COMMUNITIES AT THE CENTRE

THE RESPONSE TO HIV IN LATIN AMERICA

GLOBAL AIDS UPDATE 2019

Cover photo: Activists demonstrate for the rights of transgender people at the 2018 International AIDS Conference, held in Amsterdam, the Netherlands. Credit: UNAIDS.

CONTENTS

FIGURE 13.1 **Self-testing in national policies, Latin America, 2018**

Source: 2019 Global AIDS Monitoring.

LATIN AMERICA

AT A GLANCE

Although several countries show impressive declines in HIV incidence, the number of new HIV infections in the region increased by 7% between 2010 and 2018.

Progress towards the 90–90–90 targets has been steady, but inconsistent access to health services and challenges to patient follow-up and adherence are impeding faster progress.

Monitoring stigma and discrimination remains a challenge. Mechanisms for reporting, litigating and tracking cases of human rights violations are required.

Humanitarian responses to the high levels of population mobility in the region that have arisen due to political instability must guarantee HIV services for migrants and asylum seekers.

Programmes for key populations in some countries remain highly dependent on donor funding that is rapidly decreasing.

The HIV response in Latin America is predominantly funded with domestic resources. However, there has been insufficient domestic investment in programming for key populations, including the expansion of prevention services for gay men and other men who have sex with men, female sex workers and transgender people. In the countries that are heavily dependent on international donor funding, rapid decreases in such resources threaten the sustainability of these programmes.

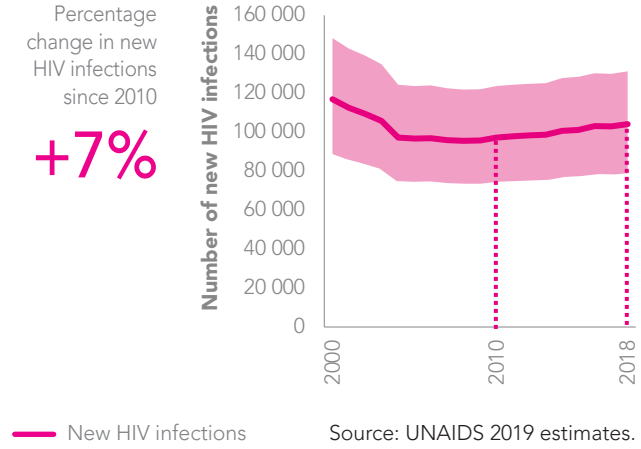
Latin America faces additional challenges, including dramatically increasing levels of migration due to sociopolitical uncertainty. HIV treatment coverage has plummeted in the Bolivarian Republic of Venezuela, and people living with HIV are migrating to other countries to seek access to HIV treatment and other health-related care. Many of these migrants pass through multiple countries, each of which must provide for their health needs and overall well-being, in addition to those of their residents.

Greater focus on increasing access to testing, improving linkage to care and supporting treatment adherence is needed in the region in order to reach the 90–90–90 testing and treatment targets by 2020. The introduction of diagnostic strategies—such as self-testing in Brazil and Mexico—is increasing programmatic testing yield (Figure 13.1).

Although attention has been paid to HIV-related stigma and discrimination, it remains a challenge to the success of national HIV responses. For example, recent policy changes related to social contracting of civil society organizations in Mexico could potentially reverse the advances made in community-based HIV programming, especially for key populations. Retaining social contracting as a strategic partnership approach would reinforce the national response to AIDS. ■

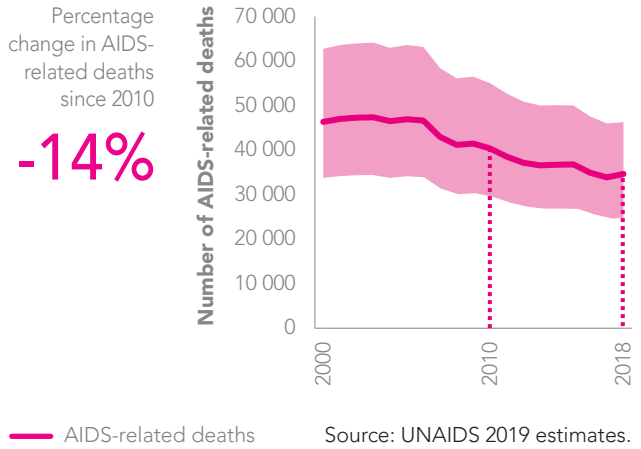
STATE OF THE EPIDEMIC

FIGURE 13.2 Number of new HIV infections, Latin America, 2000–2018



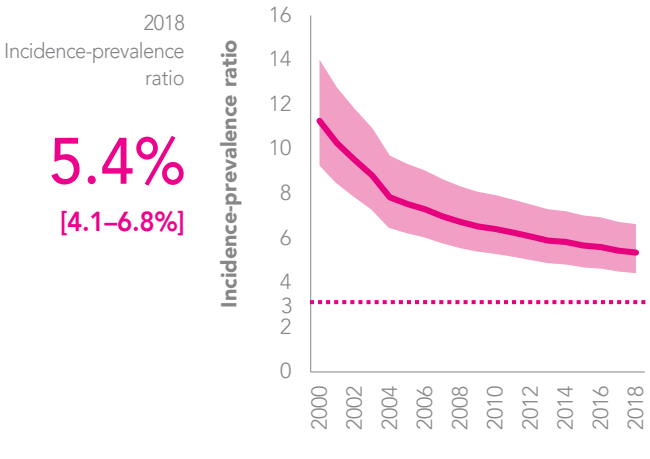
Source: UNAIDS 2019 estimates.

FIGURE 13.3 Number of AIDS-related deaths, Latin America, 2000–2018



Source: UNAIDS 2019 estimates.

