	52	62
United Republic of Tanzania	688 604	1 300 000	1 200 000	1 500 000	53	47	60
Zambia	706 743	1 100 000	1 100 000	1 200 000	63	59	67
Zimbabwe	817 397	1 300 000	1 200 000	1 500 000	61	55	66
Eastern Europe and central Asia	312 700	1 500 000	1 400 000	1 600 000	21	19	22
Albania <sup>a</sup>	407	...	...	...	...	...	...
Armenia	917	3600	2800	4900	26	20	35
Azerbaijan	2960	11 000	7300	15 000	28	19	38
Belarus	7174	35 000	29 000	43 000	21	16	24
Bosnia and Herzegovina <sup>a</sup>	125	...	...	...	...	...	...
Georgia	2991	9600	7700	12 000	31	25	39
Kazakhstan	5906	23 000	20 000	27 000	26	22	30
Kyrgyzstan	1722	8000	6300	10 000	22	17	28
Montenegro <sup>a</sup>	90	...	...	...	...	...	...
Republic of Moldova	3744	18 000	15 000	21 000	21	18	25
Russian Federation <sup>a</sup>	...	...	...	...	...	...	...
Tajikistan	2638	16 000	13 000	20 000	17	13	20
The former Yugoslav Republic of Macedonia <sup>a</sup>	...	...	...	...	...	...	...
Ukraine	58 338	220 000	190 000	250 000	27	23	31
Uzbekistan	8611	32 000	24 000	46 000	27	20	39
Latin America and the Caribbean	1 072 000	2 000 000	1 700 000	2 300 000	55	47	64
Argentina	68 933	110 000	98 000	120 000	63	57	69
Bahamas	2943	8100	7400	8900	37	34	40
Barbados	1131	2600	2400	2900	43	40	47
Belize	1549	3400	3100	3900	45	40	51
Bolivia (Plurinational State of)	5101	18 000	11 000	24 000	29	18	39
Brazil	452 229	820 000	600 000	1 100 000	55	41	74
Chile	27 938	32 000	22 000	45 000	87	59	>95
Colombia <sup>c</sup>	...	140 000	130 000	160 000	...	...	...
Costa Rica	5558	9900	8900	11 000	56	50	62
Cuba	15 054	22 000	19 000	24 000	69	59	75
Dominican Republic	30 512	66 000	52 000	90 000	46	36	63
Ecuador	14 972	29 000	23 000	34 000	52	41	63
El Salvador	10 530	19 000	18 000	21 000	54	49	59
Guatemala	15 459	53 000	37 000	77 000	29	21	43
Guyana	4394	7600	7100	8500	58	53	64
Haiti	65 984	120 000	100 000	150 000	53	44	64
Honduras	9884	19 000	16 000	23 000	51	44	61
Jamaica	9098	29 000	25 000	33 000	32	27	37

## 6. Estimated percentage of adults (age 15+ years) living with HIV receiving antiretroviral therapy, 2015

	Number of adults (age 15+ years) living with HIV receiving antiretroviral therapy	Adults (age 15+ years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Mexico</b>	115 671	200 000	180 000	210 000	59	54	64
<b>Nicaragua</b>	3228	9700	7400	14 000	33	25	47
<b>Panama</b>	10 065	17 000	15 000	18 000	59	54	65
<b>Paraguay</b>	5324	17 000	12 000	27 000	31	22	48
<b>Peru</b>	36 313	65 000	55 000	78 000	56	47	67
<b>Suriname</b>	2002	3700	3300	4300	54	47	62
<b>Trinidad and Tobago</b>	6589	11 000	10 000	11 000	61	58	65
<b>Uruguay</b>	6000	10 000	8600	12 000	59	51	69
<b>Venezuela (Bolivarian Republic of)</b>	62 183	110 000	97 000	110 000	59	54	64
<b>Middle East and North Africa</b>	36 000	220 000	150 000	320 000	16	12	24
<b>Algeria</b>	7333	8600	6600	10 000	86	66	>95
<b>Djibouti</b>	1871	8500	5900	12 000	22	15	31
<b>Egypt</b>	2074	11 000	7000	19 000	18	11	31
<b>Iran (Islamic Republic of)</b>	6251	71 000	49 000	120 000	9	6	15
<b>Lebanon</b>	885	2400	2100	2700	37	32	42
<b>Morocco</b>	8437	24 000	20 000	28 000	35	30	41
<b>Oman<sup>a</sup></b>	1067	...	...	...	...	...	...
<b>Somalia</b>	2198	27 000	18 000	37 000	8	5	11
<b>Sudan</b>	3994	52 000	30 000	85 000	8	4	12
<b>Tunisia</b>	714	2600	1700	3700	28	19	40
<b>Yemen</b>	1215	8800	5400	15 000	14	9	24
<b>Western and central Africa</b>	1 731 000	6 000 000	4 900 000	7 300 000	29	24	35
<b>Benin</b>	31 757	64 000	51 000	85 000	49	39	65
<b>Burkina Faso</b>	49 955	88 000	72 000	110 000	57	47	69
<b>Burundi</b>	39 515	68 000	53 000	82 000	58	45	70
<b>Cameroon</b>	161 153	580 000	520 000	650 000	28	25	31
<b>Cape Verde</b>	1290	3100	2600	3800	42	35	51
<b>Central African Republic</b>	25 900	110 000	95 000	120 000	24	21	27
<b>Chad</b>	55 784	150 000	120 000	190 000	38	30	48
<b>Congo<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Côte d'Ivoire</b>	154 228	440 000	370 000	500 000	35	30	41
<b>Democratic Republic of the Congo</b>	113 083	330 000	260 000	410 000	34	27	42
<b>Equatorial Guinea</b>	8264	25 000	23 000	27 000	33	30	36
<b>Gabon</b>	25 662	44 000	37 000	51 000	58	49	68
<b>Gambia</b>	4584	19 000	15 000	22 000	25	20	29
<b>Ghana</b>	89 113	260 000	210 000	300 000	35	29	41
<b>Guinea</b>	31 993	110 000	93 000	130 000	29	25	34
<b>Guinea-Bissau<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Liberia</b>	7002	26 000	22 000	31 000	27	22	32
<b>Mali</b>	32 309	110 000	94 000	140 000	29	24	35
<b>Mauritania</b>	2301	12 000	7600	19 000	19	11	28
<b>Niger</b>	11 965	43 000	38 000	49 000	28	24	32

## 6. Estimated percentage of adults (age 15+ years) living with HIV receiving antiretroviral therapy, 2015

	Number of adults (age 15+ years) living with HIV receiving antiretroviral therapy	Adults (age 15+ years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Nigeria</b>	785 212	3 200 000	2 400 000	4 200 000	25	19	32
<b>Senegal</b>	17 192	41 000	34 000	50 000	42	35	52
<b>Sierra Leone</b>	13 466	47 000	40 000	54 000	29	24	33
<b>Togo</b>	40 545	97 000	84 000	110 000	42	36	49
<b>Western and central Europe and North America</b>	1 414 000	2 400 000	2 200 000	2 700 000	59	54	66
<b>Austria<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Belgium<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Bulgaria<sup>a</sup></b>	819	...	...	...	...	...	...
<b>Canada<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Croatia<sup>a</sup></b>	921	...	...	...	...	...	...
<b>Cyprus<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Czech Republic<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Denmark<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Estonia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Finland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>France<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Germany<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Greece<sup>c</sup></b>	...	16 000	15 000	18 000	...	...	...
<b>Hungary<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Iceland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Ireland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Israel<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Italy<sup>c</sup></b>	...	140 000	120 000	150 000	...	...	...
<b>Latvia</b>	1352	6800	6100	7700	20	18	22
<b>Lithuania<sup>a</sup></b>	561	...	...	...	...	...	...
<b>Luxembourg<sup>a</sup></b>	698	...	...	...	...	...	...
<b>Malta<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Netherlands<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Norway<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Poland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Portugal<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Romania<sup>a</sup></b>	10 308	...	...	...	...	...	...
<b>Serbia<sup>a</sup></b>	1389	...	...	...	...	...	...
<b>Slovakia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Slovenia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Spain</b>	109 600	150 000	130 000	180 000	74	62	87
<b>Sweden<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Switzerland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Turkey<sup>a</sup></b>	...	...	...	...	...	...	...
<b>United Kingdom<sup>a</sup></b>	...	...	...	...	...	...	...
<b>United States of America<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Global</b>	16 200 000	34 900 000	32 400 000	37 900 000	46	43	50

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

<sup>c</sup> The estimates for children are not published because of small numbers.

## 7. Estimated percentage of children (age 0–14 years) living with HIV receiving antiretroviral therapy, 2015

	Number of children (age 0–14 years) living with HIV receiving antiretroviral therapy	Children (age 0–14 years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	78 700	190 000	140 000	250 000	41	30	52
Afghanistan	26	<500	<200	<500	11	6	21
Australia	19	<100	<100	<100	90	73	>95
Bangladesh	90	<500	<500	<500	31	26	35
Bhutan <sup>a</sup>	...	...	...	...	...	...	...
Brunei Darussalam <sup>a</sup>	...	...	...	...	...	...	...
Cambodia <sup>d</sup>	...	...	...	...	...	...	...
China <sup>a</sup>	...	...	...	...	...	...	...
Democratic People's Republic of Korea <sup>a</sup>	...	...	...	...	...	...	...
Fiji <sup>a</sup>	4	...	...	...	...	...	...
India <sup>b</sup>	50 976	...	...	...	...	...	...
Indonesia	2708	17 000	14 000	20 000	16	13	18
Japan <sup>a</sup>	...	...	...	...	...	...	...
Lao People's Democratic Republic <sup>a</sup>	222	...	...	...	...	...	...
Malaysia	487	<500	<500	<1000	>95	91	>95
Maldives <sup>a</sup>	0	...	...	...	...	...	...
Mongolia	0	<100	<100	<100	0	0	0
Myanmar	7086	9500	8000	11 000	75	63	86
Nepal	893	1600	1300	1800	58	49	67
New Zealand <sup>a</sup>	...	...	...	...	...	...	...
Pakistan	131	2500	1900	3900	5	4	8
Papua New Guinea	1170	3300	3000	3600	36	33	39
Philippines	41	<500	<500	<1000	10	8	16
Republic of Korea <sup>a</sup>	...	...	...	...	...	...	...
Singapore <sup>a</sup>	0	...	...	...	...	...	...
Sri Lanka	36	<100	<100	<200	46	32	66
Thailand	3813	4100	3500	4800	>95	89	>95
Timor-Leste <sup>a</sup>	...	...	...	...	...	...	...
Viet Nam	4865	4900	3900	6100	>95	80	>95
<b>Eastern and southern Africa</b>	658 200	1 000 000	930 000	1 200 000	63	56	71
Angola	6032	25 000	17 000	37 000	24	16	34
Botswana	8490	8500	7300	10 000	>95	85	>95
Eritrea	470	1400	<1000	1800	35	25	47
Ethiopia <sup>a</sup>	22 009	...	...	...	...	...	...
Kenya	71 547	98 000	81 000	120 000	73	60	88
Lesotho	7466	13 000	12 000	14 000	56	51	61
Madagascar	16	3800	3300	4400	0	0	0
Malawi	51 487	84 000	75 000	92 000	61	55	68
Mauritius <sup>c</sup>	23	...	...	...	...	...	...
Mozambique	64 273	110 000	81 000	160 000	57	41	80
Namibia	10 010	10 000	9400	11 000	>95	86	>95
Rwanda	8266	11 000	9200	13 000	74	61	86
South Africa	174 891	240 000	210 000	260 000	74	68	82