FIGURE 13.4 Incidence-prevalence ratio, Latin America, 2000–2018



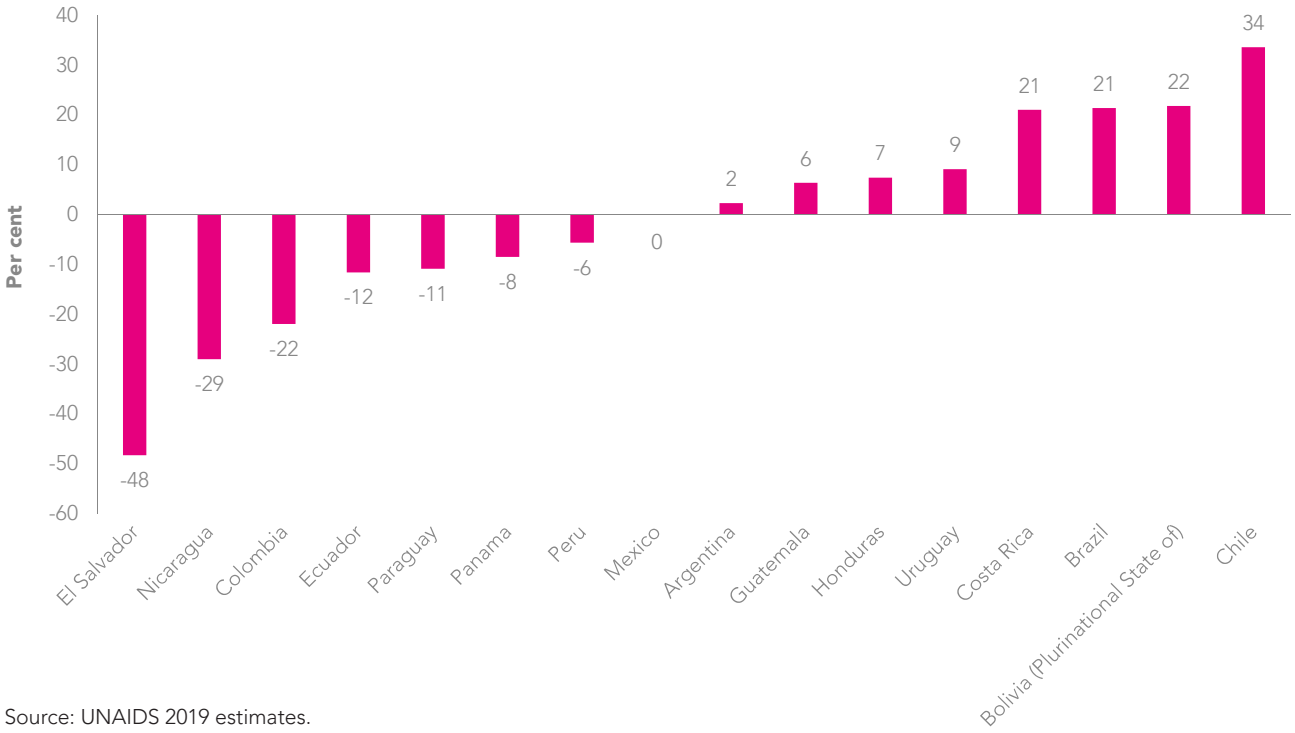
Source: UNAIDS 2019 estimates.

An estimated 100 000 [79 000–130 000] people acquired HIV in Latin America in 2018, a 7% increase compared with 2010 (Figure 13.2). Roughly half of the countries in the region saw increases in incidence between 2010 and 2018, with the largest increases occurring in Brazil (21%), Costa Rica (21%), the Plurinational State of Bolivia (22%) and Chile (34%). At the same time, impressive declines in El Salvador (-48%), Nicaragua (-29%) and Colombia (-22%) were observed (Figure 13.5). Forty per cent of new infections in 2018 were among gay men and other men who have sex with men (Figure 13.7): among 15 countries providing data, prevalence exceeded 20% in two countries and 10% in a further seven. Among the 13 countries providing data, HIV prevalence was highest among transgender people, at 30% or more in three countries and more than 20% in a further five (Figure 13.6).

The annual number of AIDS-related deaths in the region decreased by 14% between 2010 and 2018, with an estimated 35 000 [25 000–46 000] lives lost to AIDS-related causes in 2018 (Figure 13.3). The region's incidence-prevalence ratio continues to decrease, reaching 5.4% [4.1–6.8%] in 2018, but further progress is needed to reach the 3.0% epidemic transition benchmark (Figure 13.4).

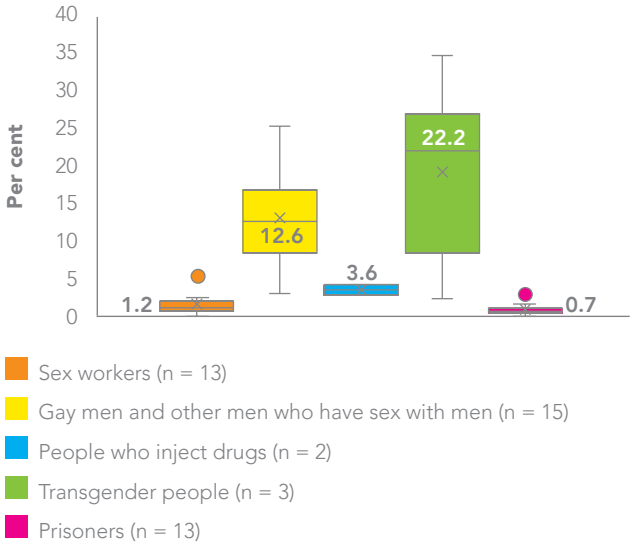
There are significant differences among countries in the availability of data on key population size (Table 13.1). Only four of eight countries reported data for more than two populations, and no countries provided data on people who inject drugs. Given the high prevalence and incidence of HIV among gay men and other men who have sex with men and transgender people in the region, national health information systems should be strengthened and expanded to collect comprehensive data about these populations. ■

FIGURE 13.5 Percentage change in new HIV infections, by country, Latin America, 2010–2018



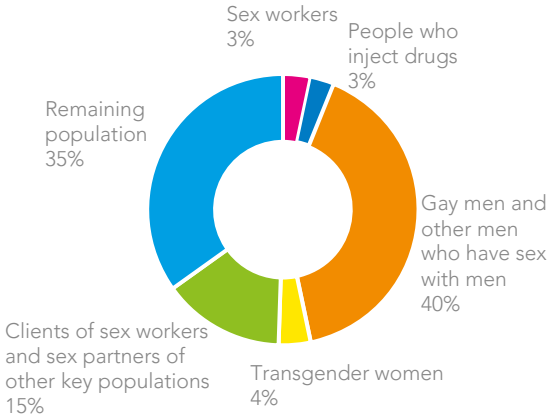
Source: UNAIDS 2019 estimates.

FIGURE 13.6 HIV prevalence among key populations, Latin America, 2014–2018



Source: Global AIDS Monitoring, 2014–2018.

FIGURE 13.7 Distribution of new HIV infections (aged 15–49 years), by population group, Latin America, 2018



Source: UNAIDS special analysis, 2019.