## 7. Estimated percentage of children (age 0–14 years) living with HIV receiving antiretroviral therapy, 2015

	Number of children (age 0–14 years) living with HIV receiving antiretroviral therapy	Children (age 0–14 years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>South Sudan</b>	728	14 000	9200	19 000	5	3	7
<b>Swaziland</b>	8063	10 000	9700	11 000	78	74	84
<b>Uganda</b>	60 029	96 000	84 000	110 000	63	55	71
<b>United Republic of Tanzania</b>	51 474	91 000	77 000	110 000	56	47	65
<b>Zambia</b>	51 903	85 000	77 000	94 000	61	55	67
<b>Zimbabwe</b>	61 064	77 000	68 000	86 000	80	70	89
<b>Eastern Europe and central Asia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Albania<sup>a</sup></b>	16	...	...	...	...	...	...
<b>Armenia<sup>c</sup></b>	24	...	...	...	...	...	...
<b>Azerbaijan</b>	73	<100	<100	<200	83	52	>95
<b>Belarus</b>	218	<500	<100	<500	94	34	>95
<b>Bosnia and Herzegovina<sup>a</sup></b>	1	...	...	...	...	...	...
<b>Georgia</b>	53	<100	<100	<100	>95	>95	>95
<b>Kazakhstan</b>	379	<500	<200	<500	>95	>95	>95
<b>Kyrgyzstan<sup>d</sup></b>	387	<200	<200	<200	>95	>95	>95
<b>Montenegro<sup>a</sup></b>	2	...	...	...	...	...	...
<b>Republic of Moldova</b>	106	<200	<100	<500	75	52	>95
<b>Russian Federation<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Tajikistan</b>	501	<500	<500	<500	>95	>95	>95
<b>The former Yugoslav Republic of Macedonia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Ukraine</b>	2415	3200	2600	4000	75	61	93
<b>Uzbekistan</b>	4575	<1000	<500	1000	>95	>95	>95
<b>Latin America and the Caribbean</b>	20 400	32 000	27 000	38 000	64	54	76
<b>Argentina</b>	1597	<1000	<1000	<1000	>95	>95	>95
<b>Bahamas</b>	49	<100	<100	<100	89	78	>95
<b>Barbados<sup>c</sup></b>	8	...	...	...	...	...	...
<b>Belize</b>	90	<200	<100	<200	80	62	>95
<b>Bolivia (Plurinational State of)</b>	173	<500	<500	<1000	48	29	72
<b>Brazil</b>	5657	7500	6000	11 000	76	61	>95
<b>Chile<sup>c</sup></b>	144	...	...	...	...	...	...
<b>Colombia<sup>a</sup></b>	...	1400	1300	1600	...	...	...
<b>Costa Rica</b>	65	<200	<200	<200	53	48	59
<b>Cuba</b>	29	<100	<100	<100	>95	83	>95
<b>Dominican Republic</b>	809	2100	1400	3300	39	27	61
<b>Ecuador</b>	670	<500	<500	<1000	>95	>95	>95
<b>El Salvador</b>	273	<500	<500	<500	78	70	84
<b>Guatemala</b>	856	2000	1400	2900	44	32	64
<b>Guyana</b>	157	<200	<200	<500	>95	85	>95
<b>Haiti</b>	2865	9500	7600	12 000	30	24	37
<b>Honduras</b>	573	<1000	<1000	<1000	74	59	91
<b>Jamaica</b>	666	<500	<500	<500	>95	>95	>95
<b>Mexico</b>	1960	1800	1600	2100	>95	95	>95

## 7. Estimated percentage of children (age 0–14 years) living with HIV receiving antiretroviral therapy, 2015

	Number of children (age 0–14 years) living with HIV receiving antiretroviral therapy	Children (age 0–14 years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Nicaragua	122	<200	<200	<500	69	47	>95
Panama	162	<200	<200	<500	92	75	>95
Paraguay	175	<500	<200	<1000	58	35	>95
Peru	888	1100	<1000	1400	84	62	>95
Suriname	74	<100	<100	<100	>95	89	>95
Trinidad and Tobago	131	<100	<100	<100	>95	>95	>95
Uruguay	113	<100	<100	<100	>95	>95	>95
Venezuela (Bolivarian Republic of)	1145	2100	1900	2300	55	50	61
<b>Middle East and North Africa</b>	2200	11 000	8600	14 000	20	16	25
Algeria	582	<500	<200	<500	>95	>95	>95
Djibouti	74	<1000	<1000	1300	8	6	12
Egypt	73	<500	<200	<500	27	18	43
Iran (Islamic Republic of)	233	1900	1400	2800	12	9	18
Lebanon <sup>c</sup>	5	...	...	...	...	...	...
Morocco	489	<500	<500	<1000	>95	82	>95
Oman <sup>a</sup>	31	...	...	...	...	...	...
Somalia	112	3100	2400	4000	4	3	5
Sudan	394	3500	2800	4500	11	9	15
Tunisia <sup>c</sup>	20	...	...	...	...	...	...
Yemen	140	<500	<500	<1000	32	21	50
<b>Western and central Africa</b>	99 300	500 000	400 000	630 000	20	16	25
Benin	1845	4800	3500	6400	39	29	52
Burkina Faso	2349	7700	6000	9600	31	24	38
Burundi	2654	9100	7400	11 000	29	24	34
Cameroon	7096	39 000	34 000	44 000	18	16	21
Cape Verde	65	<200	<200	<200	47	38	62
Central African Republic	2403	9400	8500	10 000	25	23	28
Chad	3838	18 000	14 000	22 000	22	17	27
Congo <sup>a</sup>	...	...	...	...	...	...	...
Côte d'Ivoire	6945	29 000	24 000	34 000	24	20	28
Democratic Republic of the Congo	9185	42 000	34 000	51 000	22	18	27
Equatorial Guinea	245	2400	2200	2600	10	9	11
Gabon	1375	2600	2200	3100	52	44	60
Gambia	438	1800	1500	2300	24	19	30
Ghana	4934	19 000	15 000	22 000	27	22	32
Guinea	1532	7000	6000	8000	22	19	25
Guinea-Bissau <sup>a</sup>	...	...	...	...	...	...	...
Liberia	389	3900	3400	4400	10	9	11
Mali	2665	12 000	9900	14 000	23	19	27
Mauritania	157	1300	<1000	1600	13	10	16
Niger	922	5900	5100	6800	16	13	18
Nigeria	43 655	260 000	190 000	360 000	17	12	23
Senegal	1183	4800	4000	5700	25	21	30



## 7. Estimated percentage of children (age 0–14 years) living with HIV receiving antiretroviral therapy, 2015

	Number of children (age 0–14 years) living with HIV receiving antiretroviral therapy	Children (age 0–14 years) living with HIV, 2015			Estimated coverage (%)		
		Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Sierra Leone</b>	575	4400	3800	5000	13	11	15
<b>Togo</b>	3058	9000	7600	11 000	34	29	41
<b>Western and central Europe and North America<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Austria<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Belgium<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Bulgaria<sup>a</sup></b>	5	...	...	...	...	...	...
<b>Canada<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Croatia<sup>a</sup></b>	3	...	...	...	...	...	...
<b>Cyprus<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Czech Republic<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Denmark<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Estonia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Finland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>France<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Germany<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Greece<sup>e</sup></b>	...	<100	<100	<100	...	...	...
<b>Hungary<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Iceland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Ireland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Israel<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Italy<sup>e</sup></b>	...	1400	1100	1600	...	...	...
<b>Latvia</b>	36	<100	<100	<100	>95	>95	>95
<b>Lithuania<sup>a</sup></b>	5	...	...	...	...	...	...
<b>Luxembourg<sup>a</sup></b>	2	...	...	...	...	...	...
<b>Malta<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Netherlands<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Norway<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Poland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Portugal<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Romania<sup>a</sup></b>	243	...	...	...	...	...	...
<b>Serbia<sup>a</sup></b>	11	...	...	...	...	...	...
<b>Slovakia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Slovenia<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Spain</b>	400	<100	<100	<100	>95	>95	>95
<b>Sweden<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Switzerland<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Turkey<sup>a</sup></b>	...	...	...	...	...	...	...
<b>United Kingdom<sup>a</sup></b>	...	...	...	...	...	...	...
<b>United States of America<sup>a</sup></b>	...	...	...	...	...	...	...
<b>Global</b>	<b>872 500</b>	<b>1 800 000</b>	<b>1 500 000</b>	<b>2 000 000</b>	<b>49</b>	<b>42</b>	<b>55</b>

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

<sup>c</sup> The estimates for children are not published because of small numbers.

<sup>d</sup> The estimates for children are not published.

<sup>e</sup> Antiretroviral therapy data were not available at the time of publication.

## 8. Estimated percentage of women and men (15+ years) living with HIV receiving antiretroviral therapy

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Asia and the Pacific</b>	47	41	54	37	32	44
Afghanistan	5	3	13	5	3	11
Australia	90	81	>95	90	82	>95
Bangladesh	18	15	20	14	12	16
Bhutan <sup>a</sup>	...	...	...	...	...	...
Brunei Darussalam <sup>a</sup>	...	...	...	...	...	...
Cambodia	75	69	83	70	64	78
China <sup>a</sup>	...	...	...	...	...	...
Democratic People's Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Fiji <sup>a</sup>	...	...	...	...	...	...
India <sup>b</sup>	51	42	62	39	32	49
Indonesia	9	8	10	9	8	10
Japan <sup>a</sup>	...	...	...	...	...	...
Lao People's Democratic Republic <sup>a</sup>	...	...	...	...	...	...
Malaysia	56	51	62	23	20	27
Maldives <sup>a</sup>	...	...	...	...	...	...
Mongolia	39	30	48	35	27	44
Myanmar	59	52	68	39	34	45
Nepal	41	36	47	22	19	26
New Zealand <sup>a</sup>	...	...	...	...	...	...
Pakistan	6	5	10	6	5	10
Papua New Guinea	57	51	63	51	46	56
Philippines	9	7	23	32	23	94
Republic of Korea <sup>a</sup>	...	...	...	...	...	...
Singapore <sup>a</sup>	...	...	...	...	...	...
Sri Lanka	21	15	33	18	12	28
Thailand	74	68	81	57	53	63
Timor-Leste <sup>a</sup>	...	...	...	...	...	...
Viet Nam	45	41	51	38	34	43
<b>Eastern and southern Africa</b>	59	55	64	44	41	48
Angola	33	23	45	24	17	33
Botswana	85	80	91	67	63	72
Eritrea	55	44	72	75	60	>95
Ethiopia <sup>a</sup>	...	...	...	...	...	...
Kenya	68	57	79	44	37	52
Lesotho	45	41	49	36	33	39
Madagascar	4	3	4	2	2	3
Malawi	67	62	72	52	48	57
Mauritius	26	22	31	32	27	38
Mozambique	63	51	76	39	31	47
Namibia	71	66	78	61	56	66
Rwanda	84	74	93	71	63	79
South Africa	53	50	57	40	38	42
South Sudan	14	9	19	7	5	10

## 8. Estimated percentage of women and men (15+ years) living with HIV receiving antiretroviral therapy

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Swaziland	74	69	80	56	52	61
Uganda	65	60	71	45	42	49
United Republic of Tanzania	62	55	69	40	36	45
Zambia	67	63	72	56	54	60
Zimbabwe	65	59	70	54	49	59
<b>Eastern Europe and central Asia</b>	26	24	28	18	17	19
Albania <sup>a</sup>	...	...	...	...	...	...
Armenia	47	38	63	20	16	27
Azerbaijan	27	19	37	28	20	39
Belarus	21	17	26	19	16	23
Bosnia and Herzegovina <sup>a</sup>	...	...	...	...	...	...
Georgia	46	37	57	27	22	34
Kazakhstan	35	30	42	21	18	25
Kyrgyzstan	30	24	39	17	14	22
Montenegro <sup>a</sup>	...	...	...	...	...	...
Republic of Moldova	33	28	39	15	13	18
Russian Federation <sup>a</sup>	...	...	...	...	...	...
Tajikistan	23	19	29	13	10	16
The former Yugoslav Republic of Macedonia <sup>a</sup>	...	...	...	...	...	...
Ukraine	29	25	34	25	22	29
Uzbekistan	51	38	70	17	12	24
<b>Latin America and the Caribbean</b>	58	49	68	54	46	62
Argentina	76	71	83	57	52	63
Bahamas	42	39	45	34	31	37
Barbados	60	55	65	36	33	39
Belize	47	42	53	43	38	48
Bolivia (Plurinational State of)	33	21	45	26	16	36
Brazil	58	43	77	54	40	72
Chile	>95	>95	>95	75	51	>95
Colombia <sup>c</sup>	...	...	...	...	...	...
Costa Rica	36	33	39	64	57	71
Cuba	56	50	62	73	62	80
Dominican Republic	53	43	71	40	31	54
Ecuador	66	53	80	46	36	55
El Salvador	60	55	65	51	46	56
Guatemala	32	22	47	28	20	41
Guyana	63	58	71	52	48	58
Haiti	57	48	69	47	40	57
Honduras	59	51	68	45	38	53
Jamaica	43	37	49	24	21	28
Mexico	58	54	63	59	54	64
Nicaragua	47	36	68	28	22	41
Panama	59	55	63	60	55	65

## 8. Estimated percentage of women and men (15+ years) living with HIV receiving antiretroviral therapy

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
Paraguay	37	27	57	29	20	44
Peru	69	58	83	50	43	60
Suriname	52	46	61	55	48	64
Trinidad and Tobago	66	62	70	57	54	60
Uruguay	78	67	92	53	45	62
Venezuela (Bolivarian Republic of)	40	37	43	69	64	75
<b>Middle East and North Africa</b>	18	13	26	15	11	23
Algeria	>95	75	>95	77	59	93
Djibouti	21	15	30	23	16	33
Egypt	16	10	26	20	12	33
Iran (Islamic Republic of)	7	5	12	10	7	17
Lebanon	32	29	36	38	33	43
Morocco	52	45	60	26	22	30
Oman <sup>a</sup>	...	...	...	...	...	...
Somalia	9	6	13	7	4	9
Sudan	7	4	12	8	4	13
Tunisia	38	26	55	23	16	34
Yemen	13	8	23	14	9	25
<b>Western and central Africa</b>	34	28	42	22	18	26
Benin	49	39	65	50	39	66
Burkina Faso	66	55	81	42	35	51
Burundi	65	51	78	48	37	58
Cameroon	33	30	37	20	18	22
Cape Verde	43	36	52	40	34	49
Central African Republic	23	20	26	25	22	28
Chad	40	33	51	34	27	44
Congo <sup>a</sup>	...	...	...	...	...	...
Côte d'Ivoire	44	38	50	23	20	27
Democratic Republic of the Congo	40	31	49	25	20	31
Equatorial Guinea	45	41	49	17	16	19
Gabon	57	48	68	60	51	70
Gambia	30	25	36	16	13	20
Ghana	39	33	46	29	24	34
Guinea	32	27	38	24	20	28
Guinea-Bissau <sup>a</sup>	...	...	...	...	...	...
Liberia	30	25	36	21	17	25
Mali	34	29	41	21	18	26
Mauritania	19	12	29	18	11	28
Niger	35	31	39	20	18	23
Nigeria	30	22	39	17	13	23
Senegal	45	38	55	36	30	45
Sierra Leone	34	29	39	20	17	23
Togo	49	42	57	31	27	36

## 8. Estimated percentage of women and men (15+ years) living with HIV receiving antiretroviral therapy

	2010			2015		
	Estimate	Lower estimate	Upper estimate	Estimate	Lower estimate	Upper estimate
<b>Western and central Europe and North America</b>	61	55	69	59	53	65
Austria <sup>a</sup>	...	...	...	...	...	...
Belgium <sup>a</sup>	...	...	...	...	...	...
Bulgaria <sup>a</sup>	...	...	...	...	...	...
Canada <sup>a</sup>	...	...	...	...	...	...
Croatia <sup>a</sup>	...	...	...	...	...	...
Cyprus <sup>a</sup>	...	...	...	...	...	...
Czech Republic <sup>a</sup>	...	...	...	...	...	...
Denmark <sup>a</sup>	...	...	...	...	...	...
Estonia <sup>a</sup>	...	...	...	...	...	...
Finland <sup>a</sup>	...	...	...	...	...	...
France <sup>a</sup>	...	...	...	...	...	...
Germany <sup>a</sup>	...	...	...	...	...	...
Greece <sup>c</sup>	...	...	...	...	...	...
Hungary <sup>a</sup>	...	...	...	...	...	...
Iceland <sup>a</sup>	...	...	...	...	...	...
Ireland <sup>a</sup>	...	...	...	...	...	...
Israel <sup>a</sup>	...	...	...	...	...	...
Italy <sup>c</sup>	...	...	...	...	...	...
Latvia	20	17	22	20	18	22
Lithuania <sup>a</sup>	...	...	...	...	...	...
Luxembourg <sup>a</sup>	...	...	...	...	...	...
Malta <sup>a</sup>	...	...	...	...	...	...
Netherlands <sup>a</sup>	...	...	...	...	...	...
Norway <sup>a</sup>	...	...	...	...	...	...
Poland <sup>a</sup>	...	...	...	...	...	...
Portugal <sup>a</sup>	...	...	...	...	...	...
Romania <sup>a</sup>	...	...	...	...	...	...
Serbia <sup>a</sup>	...	...	...	...	...	...
Slovakia <sup>a</sup>	...	...	...	...	...	...
Slovenia <sup>a</sup>	...	...	...	...	...	...
Spain	74	61	89	74	62	87
Sweden <sup>a</sup>	...	...	...	...	...	...
Switzerland <sup>a</sup>	...	...	...	...	...	...
Turkey <sup>a</sup>	...	...	...	...	...	...
United Kingdom <sup>a</sup>	...	...	...	...	...	...
United States of America <sup>a</sup>	...	...	...	...	...	...
<b>Global</b>	<b>52</b>	<b>48</b>	<b>57</b>	<b>40</b>	<b>37</b>	<b>44</b>

<sup>a</sup> Estimates were unavailable at the time of publication.

<sup>b</sup> Some estimates were unavailable at the time of publication.

<sup>c</sup> The estimates for children are not published because of small numbers.

## International assistance for the AIDS response in low- and middle-income countries as reported by donors, 2010–2015

The table contains the international financial assistance for the AIDS response in US dollars provided annually to low- and middle-income countries as reported by bilateral and multilateral entities. International assistance reported by the Global Fund to Fight AIDS, Tuberculosis and Malaria and the United States President's Emergency Plan for AIDS Relief (PEPFAR) are presented separately. Total disbursements by bilateral and multilateral entities are the amounts they reported to the Organisation for Economic Co-operation and Development (OECD) under two AIDS categories. These totals may omit disbursements for HIV-related services within grants that cover broader health and development work. Discrepancies between the disbursements reported by different sources may be due to variation in financial years and the underlying reporting methods and standards.

	Donor	2010	2011	2012	2013	2014	2015
<b>Asia and the Pacific</b>							
<b>Afghanistan</b>	Global Fund	2 148 734	1 462 669	2 185 368	2 055 495	1 988 748	120 285
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 791 728	4 454 982	4 550 199	2 380 094	2 183 508	b
<b>Bangladesh</b>	Global Fund	10 828 843	13 454 642	6 278 255	15 533 268	12 617 234	9 281 275
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	16 486 926	20 461 079	12 097 445	20 656 403	16 813 541	b
<b>Cambodia</b>	Global Fund	15 188 097	38 011 480	7 168 485	19 896 780	24 399 178	14 472 482
	PEPFAR	a	a	a	a	11 376 758	13 715 250
	Total bilateral and multilateral disbursements	41 618 606	66 703 078	30 317 409	35 583 522	40 941 761	b
<b>China</b>	Global Fund	5 226 659	27 494 678	65 850 097	b	b	b
	PEPFAR	a	a	a	a	1 343 978	2 326 965
	Total bilateral and multilateral disbursements	58 038 337	83 949 932	84 298 511	19 102 425	4 998 066	b
<b>Fiji</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	583 941	727 836	1 524 504	1 051 897	485 790	b
<b>India</b>	Global Fund	114 688 269	126 025 279	144 437 206	168 643 823	54 063 937	139 034 722
	PEPFAR	a	a	a	a	24 545 854	21 047 803
	Total bilateral and multilateral disbursements	225 831 542	312 572 610	202 335 515	249 245 652	100 941 701	b
<b>Indonesia</b>	Global Fund	25 881 085	32 066 012	19 726 545	38 594 494	18 369 789	18 070 601
	PEPFAR	a	a	a	a	8 638 353	7 568 393
	Total bilateral and multilateral disbursements	43 635 341	58 454 293	59 749 467	66 228 653	46 858 908	b
<b>Kiribati</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	6476	b	b
<b>Lao People's Democratic Republic</b>	Global Fund	3 149 970	7 712 314	3 576 231	6 422 269	4 652 176	2 416 390
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 395 375	10 954 882	5 965 593	9 193 335	7 534 799	b
<b>Malaysia</b>	Global Fund		1 333 367	1 421 411	2 049 553	2 739 557	1 110 397
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	64 201	1 374 442	1 544 143	5 447 609	2 776 044	b
<b>Marshall Islands</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	984 000	b

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	Donor	2010	2011	2012	2013	2014	2015
Micronesia (Federated States of)	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	17 680	b
Mongolia	Global Fund	1 867 235	661 581	1 323 685	826 295	845 708	2 081 375
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	4 239 746	873 274	1 346 514	860 820	906 945	b
Myanmar	Global Fund	15 281 620	6 642 873	21 951 886	46 483 647	35 120 662	21 122 035
	PEPFAR	a	a	a	a	3 571 642	4 833 024
	Total bilateral and multilateral disbursements	25 985 231	23 287 006	30 278 059	56 846 793	40 613 012	b
Nauru	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
Nepal	Global Fund	3 436 598	5 900 232	10 872 417	10 588 046	6 400 232	9 672 103
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	17 300 476	22 880 248	21 729 231	26 658 307	20 923 940	b
Pakistan	Global Fund	b	2 820 559	3 470 399	6 131 242	3 080 328	8 982 268
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	4 657 788	15 633 815	5 845 002	4 768 943	8 132 736	b
Palau	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
Papua New Guinea	Global Fund	b	b	6 357 282	6 854 227	2 513 803	1 781 634
	PEPFAR	a	a	a	a	5 069 390	4 134 699
	Total bilateral and multilateral disbursements	39 282 829	47 205 714	71 625 772	75 385 653	81 944 956	b
Philippines	Global Fund	3 987 421	1 100 816	5 713 849	1 174 069	1 783 496	2 408 266
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	5 559 520	2 980 175	7 822 513	2 108 555	3 183 817	b
Samoa	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	2095	75 521	b	b	44 790	b
Solomon Islands	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	54 936	b	45 592	b	200 000	b

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	Donor	2010	2011	2012	2013	2014	2015
Sri Lanka	Global Fund	355 522	1 087 445	1 462 623	2 016 229	1 063 445	1 021 467
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 178 416	4 134 917	2 333 556	4 600 454	1 229 795	b
Thailand	Global Fund	30 784 549	35 727 916	16 813 436	31 309 001	23 318 693	17 911 402
	PEPFAR	a	a	a	a	9 566 163	12 810 056
	Total bilateral and multilateral disbursements	41 723 751	48 809 500	24 142 415	38 105 395	25 700 573	b
Timor-Leste	Global Fund	1 403 905	1 587 672	2 914 706	1 450 924	3 136 373	620 909
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 571 565	1 592 562	3 230 105	1 740 822	3 561 806	b
Tonga	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
Tuvalu	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
Vanuatu	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	461 207	2 519 003	2 717 418	3 416 005	673 952	b
Viet Nam	Global Fund	3 767 635	21 003 681	17 825 251	27 477 324	10 697 000	16 886 080
	PEPFAR	a	a	a	a	55 184 197	54 439 507
	Total bilateral and multilateral disbursements	90 094 243	124 252 938	88 843 058	90 791 042	63 147 051	b
<b>Eastern and southern Africa</b>							
Angola	Global Fund	12 562 039	3 787 437	3 272 516	11 408 657		2 547 131
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	24 882 818	21 823 335	21 082 779	33 379 283	15 705 810	b
Botswana	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	53 580 483	52 284 175
	Total bilateral and multilateral disbursements	73 920 684	71 936 054	60 403 897	72 552 802	52 615 657	b
Comoros	Global Fund	416 854	904 555	716 258	339 961	505 131	300 098
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	466 649	969 687	705 625	510 453	624 540	b
Eritrea	Global Fund	16 581 281	6 862 092	17 629 496	11 148 902	18 876 114	3 190 836
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	19 492 980	8 298 453	18 106 707	11 749 080	19 200 793	b