TABLE 13.1 Estimated size of key populations, Latin America, 2018

Country	National adult population (15+)	Sex workers	Sex workers as per cent of adult population (15+)	Gay men and other men who have sex with men	Gay men and other men who have sex with men as per cent of adult population (15+)	People who inject drugs	People who inject drugs as per cent of adult population (15+)	Transgender people	Transgender people as per cent of adult population (15+)	Prisoners	Prisoners as per cent of adult population (15+)
Bolivia (Plurinational State of)	7 711 000										
Chile	14 538 000									42 000	0.29
Costa Rica	3 893 000									100	<0.1
Mexico	96 429 000	240 000	0.25	1 200 000	1.23			120 000	0.12	200 000	0.21
Panama	3 033 000										
Peru	23 731 000										
Uruguay	2 743 000	6900	0.25	25 000	0.92			1600	0.06		
Venezuela	23 545 000							15 000	0.06		

National population size estimate Local population size estimate Insufficient data No data

The regions for which the local population size estimate refers are as follows:
Costa Rica: Gran Área Metropolitana
Panama: Azuero, Bocas del Toro, Chiriquí, Coclé, Comarca Ngäbe-Buglé, Panamá Centro, Panamá Este, Panamá Oeste, Panamá Norte and Veraguas

Sources: Global AIDS Monitoring, 2018; United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: the 2017 revision. 2018 (custom data acquired via website).

REMOVING BARRIERS TO AFFORDABLE TREATMENT

Equitable access to affordable medicines remains a major concern in Argentina and other upper- and middle-income countries in Latin America. Due to the income classification of these countries, they often do not benefit from voluntary licensing agreements and drug access programmes from pharmaceutical companies that would greatly reduce the prices they pay for antiretroviral medicines. In response, communities of people living with HIV have been monitoring patent applications and, with the support of legal experts, challenging patents that may block access to treatment. Success can reduce the overall costs of medicines through increased competition and the import of more affordable generic versions of drugs.

Leading such efforts in Argentina is the non-profit organization Fundación Grupo Efecto Positivo (FGEP). With support from the International Treatment Preparedness Coalition, FGEP filed two patent oppositions, lobbied decision-makers, engaged in policy dialogues and supported the government's efforts to pursue generic purchasing and encourage generic drug suppliers to enter the Argentine market. This legal, technical and advocacy campaign led to a 94% price reduction for the country's first-line regimen—a savings of US$ 37 million for the country's national AIDS programme *(1)*.

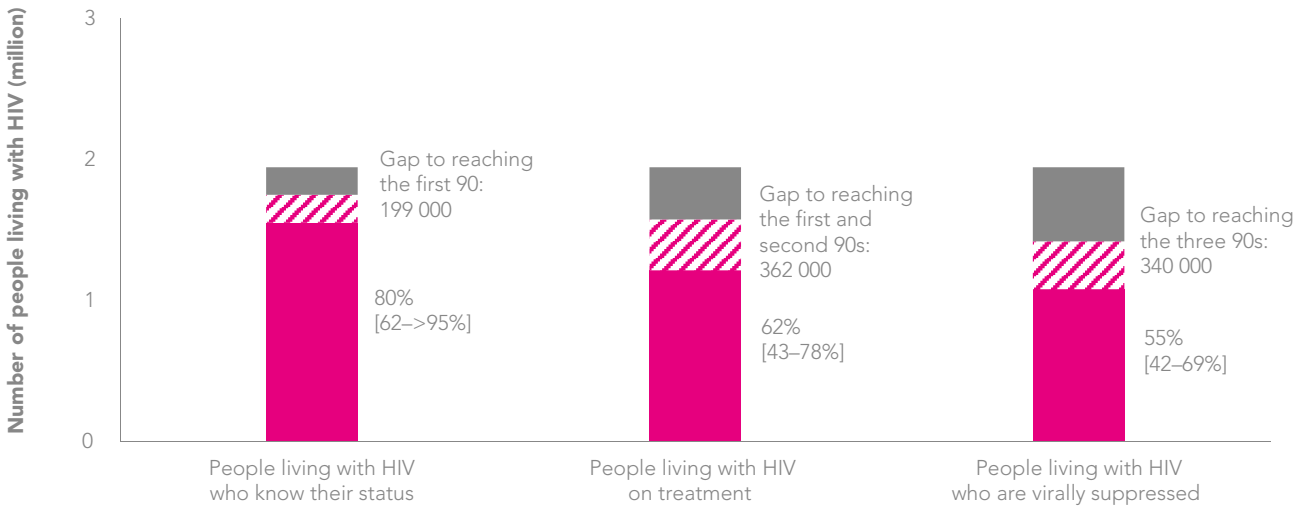
THE CASCADE FROM HIV TESTING TO VIRAL SUPPRESSION

The proportion of the region's estimated 1.9 million [1.6 million–2.4 million] people living with HIV who knew their status rose to 80% [62–>95%] in 2018, up from 75% [58–>95%] in 2017 and 70% [53–89%] in 2015. Similar increases were observed in the percentage of people living with HIV accessing antiretroviral therapy (from 57% [41–72%] in 2017 to 62% [43–78%] in 2018) and those who were virally suppressed (from 50% [37–62%] in 2017 to 55% [42–69%] in 2018). Reaching all three targets will require an additional 199 000 people living with HIV knowing their status, 362 000 additional people on treatment, and an additional 340 000 people living with HIV who are virally suppressed (Figure 13.8).

In 2018, 80% of people living with HIV in the region knew their HIV status, more than three quarters who knew their HIV status were on treatment, and nearly nine in 10 of all people on treatment were virally suppressed (Table 13.2). Although no individual country in Latin America has achieved all three of the 90–90–90 targets, viral suppression among people on treatment in Brazil (the country with the largest HIV burden in the region) reached 94% in 2018. Uruguay has had particular success reaching women living with HIV: more than 95% of women living with HIV knew their status, and 95% of women on treatment had achieved viral suppression. Despite these achievements, viral suppression among adults (aged 15 and older) living with HIV remained well under 50% in many countries in the region (Figure 13.9).