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	Donor	2010	2011	2012	2013	2014	2015
Ethiopia	Global Fund	215 714 813	132 686 767	48 194 656	128 167 098	83 080 302	89 667 925
	PEPFAR	a	a	a	a	176 534 730	172 380 546
	Total bilateral and multilateral disbursements	467 600 139	389 278 246	305 394 339	370 239 973	284 659 309	b
Kenya	Global Fund	24 888 872	5 924 903	58 860 080	72 296 655	61 114 348	96 966 592
	PEPFAR	a	a	a	a	440 328 935	452 443 970
	Total bilateral and multilateral disbursements	404 062 935	458 674 403	572 802 760	626 132 472	510 108 030	b
Lesotho	Global Fund	21 183 169	19 318 443	20 481 647	22 194 600	11 724 007	17 240 397
	PEPFAR	a	a	a	a	31 143 203	30 024 410
	Total bilateral and multilateral disbursements	56 101 111	61 821 432	68 454 862	58 153 452	46 691 978	b
Madagascar	Global Fund	4 101 619	860 398	2 236 364	2 701 830	2 657 223	2 401 661
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	11 141 296	8 680 674	7 933 867	7 150 274	3 849 822	b
Malawi	Global Fund	44 326 129	55 055 304	67 566 143	58 452 885	72 347 383	94 860 201
	PEPFAR	a	a	a	a	72 668 869	76 418 564
	Total bilateral and multilateral disbursements	125 948 922	140 113 794	163 048 374	149 833 676	156 758 733	b
Mauritius	Global Fund	2 157 350	1 305 621	1 809 891	1 692 696	1 741 557	336 738
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	2 133 202	1 520 317	1 771 809	1 738 892	1 848 567	b
Mozambique	Global Fund	53 247 835	3 726 604	42 099 041	9 489 862	56 321 398	73 839 562
	PEPFAR	a	a	a	a	297 968 209	265 707 269
	Total bilateral and multilateral disbursements	251 163 910	247 333 703	259 673 425	259 070 540	312 735 693	b
Namibia	Global Fund	28 283 249	6 659 406	30 448 548	13 847 781	12 241 871	7 785 182
	PEPFAR	a	a	a	a	58 168 020	49 788 008
	Total bilateral and multilateral disbursements	123 307 253	89 836 254	118 117 013	92 003 459	78 772 186	b
Rwanda	Global Fund	105 057 292	99 578 064	110 640 732	77 211 192	109 916 064	83 081 276
	PEPFAR	a	a	a	a	106 705 116	89 468 785
	Total bilateral and multilateral disbursements	202 815 055	208 874 084	198 935 526	147 456 704	190 398 891	b
Seychelles	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	31 340		243			b
South Africa	Global Fund	43 645 114	19 014 188	101 829 264	88 530 866	91 156 196	99 374 402
	PEPFAR	a	a	a	a	420 974 849	390 487 953
	Total bilateral and multilateral disbursements	572 817 195	591 367 076	602 325 601	559 771 968	590 150 248	b

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	Donor	2010	2011	2012	2013	2014	2015
South Sudan	Global Fund	3 341 546	3 854 008	4 896 512	5 612 274	7 042 265	16 531 406
	PEPFAR	a	a	a	a	8 299 805	9 827 135
	Total bilateral and multilateral disbursements	b	11 146 615	20 281 975	29 468 933	16 071 039	b
Swaziland	Global Fund	34 301 715	12 289 970	3 135 203	18 463 565	1 210 157	7 176 776
	PEPFAR	a	a	a	a	39 572 162	39 795 064
	Total bilateral and multilateral disbursements	57 983 371	60 780 625	46 707 641	57 679 553	45 471 929	b
Uganda	Global Fund	24 294 101	16 550 863	55 083 867	30 347 253	34 532 073	79 830 305
	PEPFAR	a	a	a	a	281 812 819	262 609 562
	Total bilateral and multilateral disbursements	261 252 845	282 933 013	322 399 137	348 214 053	324 739 271	b
United Republic of Tanzania	Global Fund	90 956 378	48 001 671	63 101 776	158 644 650	134 537 812	89 311 491
	PEPFAR	a	a	a	a	314 822 878	276 527 338
	Total bilateral and multilateral disbursements	365 161 467	366 800 254	384 756 518	479 223 984	444 195 347	b
Zambia	Global Fund	37 366 179	88 285 317	63 359 492	153 110 575	68 808 573	25 854 905
	PEPFAR	a	a	a	a	246 173 444	233 395 902
	Total bilateral and multilateral disbursements	220 144 112	299 819 914	288 448 574	277 060 632	309 290 099	b
Zimbabwe	Global Fund	47 216 789	26 820 573	130 481 599	97 238 291	100 570 822	183 534 746
	PEPFAR	a	a	a	a	90 377 038	101 837 712
	Total bilateral and multilateral disbursements	109 433 259	93 623 661	211 346 999	163 531 078	182 143 055	b
<b>Eastern Europe and central Asia</b>							
Albania	Global Fund	678 581	492 117	216 371	180 595	192 107	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	799 841	533 864	283 338	243 451	255 664	b
Armenia	Global Fund	1 221 346	3 416 111	4 468 956	3 251 611	3 411 031	1 039 721
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	2 364 375	4 571 804	4 567 778	3 899 989	3 503 587	b
Azerbaijan	Global Fund	4 764 455	8 060 295	1 814 375	5 007 607	6 830 019	2 389 838
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	4 841 565	8 379 378	2 099 516	5 298 481	6 875 131	b
Belarus	Global Fund	5 861 402	8 040 884	6 646 196	6 982 976	4 738 897	4 769 193
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 413 576	8 525 019	6 925 481	7 571 547	5 044 354	b
Bosnia and Herzegovina	Global Fund	6 311 692	5 742 682	3 153 132	7 834 022	4 580 935	3 105 366
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 587 904	5 981 250	2 922 774	7 978 904	4 593 745	b

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	Donor	2010	2011	2012	2013	2014	2015
<b>Bulgaria</b>	Global Fund	7 068 997	7 128 610	3 480 858	1 588 912	4 345 631	2 526 171
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
<b>Estonia</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
<b>Georgia</b>	Global Fund	6 128 146	6 521 849	8 440 540	10 332 111	5 470 762	7 476 707
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	7 268 734	9 229 376	8 702 631	11 389 784	6 861 238	b
<b>Kazakhstan</b>	Global Fund	2 992 093	5 692 218	7 411 779	5 105 512	299 652	3 594 040
	PEPFAR	a	a	a	a	2 660 159	4 149 083
	Total bilateral and multilateral disbursements	4 111 187	7 356 548	8 733 448	6 164 557	693 727	b
<b>Kyrgyzstan</b>	Global Fund	5 449 518	7 370 614	5 559 589	7 157 157	5 359 960	5 667 648
	PEPFAR	a	a	a	a	4 818 270	2 801 132
	Total bilateral and multilateral disbursements	7 752 375	9 009 428	6 645 416	8 054 923	6 356 566	b
<b>Montenegro</b>	Global Fund	1 371 826	1 517 821	861 849	857 485	818 732	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 314 188	1 555 812	821 000	857 485	818 732	b
<b>Republic of Moldova</b>	Global Fund	10 072 219	4 724 277	5 349 508	6 378 626	8 393 141	686 624
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	10 263 923	5 250 920	5 778 957	6 615 829	8 464 787	b
<b>Romania</b>	Global Fund	910 457	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
<b>Russian Federation<sup>d</sup></b>	Global Fund	29 990 820	10 827 432	2 244 665	8 065 329	3 288 070	3 629 518
	PEPFAR	b	b	b	b	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
<b>Serbia</b>	Global Fund	3 926 085	3 856 674	3 640 999	3 890 594	1 217 362	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	3 952 775	3 981 848	3 681 935	4 162 546	1 322 808	b
<b>Tajikistan</b>	Global Fund	9 291 100	4 429 234	11 923 348	8 047 459	4 687 168	4 414 531
	PEPFAR	a	a	a	a	4 361 656	2 977 627
	Total bilateral and multilateral disbursements	11 566 476	5 987 078	13 062 648	9 249 778	6 183 748	b

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	Donor	2010	2011	2012	2013	2014	2015
<b>The former Yugoslav Republic of Macedonia</b>	Global Fund	1 514 506	3 966 878	1 564 231	2 474 129	1 207 267	2 998 601
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 489 009	3 915 082	1 592 006	2 474 129	1 207 295	b
<b>Turkey</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	153 907	31 827	b	b	12 048	b
<b>Turkmenistan</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	30 662	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
<b>Ukraine</b>	Global Fund	32 047 425	37 207 617	54 985 981	44 710 266	32 352 908	47 972 450
	PEPFAR	a	a	a	a	11 735 752	17 193 846
	Total bilateral and multilateral disbursements	44 185 758	50 246 169	67 878 644	63 216 025	52 567 007	b
<b>Uzbekistan</b>	Global Fund	1 868 251	6 983 392	18 117 218	2 144 023	7 381 095	3 663 479
	PEPFAR	a	a	a	a	310 320	140 925
	Total bilateral and multilateral disbursements	4 552 320	9 099 057	19 276 467	3 402 582	7 814 539	b
<b>Latin America and the Caribbean</b>							
<b>Argentina<sup>a</sup></b>	Global Fund	b	1 524 599	503 631	1 488 035	b	b
	PEPFAR						
	Total bilateral and multilateral disbursements	645 290	2 362 323	1 734 711	2 345 447	208 494	b
<b>Belize</b>	Global Fund	944 471	356 980	1 543 941	1 450 840	100 000	2 839 718
	PEPFAR	a	a	a	a	1 059 922	1 035 022
	Total bilateral and multilateral disbursements	1 151 562	811 832	1 642 965	1 610 373	184 342	b
<b>Bolivia (Plurinational State of)</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	5 522 699	7 091 420	2 154 876	9 542 872	3 252 256	b
<b>Brazil</b>	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	7 565 073	5 112 205	5 057 630	3 754 811	2 484 837	b
<b>Chile<sup>d</sup></b>	Global Fund	b	b	b	b	b	b
	PEPFAR	b	b	b	b	b	b
	Total bilateral and multilateral disbursements	359 964	260 145	124 180	126 583	b	b
<b>Colombia</b>	Global Fund	b	11 055 251	1 884 395	13 942 010	3 403 505	6 070 693
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	752 498	11 397 656	2 536 680	14 950 854	3 967 819	b

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	Donor	2010	2011	2012	2013	2014	2015
Costa Rica	Global Fund	b	b	b	b	b	933 088
	PEPFAR	a	a	a	a	960 167	989 597
	Total bilateral and multilateral disbursements	179 338	196 134	91 075	79 571	36 827	b
Cuba	Global Fund	9 425 384	8 133 543	8 147 427	8 720 617	1 987 824	6 827 772
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	9 707 699	8 583 640	8 270 000	9 422 039	2 162 660	b
Dominica	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	852 382	369 002
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
Dominican Republic	Global Fund	14 201 973	12 521 662	8 855 439	15 089 509	11 008 145	4 566 014
	PEPFAR	a	a	a	a	15 195 075	12 245 528
	Total bilateral and multilateral disbursements	24 831 117	26 068 604	29 308 525	33 495 106	25 725 514	b
Ecuador	Global Fund	1 398 364	3 114 302	1 223 859	4 960 881	4 783 821	2 611 274
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	5 384 684	4 316 276	1 974 522	5 984 961	5 315 663	b
El Salvador	Global Fund	7 758 232	5 185 392	5 143 657	13 460 707	1 050 360	7 028 602
	PEPFAR	a	a	a	a	2 119 072	2 470 504
	Total bilateral and multilateral disbursements	9 736 353	6 694 285	6 528 376	10 180 865	1 242 908	b
Grenada	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	469 605	216 448
	Total bilateral and multilateral disbursements	3931	5904	7206		b	b
Guatemala	Global Fund	6 520 131	15 199 667	10 265 179	11 388 651	9 725 198	10 517 286
	PEPFAR	a	a	a	a	4 279 183	3 749 015
	Total bilateral and multilateral disbursements	11 201 262	20 405 683	13 766 005	14 680 735	11 169 281	b
Guyana	Global Fund	2 553 738	4 707 845	763 594	2 198 871	1 977 247	1 971 299
	PEPFAR	a	a	a	a	7 522 489	6 759 435
	Total bilateral and multilateral disbursements	19 952 103	18 019 123	12 748 680	10 239 428	8 852 650	b
Haiti	Global Fund	12 118 386	15 911 930	14 711 119	14 607 121	16 924 653	11 255 989
	PEPFAR	a	a	a	a	117 771 589	110 549 082
	Total bilateral and multilateral disbursements	118 094 007	119 174 870	107 863 493	114 349 096	127 346 608	b
Honduras	Global Fund	7 277 702	9 765 403	8 430 701	8 425 195	2 281 131	1 077 634
	PEPFAR	a	a	a	a	3 932 495	4 172 935
	Total bilateral and multilateral disbursements	13 668 005	18 584 627	16 486 045	16 313 148	7 115 065	b

## International assistance for the AIDS response in low- and middle-income countries as reported by donors, 2010–2015

The table contains the international financial assistance for the AIDS response in US dollars provided annually to low- and middle-income countries as reported by bilateral and multilateral entities. International assistance reported by the Global Fund to Fight AIDS, Tuberculosis and Malaria and the United States President's Emergency Plan for AIDS Relief (PEPFAR) are presented separately. Total disbursements by bilateral and multilateral entities are the amounts they reported to the Organisation for Economic Co-operation and Development (OECD) under two AIDS categories. These totals may omit disbursements for HIV-related services within grants that cover broader health and development work. Discrepancies between the disbursements reported by different sources may be due to variation in financial years and the underlying reporting methods and standards.

	Donor	2010	2011	2012	2013	2014	2015
Jamaica	Global Fund	11 686 451	8 870 742	3 211 112	8 409 518	b	3 246 622
	PEPFAR	a	a	a	a	7 544 813	6 029 087
	Total bilateral and multilateral disbursements	14 509 613	16 439 946	8 399 136	13 871 482	5 249 379	b
Mexico	Global Fund	3 387 683	9 964 718	11 311 799	11 448 986	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 300 832	12 319 608	14 239 043	12 496 260	654 037	b
Nicaragua	Global Fund	7 526 489	2 764 944	8 815 274	4 203 718	3 637 567	3 957 020
	PEPFAR	a	a	a	a	2 230 403	2 403 508
	Total bilateral and multilateral disbursements	11 990 514	6 228 332	11 407 586	6 399 117	5 725 131	b
Panama	Global Fund	b	b	1 503 322	1 857 295	937 207	1 927 284
	PEPFAR	a	a	a	a	1 932 814	1 850 767
	Total bilateral and multilateral disbursements	643 046	435 722	1 902 795	2 131 562	968 107	b
Paraguay	Global Fund	4 098 277	2 634 380	2 608 915	2 753 991	3 072 621	2 708 913
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 163 168	3 924 322	4 443 447	4 884 556	4 070 305	b
Peru	Global Fund	8 356 240	2 904 093	3 903 342	496 689	2 834 260	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	12 380 832	5 763 999	6 191 797	2 470 605	3 708 815	b
Saint Lucia	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	777 176	218 282
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
Saint Vincent and the Grenadines	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	458 576	368 661
	Total bilateral and multilateral disbursements	16 317	b	b	714		b
Suriname	Global Fund	839 112	870 357	143 036	243 551	b	1 176 504
	PEPFAR	a	a	a	a	713 638	565 608
	Total bilateral and multilateral disbursements	997 226	1 105 246	164 031	405 444	9084	b
Trinidad and Tobago <sup>c</sup>	Global Fund	b	b	b	b	b	b
	PEPFAR	b	b	b	b	1 311 510	1 141 316
	Total bilateral and multilateral disbursements	420 082	b	b	b	b	b
Uruguay <sup>d</sup>	Global Fund	b	b	2 151 170	1 048 753	369 689	b
	PEPFAR	b	b	b	b	b	b
	Total bilateral and multilateral disbursements	228 647	94 313	2 192 697	1 099 181	429 276	b

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	Donor	2010	2011	2012	2013	2014	2015
Venezuela (Bolivarian Republic of)*	Global Fund	b	b	b	b	b	b
	PEPFAR	b	b	b	b	b	b
	Total bilateral and multilateral disbursements	408 811	502 461	638 735	430 159	214 313	b
<b>Middle East and North Africa</b>							
Algeria	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 146 469	1 002 875	309 680	310 436	123 384	b
Djibouti	Global Fund	987 472	2 387 338	877 968	3 208 807	416 791	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 953 809	2 927 393	1 549 567	5 196 206	2 666 820	b
Egypt	Global Fund	1 413 280		1 833 391	771 460		211 476
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	3 819 928	1 372 925	2 591 588	1 760 203	471 504	b
Iran (Islamic Republic of)	Global Fund	3 078 579	6 323 375	5 602 799	3 988 763	6 646 279	5 743 976
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	3 716 918	7 238 290	6 487 266	4 841 928	7 090 241	b
Jordan	Global Fund	544 583	769 573	629 607	b	8450	32 950
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	634 674	780 362	630 000	70 229	72 450	b
Lebanon	Global Fund	b	b	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	311 349	307 180	222 412	1690	168 167	b
Morocco	Global Fund	5 862 988	7 062 370	6 163 402	3 487 662	8 022 786	1 176 342
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	7 241 217	8 403 619	7 085 706	4 301 183	8 536 829	b
Somalia	Global Fund	11 764 000	11 719 451	6 218 112	9 284 707	5 643 730	5 776 906
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	12 486 246	12 579 160	6 840 058	10 274 725	6 185 732	b
Sudan	Global Fund	20 804 263	19 875 794	9 656 856	14 808 996	10 040 575	4 759 590
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	45 000 365	29 685 185	20 346 838	18 446 566	12 022 483	b
Syrian Arab Republic	Global Fund	b	b	457 301	297 472	1 246 730	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	210 724	291 718	467 910	830 187	1 322 174	b

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	Donor	2010	2011	2012	2013	2014	2015
Tunisia	Global Fund	4 037 197	1 160 011	1 382 024	1 846 015	1 135 547	474 350
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	4 058 801	1 486 144	1 454 317	1 960 409	1 276 474	b
Yemen	Global Fund	4 554 899	b	321 546	495 529	217 725	390 249
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	5 390 953	282 107	601 182	933 950	685 051	b
<b>Western and Central Africa</b>							
Benin	Global Fund	21 333 967	16 364 873	2 293 658	8 046 445	13 763 590	10 638 542
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	30 365 666	26 618 560	9 833 507	10 240 707	15 884 009	b
Burkina Faso	Global Fund	14 318 645	7 196 930	13 191 511	26 275 144	5 620 443	14 548 838
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	41 531 910	18 245 695	25 732 578	40 982 393	13 331 787	b
Burundi	Global Fund	6 002 968	13 309 111	13 177 356	12 164 557	10 845 679	6 303 255
	PEPFAR	a	a	a	a	11 788 765	15 661 306
	Total bilateral and multilateral disbursements	19 354 300	25 046 775	21 157 979	19 717 618	18 900 450	b
Cameroon	Global Fund	8 893 822	7 081 726	15 863 396	26 913 809	9 128 195	16 347 617
	PEPFAR	a	a	a	a	18 510 202	24 571 641
	Total bilateral and multilateral disbursements	18 174 862	15 846 038	29 853 265	45 606 785	35 505 709	b
Cabo Verde	Global Fund	1 973 998	2 283 820	271 956	2 965 528	1 282 849	1 613 688
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 976 373	2 358 820	272 000	2 966 277	1 304 972	b
Central African Republic	Global Fund	6 112 689	5 575 151	604 960	4 992 177	4 692 168	3 317 505
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	10 897 251	8 565 293	5 059 702	7 425 558	6 050 391	b
Chad	Global Fund	9 607 716	10 744 715	2 223 686	9 979 297	9 025 689	5 677 982
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	14 216 563	20 357 482	8 791 606	16 160 359	10 995 099	b
Congo	Global Fund	8 573 601	8 769 052	3 140 658	6 623 467	2 849 951	1 190 244
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	12 700 803	11 210 190	4 754 622	8 009 654	3 533 060	b
Côte d'Ivoire	Global Fund	3 869 762	6 089 125	4 425 420	13 824 869	19 961 796	13 477 500
	PEPFAR	a	a	a	a	108 348 645	100 684 466
	Total bilateral and multilateral disbursements	91 521 424	75 900 354	81 487 250	87 404 428	111 916 912	b



## International assistance for the AIDS response in low- and middle-income countries as reported by donors, 2010–2015

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	Donor	2010	2011	2012	2013	2014	2015
<b>Democratic Republic of the Congo</b>	Global Fund	35 866 198	25 559 566	73 612 559	45 805 912	14 728 985	37 547 490
	PEPFAR	a	a	a	a	39 456 622	40 699 672
	Total bilateral and multilateral disbursements	72 049 235	64 824 273	117 393 018	97 636 366	58 283 727	b
<b>Equatorial Guinea</b>	Global Fund	1 420 187	607 483	b	b	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	1 552 638	614 633	56 151	9221	25 174	b
<b>Gabon</b>	Global Fund	1 338 199	907 263	b	748 873	b	b
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	2 222 431	2 237 491	1 578 502	1 992 292	984 234	b
<b>Gambia</b>	Global Fund	6 238 502	6 785 081	5 329 616	9 479 594	3 710 404	1 891 695
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 473 200	6 680 815	5 174 251	10 836 258	6 929 353	b
<b>Ghana</b>	Global Fund	20 629 791	34 425 214	21 889 738	38 380 447	8 357 408	27 724 999
	PEPFAR	a	a	a	a	9 634 465	6 214 229
	Total bilateral and multilateral disbursements	33 712 568	56 839 348	46 336 646	57 964 684	24 154 220	b
<b>Guinea</b>	Global Fund	1 509 558	5 903 927	1 151 871	7 847 766	8 043 852	11 374 331
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	7 272 932	10 578 592	7 051 515	14 256 747	11 386 846	b
<b>Guinea-Bissau</b>	Global Fund	5 930 028	3 807 332	1 443 139	12 991 148	1 867 462	4 134 432
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 848 591	5 089 296	1 705 825	372 649	2 277 836	b
<b>Liberia</b>	Global Fund	9 963 258	11 577 441	8 118 208	12 069 290	3 636 418	4 984 087
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	15 275 187	16 709 545	14 819 936	19 057 597	7 286 414	b
<b>Mali</b>	Global Fund	6 217 393	10 130 370	24 583 100	2 929 594	23 998 363	11 193 131
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	19 235 548	18 879 198	33 998 506	12 708 876	32 264 388	b
<b>Mauritania</b>	Global Fund	b	b	1 039 512	2 718 517	944 771	1 269 045
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	244 685	727 141	2 643 262	3 229 197	1 314 156	b
<b>Niger</b>	Global Fund	1 376 802	5 157 922	3 520 769	4 726 398	2 564 775	4 879 866
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	6 452 977	13 837 217	8 338 522	11 757 972	5 930 662	b

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	Donor	2010	2011	2012	2013	2014	2015
Nigeria	Global Fund	24 430 509	56 318 978	73 771 207	137 864 355	71 677 320	61 621 279
	PEPFAR	a	a	a	a	402 033 019	380 420 716
	Total bilateral and multilateral disbursements	416 803 014	384 253 533	441 549 677	580 314 429	442 063 154	b
Sao Tome and Principe	Global Fund	b	421 721	164 617	571 733	426 709	313 634
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	b	b	b	b	b	b
Senegal	Global Fund	16 843 641	21 467 639	12 527 816	15 007 238	9 530 458	10 818 583
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	24 954 904	29 527 409	17 833 499	22 070 480	15 311 616	b
Sierra Leone	Global Fund	15 295 127	9 569 576	11 478 396	8 045 006	16 361 920	5 124 179
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	21 659 750	16 117 239	16 531 816	11 010 148	17 743 364	b
Togo	Global Fund	9 608 627	8 718 163	4 745 285	10 567 421	10 364 619	7 971 533
	PEPFAR	a	a	a	a	b	b
	Total bilateral and multilateral disbursements	11 342 210	12 090 257	7 342 613	13 271 163	12 462 101	b

Sources: OECD creditor reporting system online reports (accessed May 2016); PEPFAR expenditure analysis; Global Fund disbursement reports (<https://stats.oecd.org/Index.aspx?DataSetCode=CRS1>, accessed May 2016).

a The time series for expenditure from PEPFAR expenditure analysis reports starts from 2014.

b Data not available.

c Classified by the World Bank as a high-income country before 2013.

d Classified by the World Bank as a high-income country since July 2013.

e Classified by the World Bank as a high-income country since July 2015.