Among the many obstacles to achieving the 90–90–90 targets in the region, linkage to care following diagnosis is the largest gap. Late diagnosis also continues to be a challenge, with over 40% of people diagnosed with a CD4 count of under 350 cells per mm^3 in 12 of 14 reporting countries (Figure 13.10). In Guatemala, 71% of people had a CD4 count of under 350 cells per mm^3 at diagnosis, and nearly half (46.9%) had advanced HIV disease (CD4 count of under 200 cells per mm^3). More than 20% of people diagnosed in an additional five countries—and more than 30% in seven more—had advanced HIV disease. ■

FIGURE 13.8 **HIV testing and treatment cascade, Latin America, 2018**



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

TABLE 13.2 90–90–90 country scorecard, Latin America, 2018

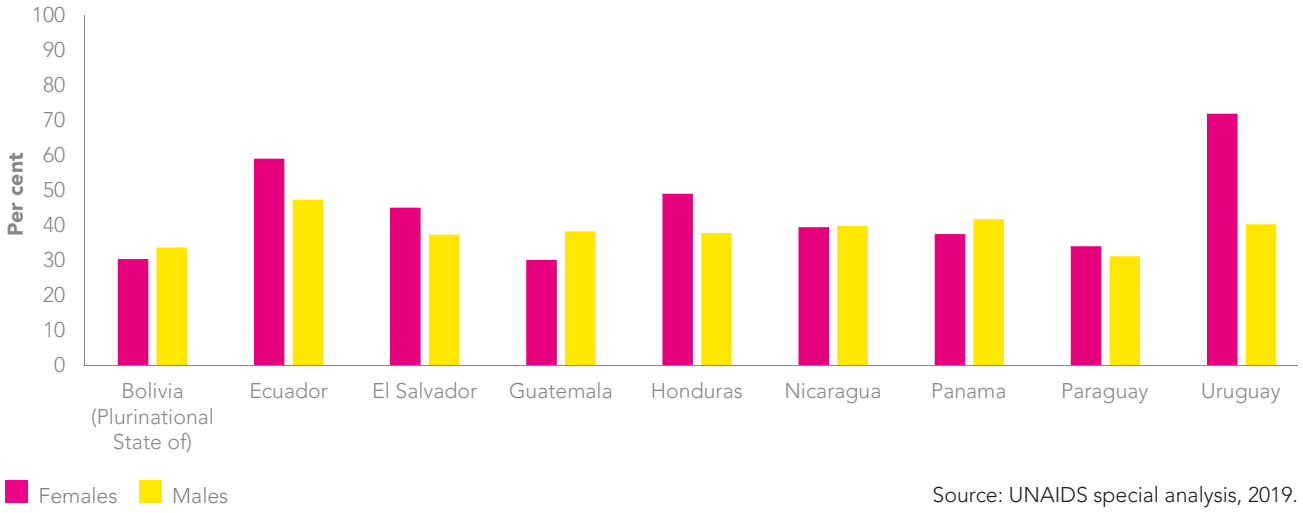
	First 90: percentage of people living with HIV who know their HIV status			Second 90: percentage of people living with HIV who know their status and who are on treatment			Third 90: percentage of people living with HIV on treatment who have suppressed viral loads			Viral load suppression: percentage of people living with HIV who are virally suppressed		
	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)	All ages	Women (15 years and older)	Men (15 years and older)
Latin America	**80**	**83**	**79**	**78**	**75**	**80**	**89**	**89**	**89**	**55**	**55**	**56**
Argentina												
Bolivia (Plurinational State of)							74	68	76	33	30	34
Brazil	85			77			94			62		
Chile		77	88		69	74						
Colombia												
Costa Rica												
Ecuador	76	84	73	75	74	75	89	95	87	51	59	47
El Salvador	74	78	74	63	67	60	85	86	84	40	45	37
Guatemala	62	56	65	69	68	72	80	79	81	34	30	38
Honduras	60	71	53	85	85	84	83	81	85	42	49	38
Mexico	76			93			89			63		
Nicaragua							74	74	75	40	39	40
Panama	70	56	77	76	81	74	76	83	73	41	37	42
Paraguay	71	84	65	57	52	60	79	79	80	32	34	31
Peru												
Uruguay	82	>95	75	70	73	68	86	>95	79	50	72	40
Venezuela (Bolivarian Republic of)												

90–90–90: 90% and above; 85–89%; 70–84%; 50–69%; Less than 50%

Viral load suppression: 73% and above; 65–72%; 40–64%; 25–39%; Less than 25%

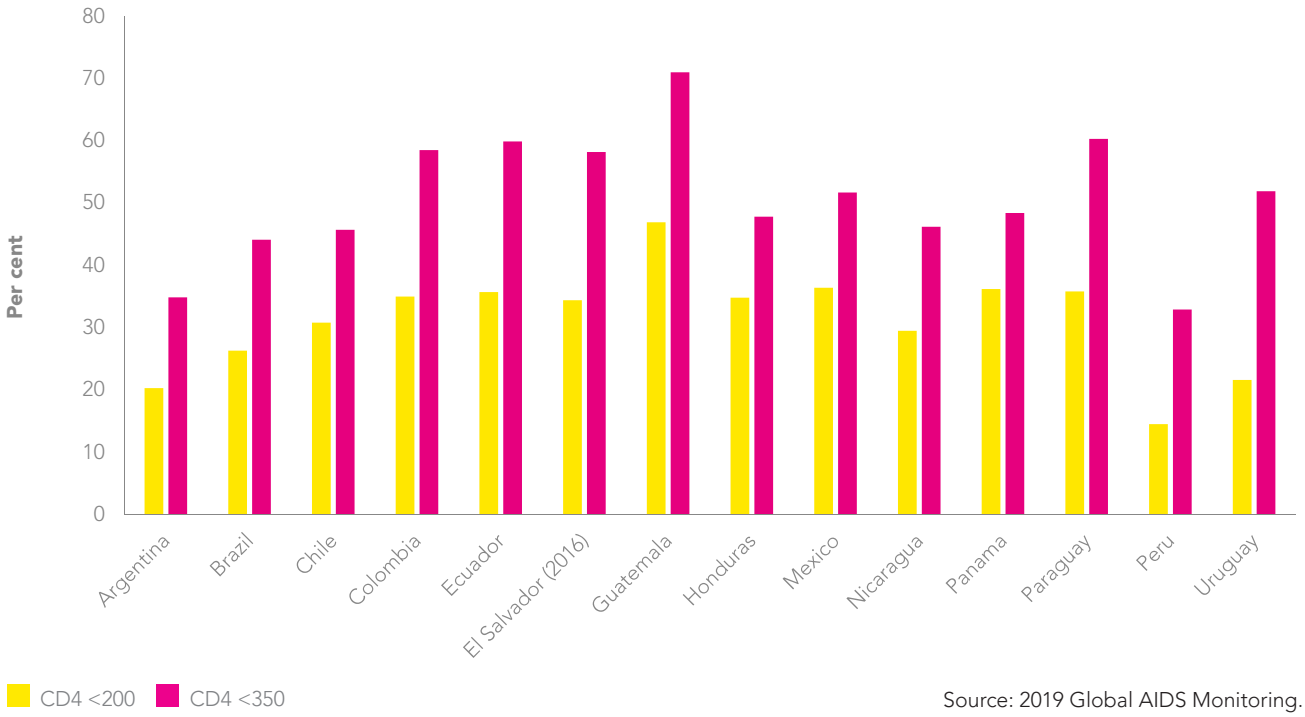
Source: UNAIDS special analysis, 2019.

FIGURE 13.9 **Viral load suppression among adults (aged 15 years and older) living with HIV, by sex, Latin America, 2018**



Source: UNAIDS special analysis, 2019.

FIGURE 13.10 **Percentage of people living with HIV with a low CD4 count at initiation of antiretroviral therapy, Latin America, 2018**



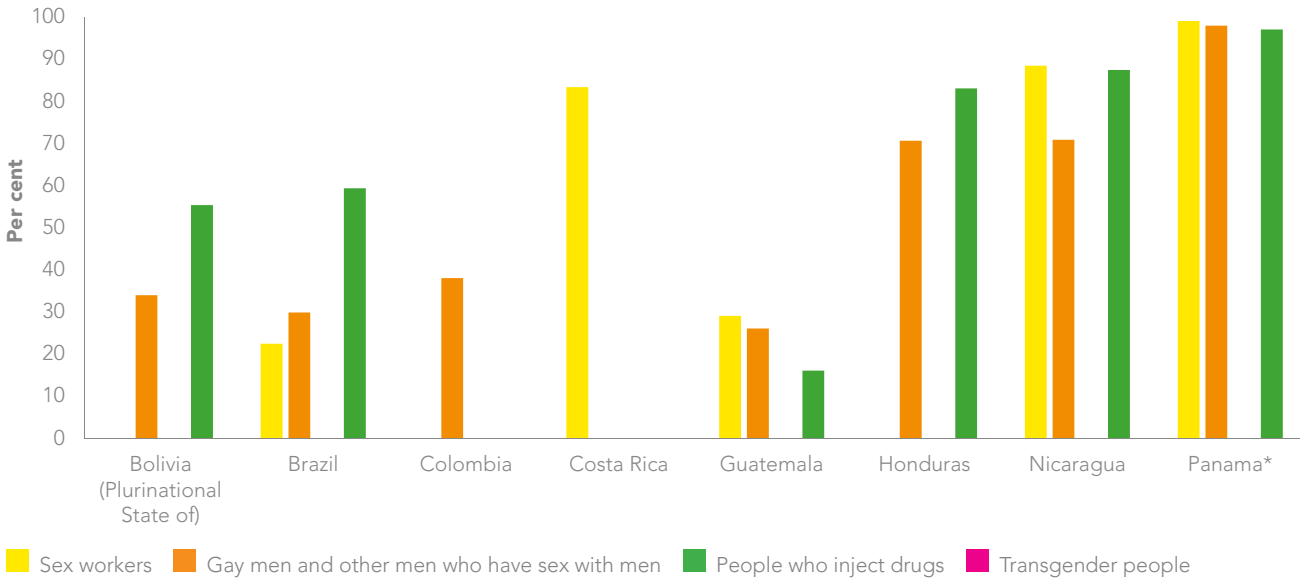
Source: 2019 Global AIDS Monitoring.

A COMBINATION APPROACH TO PREVENTION

There is a pressing need for improved combination HIV prevention in the region, particularly for key populations at higher risk of HIV infection. No country had public policies that included the delivery of all nine prevention services recommended by the World Health Organization (WHO) for gay men and other men who have sex with men or transgender women, and only two countries had such policies for female sex workers (Table 13.3). Three quarters (76%) of countries had public policies for the delivery of five to eight of the services to all three of these populations.

In addition, there are disparities in the coverage of prevention services. For example, between 55.3% and 97% of transgender people reported having received at least two prevention services in the last three months, except in Guatemala, where only 16% of transgender people report such services (Figure 13.11). Among other key populations, only 29.4% of sex workers in Peru—and 26.3% of gay men and other men who have sex with men and 42.9% of transgender people in Colombia—reported the same service coverage. ■

FIGURE 13.11 Percentage of key populations who reported receiving at least two prevention services in the past three months, Latin America, 2016–2018



Note 1: The use of an asterisk (*) indicates that data for marked countries come from programme data (which tend to show higher values due to the use as a denominator of the number of key population members that are linked to the programme) and not from a survey.

Note 2: Possible prevention services received among sex workers, gay men and other men who have sex with men and transgender people: condoms and lubricant, counselling on condom use and safe sex, and testing of sexually transmitted infections. Possible prevention services received among people who inject drugs: condoms and lubricant, counselling on condom use and safe sex, and clean needles or syringes.

Source: Global AIDS Monitoring, 2016–2018.

FIGURE 13.12 Knowledge of status among key populations, Latin America, 2016–2018

Note: Data shown come from surveys, which are typically conducted in areas with high prevalence and needs and may not be nationally representative.

Source: Global AIDS Monitoring, 2016–2018.

TABLE 13.3 Number of countries with public policies for delivery of HIV prevention services recommended by World Health Organization, by key population, Latin America

Latin America	Gay men and other men who have sex with men	Female sex workers	Transgender women
HIV testing and counselling	17	17	17
Sexually transmitted infection diagnosis and treatment	17	17	17
PrEP	5	4	5
Post-exposure prophylaxis (PEP)	4	4	4
Condoms	17	16	14
Lubricants	13	12	10
Antiretroviral therapy for all	12	12	12
Peer-led community outreach activities	12	15	12
Sexual health information and education	12	11	11
Number of countries with public policies for delivery of all nine services	0	2	0
Number of countries with public policies for delivery of five to eight services	13	13	13
Number of countries with public policies for delivery of four services or less	4	2	4