## Domestic public and international expenditure reported by countries to UNAIDS (2010–2015)

The table contains the annual AIDS response expenditure (in US dollars) of domestic public resources and total international resources provided by bilateral and multilateral donors, private foundations and other international partners, as reported by countries through the Global AIDS Response Progress Reporting system.

	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>Asia and the Pacific</b>							
<b>Afghanistan</b>	International	4 237 825	8 002 074	9 028 297	5 067 479	4 077 138	b
	Domestic public	200 000	a	24 250	245 000	104 000	b
	Resource tracking method	Other	Other	NASA	Other	NASA	b
<b>Australia</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Bangladesh</b>	International	13 912 481	17 900 906	11 499 100	17 673 105	16 533 877	b
	Domestic public	1 202 508	746 225	984 252	3 470 437	2 871 845	b
	Resource tracking method	Other	Other	Other	NASA	Other	b
<b>Bhutan</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Brunei Darussalam</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Cambodia</b>	International	55 571 098	46 569 946	44 713 950	a	a	a
	Domestic public	2 436 832	5 300 117	5 212 931	a	a	a
	Resource tracking method	NASA	NASA	NASA	a	a	a
<b>China</b>	International	86 317 453	59 997 523	76 621 435	36 775 945	8 866 450	b
	Domestic public	497 309 402	529 376 006	554 007 385	714 079 592	977 788 274	b
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	Other	Other	Other	b
<b>Democratic People's Republic of Korea</b>	International	5000	75 000	a	a	a	a
	Domestic public	1 009 600	1 070 420	a	a	a	a
	Resource tracking method	NASA	NASA	a	a	a	a
<b>Fiji</b>	International	a	a	a	a	62 554	b
	Domestic public	a	a	a	a	150 833	b
	Resource tracking method	Other	Other	NASA	UNAIDS/UNFPA/NIDI	WHO Health Accounts	b
<b>India</b>	International	a	a	a	a	a	b
	Domestic public	225 715 496	275 000 076	205 808 366	144 554 317	164 330 065	b
	Resource tracking method	Other	Other	Other	Other	Other	a
<b>Indonesia</b>	International	41 224 115	42 815 648	50 150 781	b	b	a
	Domestic public	27 577 082	29 727 973	36 851 913	b	b	a
	Resource tracking method	NASA	NASA	NASA	a	b	a
<b>Japan</b>	International	a	a	a	a	a	a
	Domestic public	73 455 936	67 907 854	a	a	a	a
	Resource tracking method	Other	Other	a	a	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
Kiribati	International	429 800	258 888	339 277	a	377 217	b
	Domestic public	a	a	a	a	292 161	b
	Resource tracking method	Other	Other	Other	a	Other	a
Lao People's Democratic Republic	International	7 752 050	10 916 446	a	a	a	a
	Domestic public	827 689	827 689	a	a	a	a
	Resource tracking method	NASA	NASA	a	a	a	a
Malaysia	International	561 880	2 396 941	1 665 338	2 105 998	2 538 989	b
	Domestic public	31 383 249	36 168 067	54 088 511	55 220 508	49 775 178	b
	Resource tracking method	NASA	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a	a
Marshall Islands	International	190 906	134 208	371 142	431 765	594 774	b
	Domestic public	200 027	40 000	75 000	85 000	85 000	b
	Resource tracking method	WHO Health Accounts	NASA	NASA	NASA	Other	a
Maldives	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Micronesia (Federated States of)	International	521 806	473 469	446 688	519 360	344 004	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a	a
Mongolia	International	2 550 191	2 562 338	a	2 165 745	1 166 608	a
	Domestic public	950 996	1 169 128	a	1 329 438	1 619 212	a
	Resource tracking method	NASA	NASA	a	Other	Other	a
Myanmar	International	37 904 167	42 349 184	37 310 502	47 950 309	b	b
	Domestic public	2 596 875	3 944 294	726 157	4 131 753	b	b
	Resource tracking method	Other	Other	NASA	NASA	a	a
Nauru	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Nepal	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
New Zealand	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Pakistan	International	8 163 974	2 181 908	6 992 470	6 361 662	a	b
	Domestic public	4 768 321	3 027 839	3 457 681	3 631 968	a	b
	Resource tracking method	NASA	Other	Other	Other	a	a

## Domestic public and international expenditure reported by countries to UNAIDS (2010–2015)

The table contains the annual AIDS response expenditure (in US dollars) of domestic public resources and total international resources provided by bilateral and multilateral donors, private foundations and other international partners, as reported by countries through the Global AIDS Response Progress Reporting system.

	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
Palau	International	588 166	650 636	a	373 641	30 032	b
	Domestic public	394 323	394 323	a	35 400	a	b
	Resource tracking method	Other	Other	a	Other	Other	a
Papua New Guinea	International	38 821 670	34 509 487	29 533 509	a	a	a
	Domestic public	12 077 392	11 835 240	6 385 677	a	a	a
	Resource tracking method	NASA	Other	Other	a	a	a
Philippines	International	5 002 720	3 872 142	4 964 855	5 778 805	b	b
	Domestic public	3 372 467	4 181 055	4 654 505	4 522 803	b	b
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
Republic of Korea	International	a	a	a	a	a	a
	Domestic public	11 161 000	11 171 000	a	a	a	a
	Resource tracking method	NASA	NASA	a	a	a	a
Samoa	International	183 334	134 637	a	843 852	a	a
	Domestic public	161 694	172 845	a	60 000	a	a
	Resource tracking method	Other	Other	a	WHO Health Accounts	a	a
Singapore	International	a	a	a	a	a	a
	Domestic public	16 486 429	23 091 270	23 746 298	23 739 323	23 202 747	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a
Solomon Islands	International	654 294	756 680	a	a	a	a
	Domestic public	150 032	151 749	a	a	a	a
	Resource tracking method	Other	Other	a	a	a	a
Sri Lanka	International	2 034 477	a	a	555 795	a	a
	Domestic public	2 277 906	a	a	671 143	a	a
	Resource tracking method	NASA	a	a	a	a	a
Thailand	International	35 926 668	46 643 421	28 969 017	30 516 721	a	a
	Domestic public	200 251 009	269 161 586	253 666 819	256 685 666	a	a
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
Timor-Leste	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Tonga	International	a	a	a	a	79 715	b
	Domestic public	a	a	a	a	55 676	b
	Resource tracking method	Other	Other	a	a	Other	a
Tuvalu	International	47 641	156 916	a	24 455	a	a
	Domestic public	12 000	20 180	a	10 000	a	a
	Resource tracking method	Other	Other	a	NASA	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
Vanuatu	International	1 625 013	1 847 008	328 089	805 583	a	a
	Domestic public	36 510	36 482	a	61 703	a	a
	Resource tracking method	Other	Other	Other	NASA	a	a
Viet Nam	International	102 221 779	73 756 583	65 119 393	a	a	a
	Domestic public	21 431 087	26 088 343	30 327 094	a	a	a
	Resource tracking method	NASA	NASA	NASA	a	a	a
<b>Eastern and southern Africa</b>							
Angola	International	18 187 724	12 014 753	a	a	a	b
	Domestic public	15 877 187	21 462 786	a	a	a	b
	Resource tracking method	NASA	NASA	a	a	a	b
Botswana	International	100 669 402	91 393 937	a	a	a	a
	Domestic public	262 400 227	299 022 611	a	a	a	a
	Resource tracking method	NASA	NASA	a	a	a	a
Comoros	International	a	a	1 353 302	462 275	780 581	b
	Domestic public	169 643	936 323	174 303	230 686	271 568	b
	Resource tracking method	NASA	NASA	NASA	NASA	NASA	b
Eritrea	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Ethiopia	International	a	348 861 208	a	a	a	b
	Domestic public	a	54 448 264	a	a	a	b
	Resource tracking method	a	NASA	a	a	a	b
Kenya	International	591 376 323	601 390 268	551 245 316	583 989 611	a	a
	Domestic public	134 682 271	133 150 448	141 044 502	153 454 537	a	a
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
Lesotho	International	a	a	a	68 266 451	b	a
	Domestic public	a	a	a	25 900 622	b	a
	Resource tracking method	a	a	a	NASA	a	a
Madagascar	International	4 938 015	7 849 887	5 565 185	2 592 546	3 066 078	b
	Domestic public	4 473 518	6 005 101	4 250 295	4 051 608	2 636 728	b
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
Malawi	International	65 560 000	148 891 014	133 575 811	a	a	b
	Domestic public	a	2 666 009	11 827 301	a	a	b
	Resource tracking method	Other	NASA	NASA	a	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>Mauritius</b>	International	2 363 920	a	a	a	a	a
	Domestic public	4 894 627	a	a	a	a	a
	Resource tracking method	NASA	a	a	a	a	a
<b>Mozambique</b>	International	203 113 942	246 656 413	246 658 915	332 640 878	339 379 364	b
	Domestic public	10 136 250	13 393 157	8 635 144	16 870 748	12 217 622	b
	Resource tracking method	NASA	NASA	Other	Other	Other	a
<b>Namibia</b>	International	110 213 091	a	87 408 615	74 283 368	a	a
	Domestic public	168 791 097	a	111 050 386	136 620 606	a	a
	Resource tracking method	NASA	a	NASA	NASA	a	a
<b>Rwanda</b>	International	a	216 864 731	223 721 213	a	a	a
	Domestic public	a	17 748 631	19 946 470	a	a	a
	Resource tracking method	a	Other	Other	a	a	a
<b>Seychelles</b>	International	57 495	66 215	408 110	53 378	36 177	b
	Domestic public	2 297 113	2 104 150	4 278 262	2 847 408	3 497 367	b
	Resource tracking method	NASA	NASA	NASA	NASA	NASA	a
<b>South Africa</b>	International	a	a	a	a	388 000 000	b
	Domestic public	a	a	a	a	1492 672 908	b
	Resource tracking method	a	a	a	a	NASA	a
<b>South Sudan</b>	International	a	29 353 055	21 852 538	a	a	b
	Domestic public	a	1 885 823	2 302 076	a	a	b
	Resource tracking method	a	NASA	NASA	a	a	a
<b>Swaziland</b>	International	a	55 863 617	56 115 914	63 776 395	a	a
	Domestic public	a	30 877 575	26 452 555	33 155 127	a	a
	Resource tracking method	a	Other	Other	Other	a	a
<b>Uganda</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>United Republic of Tanzania</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Zambia</b>	International	a	b	263 305 968	a	a	a
	Domestic public	a	b	15 829 478	a	a	a
	Resource tracking method	a	a	NASA	a	a	a
<b>Zimbabwe</b>	International	164 119 186	171 866 911	220 722 218	219 131 824	a	a
	Domestic public	20 833 554	28 642 838	34 570 495	34 347 820	a	a
	Resource tracking method	NASA	NASA	NASA	Other	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>Eastern Europe and central Asia</b>							
<b>Albania</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Armenia</b>	International	3 084 750	3 501 166	4 238 978	3 927 672	4 985 553	b
	Domestic public	1 961 038	2 079 270	1 090 732	1 072 918	1 823 256	b
	Resource tracking method	Other	Other	Other	Other	Other	b
<b>Azerbaijan</b>	International	1 378 711	5 992 295	a	5 221 578	6 411 468	b
	Domestic public	6 857 540	8 563 409	a	13 390 123	14 215 892	b
	Resource tracking method	UNAIDS/ UNFPA/NIDI	UNAIDS/ UNFPA/NIDI	a	UNAIDS/ UNFPA/NIDI	Other	b
<b>Belarus</b>	International	6 476 941	10 195 678	7 314 821	6 869 816	6 470 149	a
	Domestic public	13 246 041	9 668 805	12 471 166	11 712 470	15 975 774	a
	Resource tracking method	NASA	NASA	NASA	NASA	NASA	a
<b>Bosnia and Herzegovina</b>	International	a	a	b	a	a	a
	Domestic public	a	a	b	a	a	a
	Resource tracking method	a	a	b	a	a	a
<b>Bulgaria</b>	International	5 640 456	6 754 982	3 921 623	3 072 407	b	a
	Domestic public	4 252 150	6 961 911	6 759 210	8 734 044	b	a
	Resource tracking method	NASA	NASA	NASA	NASA	b	a
<b>Croatia</b>	International	a	a	29 802	1 763	a	a
	Domestic public	a	a	11 248 515	14 362 023	a	a
	Resource tracking method	a	a	Other	Other	a	a
<b>Cyprus</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Czech Republic</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Estonia</b>	International	a	a	a	a	a	a
	Domestic public	16 353 142	a	a	a	a	a
	Resource tracking method	Other	a	a	a	a	a
<b>Georgia</b>	International	6 832 963	8 521 914	11 064 342	9 137 970	7 021 656	b
	Domestic public	4 260 499	4 478 054	4 716 172	5 361 536	8 166 782	b
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	b