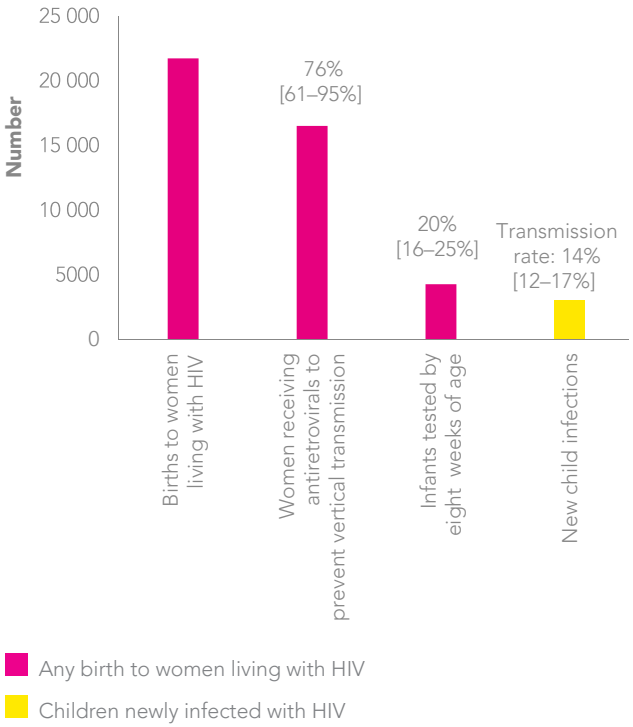
Note: Number of countries in the region (n = 17)

Source: HIV prevention in the spotlight: an analysis from the perspective of the health sector in Latin America and the Caribbean, 2017. Washington (DC): Pan American Health Organization, UNAIDS; 2017.

ELIMINATING MOTHER-TO-CHILD TRANSMISSION

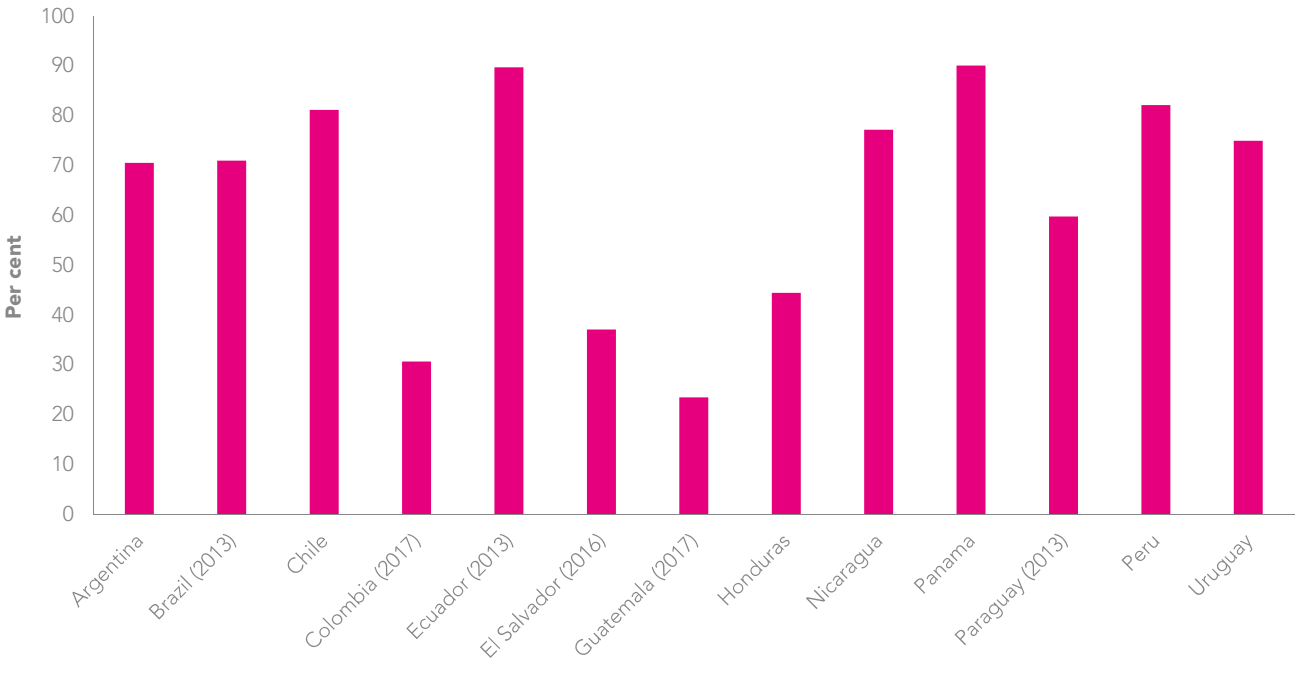
Regionally, progress on eliminating mother-to-child transmission of HIV is mixed. The percentage of pregnant women living with HIV receiving antiretroviral prophylaxis to prevent vertical transmission of HIV and protect their own health was 76% [61–95%] in 2018, and the rate of mother-to-child transmission was 14% [12–17%] in 2018 (Figure 13.13). Several countries in the region are close to reaching dual elimination of mother-to-child transmission of HIV and syphilis. National programmes should include the appropriate interventions to achieve the elimination of mother-to-child transmission of HIV, syphilis, Chagas disease and perinatal hepatitis hepatitis B *(2)*. ■

FIGURE 13.13 Cascade of services for preventing vertical transmission, numbers of new HIV infections and transmission rate, Latin America, 2018



Source: UNAIDS 2019 estimates; 2019 Global AIDS Monitoring.

FIGURE 13.14 Percentage of infants receiving HIV testing in the first 4–6 weeks, Latin America, 2018



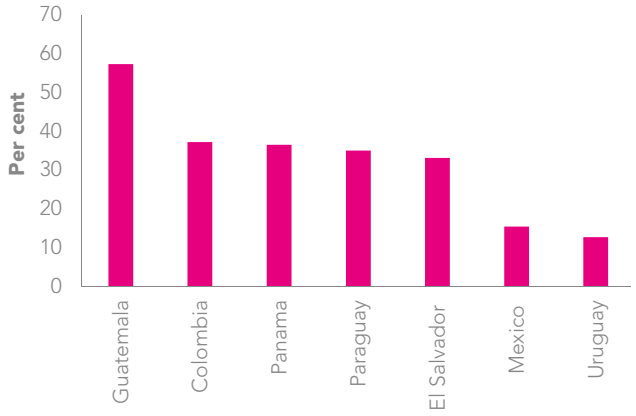
Source: 2019 Global AIDS Monitoring.

CONFRONTING STIGMA AND DISCRIMINATION

Stigma and discrimination continue to impede the HIV response in many countries in the region, with 30% of people surveyed in five of seven countries with recent data saying they would not purchase vegetables from a vendor living with HIV (Figure 13.15). In Guatemala, the rate was 57%.