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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
Hungary	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Kazakhstan	International	a	6 540 161	7 457 644	6 926 144	2 373 667	b
	Domestic public	a	30 346 857	30 352 251	30 876 471	40 667 500	b
	Resource tracking method	a	Other	Other	UNAIDS/ UNFPA/NIDI	Other	a
Kyrgyzstan	International	9 827 360	4 279 280	9 512 763	13 417 113	9 037 888	b
	Domestic public	1 407 901	1 441 565	3 886 526	4 192 877	a	b
	Resource tracking method	UNAIDS/ UNFPA/NIDI	UNAIDS/ UNFPA/NIDI	WHO Health Accounts	Other	Other	a
Latvia	International	172 558	a	a	a	77 372	b
	Domestic public	5 996 109	267 460	619 656	9 452 207	8 686 036	b
	Resource tracking method	NASA	NASA	NASA	NASA	NASA	a
Lithuania	International	a	68 390	a	a	a	a
	Domestic public	a	3 601 011	2 496 551	a	a	a
	Resource tracking method	a	NASA	Other	a	a	a
Malta	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Montenegro	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Poland	International	14 862	12 661	15 588	a	a	a
	Domestic public	66 971 268	74 411 053	83 243 881	90 199 774	83 684 559	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	Other	a
Republic of Moldova	International	6 103 215	8 516 841	6 709 992	5 503 307	6 817 600	b
	Domestic public	4 617 721	5 124 220	2 381 695	2 459 879	2 332 684	b
	Resource tracking method	Other	Other	Other	Other	Other	a
Romania	International	3 995 755	5 677 124	199 177	a	0	b
	Domestic public	91 512 275	102 458 472	34 383 944	a	98 535 201	b
	Resource tracking method	Other	Other	Other	a	Other	a
Russian Federation	International	a	a	a	a	a	a
	Domestic public	a	a	a	546 296 296	512 676 056	a
	Resource tracking method	a	a	a	Other	Other	a
Serbia	International	a	a	4 288 028	4 864 726	a	a
	Domestic public	a	a	9 071 059	11 468 548	a	a
	Resource tracking method	a	a	Other	Other	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
Slovakia	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Slovenia	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Tajikistan	International	13 514 154	13 032 202	9 803 764	10 364 317	a	a
	Domestic public	1 718 968	2 269 834	2 569 872	3 363 876	a	a
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
The former Yugoslav Republic of Macedonia	International	2 356 682	a	a	a	a	a
	Domestic public	2 366 290	a	a	a	a	a
	Resource tracking method	NASA	a	a	a	a	a
Turkey	International	a	a	0	a	a	a
	Domestic public	a	a	12 291 905	a	a	a
	Resource tracking method	a	a	Other	a	a	a
Turkmenistan	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Ukraine	International	33 877 730	36 438 190	41 506 392	b	b	a
	Domestic public	38 054 198	60 423 675	71 777 758	b	b	a
	Resource tracking method	Other	Other	Other	a	a	a
Uzbekistan	International	6 678 413	6 513 177	10 771 819	9 396 131	7 481 521	b
	Domestic public	16 985 205	12 636 531	13 334 449	11 919 410	11 631 595	b
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	NASA	NASA	a
<b>Latin America and the Caribbean</b>							
Antigua and Barbuda	International	1 061 081	290 466	689 549	1 064 377	a	b
	Domestic public	300 777	326 796	297 612	355 037	a	b
	Resource tracking method	Other	Other	Other	WHO Health Accounts	a	b
Argentina	International	377 261	4 793 171	137 252	a	a	a
	Domestic public	105 790 678	168 869 560	178 870 021	a	a	a
	Resource tracking method	NASA	NASA	NASA	a	a	a
Aruba	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>Bahamas</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Barbados</b>	International	a	3 246 554	2 164 578	10 492 579	a	a
	Domestic public	7 390 301	4 831 821	6 207 005	5 478 563	a	a
	Resource tracking method	Other	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a	a
<b>Belize</b>	International	1 412 896	a	1 886 377	a	a	a
	Domestic public	1 134 649	a	832 345	a	a	a
	Resource tracking method	NASA	a	NASA	a	a	a
<b>Bolivia (Plurinational State of)</b>	International	a	6 975 047	4 869 735	a	a	a
	Domestic public	a	2 276 663	4 786 726	a	a	a
	Resource tracking method	a	NASA	NASA	a	a	a
<b>Brazil</b>	International	9 171 381	9 743 606	9 258 557	a	0	a
	Domestic public	725 071 213	802 860 939	685 482 920	a	804 365 939	a
	Resource tracking method	Other	Other	Other	a	Other	a
<b>Chile</b>	International	468 527	438 142	227 585	a	a	a
	Domestic public	119 224 642	123 180 023	136 781 489	a	a	a
	Resource tracking method	NASA	NASA	NASA	a	a	a
<b>Colombia</b>	International	275 591	a	176 131	306 020	a	b
	Domestic public	86 962 224	62 819 944	99 335 154	84 674 170	a	b
	Resource tracking method	Other	Other	Other	Other	a	b
<b>Costa Rica</b>	International	2 178 897	a	1 701 913	a	a	b
	Domestic public	24 765 744	a	18 402 940	a	a	b
	Resource tracking method	NASA	a	NASA	a	a	b
<b>Cuba</b>	International	8 261 407	9 321 423	9 053 819	5 927 082	a	a
	Domestic public	58 593 535	61 245 963	62 992 629	63 807 290	a	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a	a
<b>Dominica</b>	International	a	a	160 000	a	a	a
	Domestic public	223 664	223 664	176 411	a	a	a
	Resource tracking method	Other	Other	Other	a	a	a
<b>Dominican Republic</b>	International	a	b	20 711 558	b	b	b
	Domestic public	a	b	9 262 504	b	b	b
	Resource tracking method	a	b	NASA	b	b	b
<b>Ecuador</b>	International	2 975 540	a	a	a	6 584 696	a
	Domestic public	24 270 868	a	a	a	6 645 825	a
	Resource tracking method	NASA	a	a	a	NASA	a

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El Salvador	International	11 455 432	a	13 976 689	13 764 792	14 771 149	b
	Domestic public	37 297 450	a	41 243 741	46 595 135	45 120 439	b
	Resource tracking method	NASA	a	NASA	NASA	NASA	b
Grenada	International	87 980	7 435	120 141	39 398	a	a
	Domestic public	5 521	a	a	155 431	a	a
	Resource tracking method	Other	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a	a
Guatemala	International	12 885 696	14 967 041	20 625 980	14 788 915	b	a
	Domestic public	28 765 245	26 885 645	27 225 413	32 791 651	b	a
	Resource tracking method	NASA	NASA	NASA	NASA	b	a
Guyana	International	a	18 053 225	17 431 482	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	Other	Other	a	a	a
Haiti	International	164 523 917	207 401 048	114 921 741	127 522 213	a	a
	Domestic public	1 608 233	1 608 233	884 655	352 174	a	a
	Resource tracking method	UNAIDS/ UNFPA/NIDI	UNAIDS/ UNFPA/NIDI	Other	Other	a	a
Honduras	International	15 716 346	15 691 183	17 981 687	17 236 972	a	a
	Domestic public	16 025 455	15 999 798	16 466 390	15 784 431	a	a
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
Jamaica	International	10 771 906	a	a	a	a	a
	Domestic public	3 848 958	a	a	a	a	a
	Resource tracking method	NASA	a	a	a	a	a
Mexico	International	a	12 168 390	a	a	a	a
	Domestic public	a	483 415 094	a	a	a	a
	Resource tracking method	a	NASA	a	a	a	a
Nicaragua	International	14 061 971	a	a	a	a	a
	Domestic public	9 682 304	a	a	a	a	a
	Resource tracking method	NASA	a	a	a	a	a
Panama	International	1 527 635	a	3 411 932	a	a	a
	Domestic public	15 702 066	a	19 286 886	a	a	a
	Resource tracking method	NASA	a	NASA	a	a	a
Paraguay	International	6 767 336	5 094 780	2 515 630	2 966 599	a	a
	Domestic public	2 677 348	2 507 935	9 521 067	10 841 743	a	a
	Resource tracking method	NASA	NASA	Other	Other	a	a
Peru	International	12 474 168	a	a	4 505 007	a	b
	Domestic public	15 445 506	a	a	70 356 265	78 148 248	b
	Resource tracking method	WHO Health Accounts	a	a	Other	Other	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
Saint Kitts and Nevis	International	83 625	16 000	a	a	a	a
	Domestic public	67 548	77 349	82 440	85 110	a	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a	a
Saint Lucia	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Saint Vincent and the Grenadines	International	1 482 535	1 568 710	821 178	a	a	a
	Domestic public	2 508 745	1 267 636	615 427	a	a	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	a	a	a
Suriname	International	4 105 985	2 343 104	a	a	a	a
	Domestic public	1 939 620	2 249 605	a	a	a	a
	Resource tracking method	NASA	NASA	a	a	a	a
Trinidad and Tobago	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Turks and Caicos Islands	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Uruguay	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Venezuela (Bolivarian Republic of)	International	626 411	133 327	702 563	817 796	b	b
	Domestic public	109 037 329	80 352 294	65 915 889	71 785 912	b	b
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
<b>North Africa and the Middle East</b>							
Algeria	International	438 044	805 358	799 949	433 411	389 311	b
	Domestic public	5 320 965	5 508 774	5 973 758	12 022 798	16 879 342	b
	Resource tracking method	NASA	NASA	NASA	NASA	WHO Health Accounts	b
Bahrain	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Djibouti	International	4 418 725	3 696 788	2 961 380	a	2 609 339	a
	Domestic public	627 309	596 705	867 075	a	274 426	a
	Resource tracking method	Other	Other	NASA	a	NASA	a
Egypt	International	a	a	a	b	b	b
	Domestic public	a	a	a	b	b	b
	Resource tracking method	a	a	a	b	b	b

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>Iran (Islamic Republic of)</b>	International	a	a	2 972 133	a	b	a
	Domestic public	a	a	69 420 049	a	a	a
	Resource tracking method	a	a	Other	a	a	a
<b>Iraq</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Jordan</b>	International	723 768	433 831	968 903	79 616	a	a
	Domestic public	1 000 000	1 000 000	1 000 000	1 000 000	a	a
	Resource tracking method	Other	Other	NASA	NASA	a	a
<b>Kuwait</b>	International	0	a	0	0	0	a
	Domestic public	56 791 069	a	59 515 455	5 952 004	22 365 503	a
	Resource tracking method	Other	a	Other	Other	Other	a
<b>Lebanon</b>	International	850 000	850 000	a	2 036 622	a	a
	Domestic public	1 570 000	1 570 000	a	3 154 875	a	a
	Resource tracking method	Other	Other	a	Other	a	a
<b>Libya</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Morocco</b>	International	7 099 104	6 389 275	10 290 706	10 355 925	a	b
	Domestic public	6 357 832	6 728 697	8 021 984	9 943 419	a	b
	Resource tracking method	Other	Other	Other	Other	a	a
<b>Oman</b>	International	a	175 040	103 261	57 000	11 390	b
	Domestic public	a	4 528 882	5 318 814	3 833 134	4 313 471	b
	Resource tracking method	a	Other	Other	Other	Other	a
<b>Qatar</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Saudi Arabia</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Somalia</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Sudan</b>	International	a	14 477 993	12 345 112	9 052 243	a	a
	Domestic public	a	6 558 053	4 698 522	3 717 832	a	a
	Resource tracking method	a	NASA	NASA	NASA	a	a

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Syrian Arab Republic	International	a	189 850	a	a	a	a
	Domestic public	a	620 000	a	a	a	a
	Resource tracking method	a	Other	a	a	a	a
Tunisia	International	2 928 100	2 625 149	a	a	a	b
	Domestic public	110 040	117 400	a	a	a	b
	Resource tracking method	Other	Other	a	a	a	a
United Arab Emirates	International	a	a	a	a	a	a
	Domestic public	25 480 829	30 630 854	32 476 417	a	a	a
	Resource tracking method	Other	Other	Other	a	a	a
Yemen	International	1 768 765	1 146 525	a	a	a	a
	Domestic public	442 233	467 395	a	a	a	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	a	a	a	a
<b>Western and central Africa</b>							
Benin	International	11 259 886	19 280 694	18 740 206	18 819 303	16 408 412	b
	Domestic public	6 937 649	7 796 210	11 709 193	3 173 027	3 936 233	b
	Resource tracking method	Other	NASA	NASA	NASA	NASA	b
Burkina Faso	International	38 914 497	28 775 307	20 793 731	41 177 658	b	a
	Domestic public	11 118 728	7 214 347	28 122 266	7 780 061	b	a
	Resource tracking method	NASA	NASA	NASA	NASA	b	a
Burundi	International	39 908 205	23 408 823	36 476 780	39 481 263	16 026 325	b
	Domestic public	1 774 303	2 034 615	2 132 874	1 841 735	289 800	b
	Resource tracking method	NASA	Other	NASA	Other	Other	b
Cameroon	International	40 916 286	34 159 215	30 513 008	43 997 798	a	a
	Domestic public	14 395 254	9 170 306	15 726 635	14 805 716	a	a
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
Cabo Verde	International	2 045 844	3 073 161	16 761	3 095 629	1 375 173	a
	Domestic public	499 368	522 275	17 194	1 814 407	2 343 480	a
	Resource tracking method	Other	Other	Other	WHO Health Accounts	NASA	a
Central African Republic	International	13 024 181	13 892 462	a	a	a	a
	Domestic public	1 873 217	1 892 102	a	a	a	a
	Resource tracking method	Other	NASA	a	a	a	a
Chad	International	7 929 254	15 164 149	9 884 338	12 886 293	a	a
	Domestic public	3 862 235	2 610 372	6 343 779	4 622 591	a	a
	Resource tracking method	NASA	NASA	NASA	NASA	a	a
Congo	International	8 368 357	a	a	a	a	a
	Domestic public	8 104 228	a	a	a	a	a
	Resource tracking method	NASA	a	a	a	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>Côte d'Ivoire</b>	International	106 998 408	87 632 863	111 893 979	91 192 629	a	b
	Domestic public	4 654 699	11 721 794	14 095 682	14 025 624	a	b
	Resource tracking method	NASA	NASA	NASA	NASA	a	b
<b>Democratic Republic of the Congo</b>	International	102 437 817	101 268 276	139 843 066	b	b	b
	Domestic public	2 759 539	1 765 235	2 710 269	b	b	b
	Resource tracking method	NASA	NASA	NASA	b	b	b
<b>Equatorial Guinea</b>	International	a	a	459 534	611 672	a	a
	Domestic public	a	a	1 686 984	7 844 051	a	a
	Resource tracking method	a	a	UNAIDS/ UNFPA/NIDI	Other	a	a
<b>Gabon</b>	International	2 356 058	3 510 777	2 009 292	750 861	454 441	a
	Domestic public	5 679 337	6 423 890	12 280 214	10 121 784	4 808 085	a
	Resource tracking method	NASA	UNAIDS/ UNFPA/NIDI	UNAIDS/ UNFPA/NIDI	UNAIDS/ UNFPA/NIDI	Other	a
<b>Gambia</b>	International	a	a	a	a	0	a
	Domestic public	a	a	a	a	3 850 001	a
	Resource tracking method	a	a	a	a	Other	a
<b>Ghana</b>	International	48 015 481	60 807 945	87 433 712	40 457 844	a	b
	Domestic public	8 087 144	14 854 634	4 524 557	6 830 808	a	b
	Resource tracking method	NASA	NASA	NASA	NASA	a	b
<b>Guinea</b>	International	11 106 795	14 139 106	9 486 461	11 834 280	10 753 092	b
	Domestic public	317 576	638 185	2 302 175	2 579 555	3 339 108	b
	Resource tracking method	NASA	Other	UNAIDS/ UNFPA/NIDI	NASA	NASA	b
<b>Guinea-Bissau</b>	International	4 647 063	a	a	a	a	a
	Domestic public	611 774	2 401 970	3 347 064	a	a	a
	Resource tracking method	Other	Other	Other	a	a	a
<b>Liberia</b>	International	28 274 595	30 933 572	a	a	a	a
	Domestic public	83 100	190 000	a	a	a	a
	Resource tracking method	Other	Other	a	a	a	a
<b>Mali</b>	International	30 015 865	17 896 310	15 450 592	b	a	a
	Domestic public	6 502 189	5 988 081	6 136 480	b	a	a
	Resource tracking method	NASA	NASA	NASA	a	a	a
<b>Mauritania</b>	International	247 500	361 557	3 317 575	2 731 148	b	b
	Domestic public	698 854	3 720 945	616 666	a	b	b
	Resource tracking method	Other	Other	Other	WHO Health Accounts	a	a
<b>Niger</b>	International	14 111 145	13 635 812	10 760 854	a	a	a
	Domestic public	69 420	424 986	4 786 972	a	a	a
	Resource tracking method	Other	NASA	NASA	a	a	a



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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
Nigeria	International	370 927 337	409 348 953	442 069 265	b	b	a
	Domestic public	125 139 587	88 875 936	122 964 880	b	b	a
	Resource tracking method	NASA	NASA	NASA	a	a	a
Sao Tome and Principe	International	597 949	768 219	422 726	761 127	695 603	a
	Domestic public	7803	112 650	15 664	60 573	30 800	a
	Resource tracking method	WHO Health Accounts	WHO Health Accounts	WHO Health Accounts	NASA	NASA	a
Senegal	International	a	19 809 176	b	b	a	a
	Domestic public	a	2 709 561	b	b	a	a
	Resource tracking method	a	NASA	a	a	a	a
Sierra Leone	International	a	20 696 274	a	a	a	a
	Domestic public	a	168 584	a	a	a	a
	Resource tracking method	a	NASA	a	a	a	a
Togo	International	13 512 726	16 113 033	12 328 341	15 845 876	15 356 578	a
	Domestic public	8 878 290	4 225 730	6 300 102	3 757 204	2 197 218	a
	Resource tracking method	NASA	NASA	NASA	NASA	NASA	a
<b>Western and central Europe and North America</b>							
Andorra	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Austria	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Belgium	International	a	a	a	a	a	a
	Domestic public	159 087 442	a	a	a	a	a
	Resource tracking method	NASA	a	a	a	a	a
Canada	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Denmark	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
Finland	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
France	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a

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	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>Germany</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Greece</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Iceland</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Ireland</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Israel</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Italy</b>	International	a	0	a	a	a	a
	Domestic public	a	508 145 475	a	a	a	a
	Resource tracking method	a	Other	a	a	a	a
<b>Liechtenstein</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Luxembourg</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Monaco</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Netherlands</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Norway</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Portugal</b>	International	a	a	a	a	a	a
	Domestic public	175 446 308	201 374 452	10 356 197	274 577 668	a	a
	Resource tracking method	NASA	NASA	NASA	NASA	a	a

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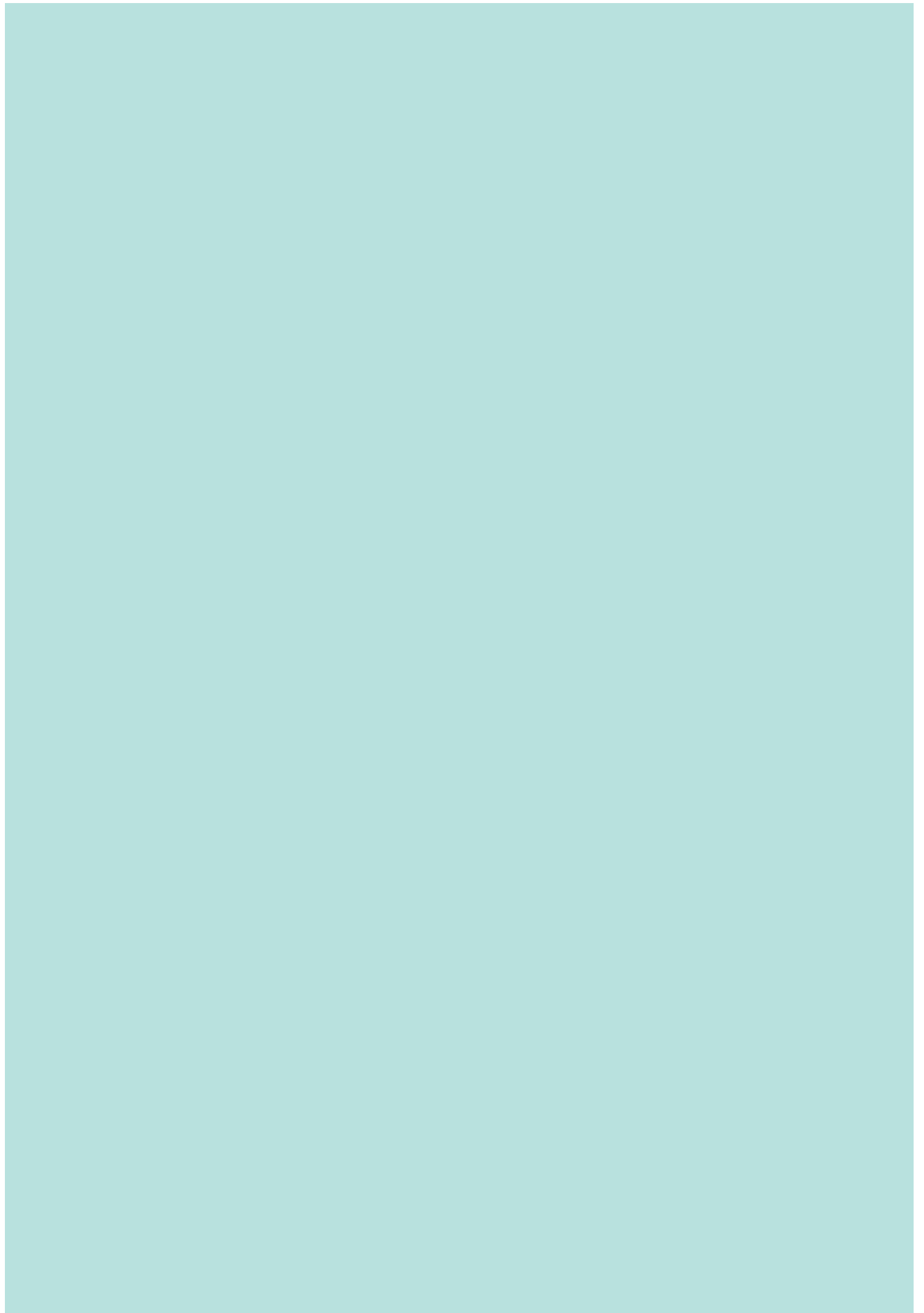
	Source of expenditure and resource tracking method	2010	2011	2012	2013	2014	2015
<b>San Marino</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Spain</b>	International	a	14 410 597	969 363 395	623 286	a	b
	Domestic public	980 914 000	1065 927 534	8 339 679	918 865 056	a	b
	Resource tracking method	Other	Other	Other	Other	a	a
<b>Sweden</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>Switzerland</b>	International	a	a	a	a	a	a
	Domestic public	3 067 779	3 608 480	3 411 878	a	a	a
	Resource tracking method	Other	Other	Other	a	a	a
<b>United Kingdom</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a
<b>United States of America</b>	International	a	a	a	a	a	a
	Domestic public	a	a	a	a	a	a
	Resource tracking method	a	a	a	a	a	a

a Country either did not report expenditure or reported that the data were not available.

b Expenditure reported in 2016 but not yet validated. These data are expected to be available on AIDSinfo by September 2016.

NASA: national AIDS spending assessment. NIDI: Netherlands Interdisciplinary Demographic Institute.





PREVENTION GAP REPORT



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