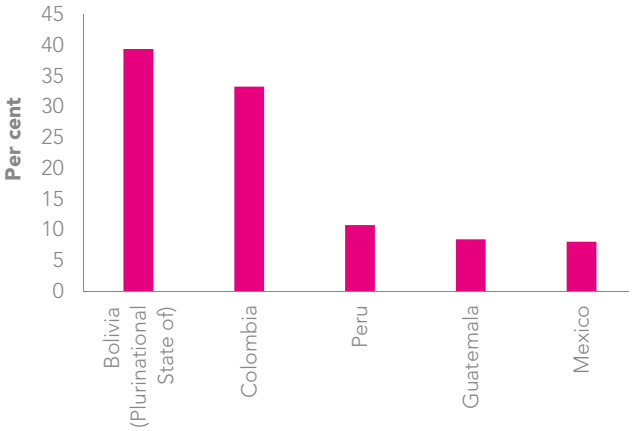
Women in some countries also continue to face high levels of physical and/or sexual violence by an intimate partner: nearly 40% in the Plurinational State of Bolivia, 33% in Colombia, almost 11% in Peru, and around 8% in both Guatemala and Mexico (Figure 13.16). ■

FIGURE 13.15 Percentage of men and women aged 15–49 years who would not buy vegetables from a shopkeeper living with HIV, Latin America, 2013–2016



Source: Population-based surveys, 2013–2016, countries with available data.

FIGURE 13.16 Percentage of ever-married or partnered women aged 15–49 years who experienced physical and/or sexual violence by an intimate partner in the past 12 months, Latin America, most recent data, 2015–2016



Source: Population-based surveys, 2015–2016.

DECRIMINALIZATION OF HIV IN COLOMBIA AND MEXICO

Criminalization of perceived, potential or actual HIV transmission and criminalization of non-disclosure of HIV-positive status continues to slow the HIV response and violate the rights of people living with HIV in many countries. Supported by health and legal experts, networks of people living with HIV have been working hard to challenge such legislation. Two recent victories were achieved in Colombia and Mexico's Veracruz state. In June 2019, Colombia's Supreme Court overturned a section of the criminal code that criminalizes HIV and hepatitis B transmission. The court challenge was supported by Colombian nongovernmental organizations, international human rights organizations and United Nations agencies *(3)*.

In Veracruz, a coalition including Grupo Multi de Veracruz, HIV Justice Worldwide and the National Human Rights Commission challenged the constitutionality of an amendment to the criminal code that would impose a penalty of six months to five years in prison for anyone who "willfully" transmits HIV. Two years of sustained campaigning by the coalition brought success: in May 2018, the Supreme Court found that the amendment to the Penal Code of the State of Veracruz was invalid. The court ruled that the law violated several fundamental rights, including the rights to equality before the law, to personal freedom and to nondiscrimination *(4)*.

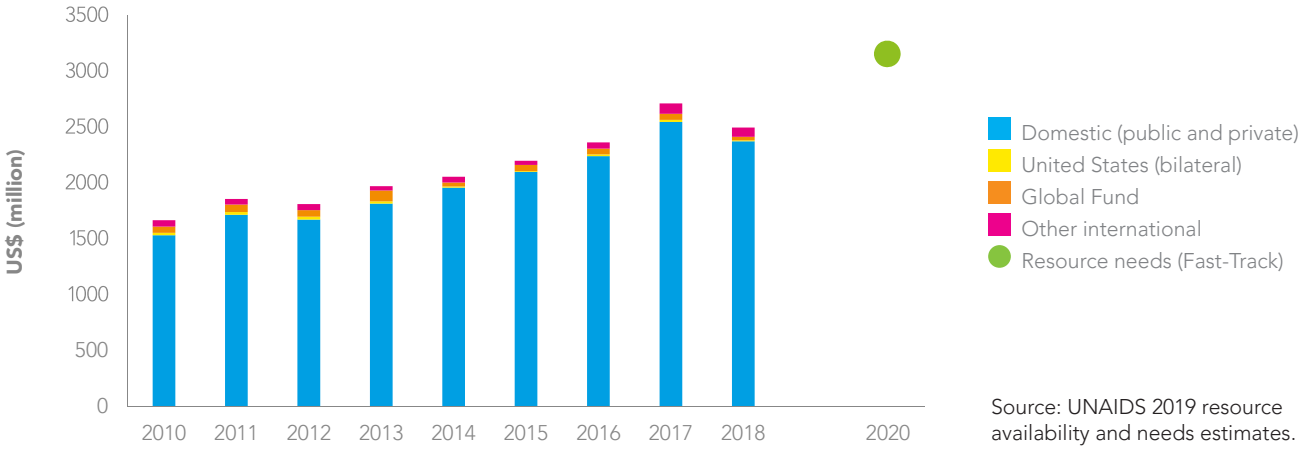
INVESTING TO END AN EPIDEMIC

Latin American countries used domestic resources for 95% of the region's HIV response financing in 2018.[1] The availability of financial resources for HIV responses in the region has increased by 50% since 2010, mainly due to a 55% increase in domestic public resources, which accounted for US$ 2.4 billion in 2018 (2016 constant US dollars) (Figure 13.17). Over the same period, bilateral contributions from the Government of the United States of America decreased by 62% and contributions from the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) decreased by 44%. Contributions from all other donors increased by 47%.

Funding from all sources decreased in 2018 compared to 2017. Domestic resources decreased by 7%, and international funding decreased by 8% overall: bilateral contributions from the Government of the United States decreased by 56%, contributions from the Global Fund decreased by 42% and contributions from all other international sources decreased by 10%, for a total of US$ 124 million (2016 constant US dollars).[2]

The funding gap for reaching the 2020 target was US$ 660 million in 2018. Resource mobilization strategies, price reductions for commodities, better resource allocation and other efficiency gains are needed, as is greater investment in key populations and social enablers. Countries that are still heavily reliant on donor funds need to develop and implement plans for a transition to sustainable, domestically resourced HIV responses. ■

FIGURE 13.17 HIV resource availability, by source, Latin America , 2010–2018, and projected resource needs by 2020



Source: UNAIDS 2019 resource availability and needs estimates.

1 Details on the revised UNAIDS estimates for resource availability in low- and middle-income countries can be found in the Investing to End an Epidemic chapter.

2 The Global Fund disbursements to countries decreased by 20% in 2018 because most funding grants ended in 2017, hence the changes in the level of disbursements.

REFERENCES

1. Othoman Mellouk, Intellectual Property and Access to Medicines Lead, International Treatment Preparedness Coalition. Personal communication, 16 May 2019.
2. EMTCT plus. Framework for elimination of mother-to-child transmission of HIV, syphilis, hepatitis B, and Chagas. Washington (DC): Pan American Health Organization, World Health Organization; 2017 (http://iris.paho.org/xmlui/handle/123456789/34306, accessed on 6 July 2019).
3. UNAIDS welcomes the decision of the Constitutional Court of Colombia to strike down the section of the criminal code criminalizing HIV transmission. In: UNAIDS.org [Internet]. 13 June 2019. Geneva; UNAIDS; c2019 (https://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2019/june/20190613_colombia, accessed 21 June 2019).
4. Mexico: Supreme Court Finds Veracruz Law Criminalising "Wilful Transmission" of HIV and STIs to Be Unconstitutional. In: The Body: The HIV/AIDS Resource [Internet]. 4 May 2018. Remedy Health Media LLC; c2019 (https://www.thebody.com/article/mexicosupreme-court-finds-veracruz-law-criminalis, accessed 21 June 2019).

ARGENTINA

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	6400 [5600–7100]	6500 [5700–7300]	6500 [5800–7300]
New HIV infections (0–14)	<200 [<200– <200]	<200 [<100– <200]	<100 [<100– <200]
New HIV infections (women, 15+)	1800 [1600–2000]	1900 [1700–2100]	1900 [1600–2100]
New HIV infections (men, 15+)	4400 [3700–5100]	4500 [3800–5200]	4600 [3800–5200]
HIV incidence per 1000 population	0.16 [0.14–0.18]	0.15 [0.13–0.17]	0.15 [0.13–0.17]
AIDS-related deaths			
AIDS-related deaths (all ages)	1600 [1300–2000]	1600 [1200–2000]	1700 [1300–2100]
AIDS-related deaths (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<500 [<500– <500]	<500 [<500– <500]	<500 [<500– <500]
AIDS-related deaths (men, 15+)	1200 [950–1600]	1200 [900–1600]	1300 [940–1700]
People living with HIV			
People living with HIV (all ages)	110 000 [96 000–120 000]	130 000 [120 000–140 000]	140 000 [130 000–150 000]
People living with HIV (0–14)	2700 [2500–3000]	2100 [1900–2400]	1800 [1600–2100]
People living with HIV (women, 15+)	33 000 [30 000–36 000]	40 000 [37 000–44 000]	45 000 [41 000–48 000]
People living with HIV (men, 15+)	71 000 [62 000–80 000]	85 000 [75 000–96 000]	93 000 [83 000–100 000]
HIV prevalence (15–49)	0.4 [0.3–0.4]	0.4 [0.4–0.4]	0.4 [0.4–0.4]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No
Criminalization of sex work among consenting adults	Any criminalization or punitive regulation of sex work
Criminalization of same-sex sexual acts	No specific legislation
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 14 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV	
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

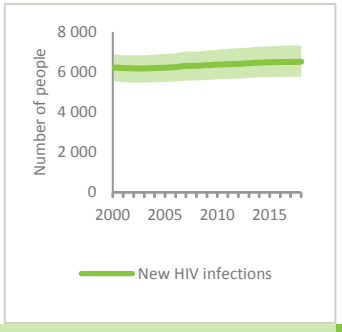
VIOLENCE

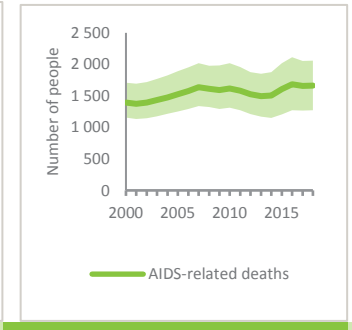
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	

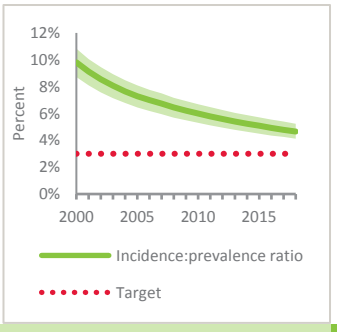
EXPENDITURES

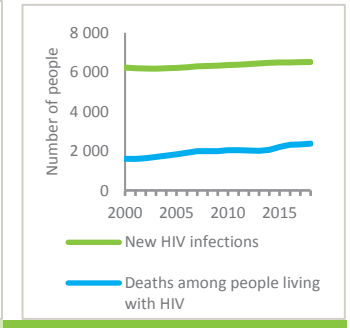
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2016	$1 860 000	$625 340 000	...	...	...	$627 390 000

EPIDEMIC TRANSITION METRICS







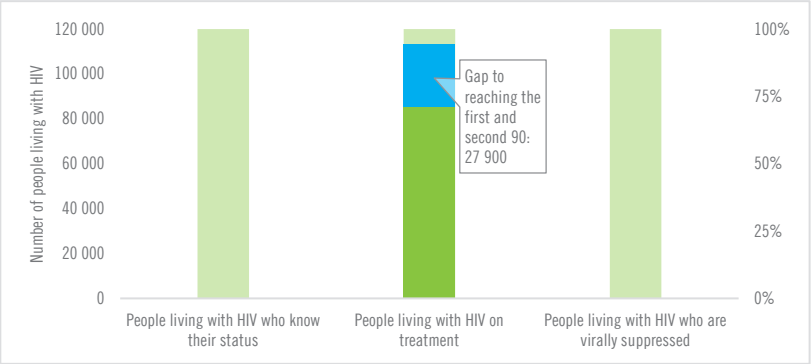


Change in new HIV infections since 2010	= 2%	Change in AIDS-related deaths since 2010	= 3%	Incidence: prevalence ratio	= 5%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	...	...	...	...	2.7%
Know their HIV status	...	...	...	...	
Antiretroviral therapy coverage	...	...	...	...	87.4%
Condom use	...	...	...	...	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



	People living with HIV who know their status	People living with HIV on treatment	People living with HIV who are virally suppressed
All ages	...% [...–...%]	61% [55–67%] 85 500	...% [...–...%]
Children (0–14)	...% [...–...%]	92% [84– >95%] 1700	...% [...–...%]
Women (15+)	...% [...–...%]	69% [63–75%] 30 900	...% [...–...%]
Men (15+)	...% [...–...%]	57% [50–63%] 52 900	...% [...–...%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	94% [83– >95%]	>95% [85– >95%]
Early infant diagnosis	...% [...–...%]	70.6% [65.1–79.7%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	1500 [890–2300]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV (2016)	43.6%
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	...
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

BOLIVIA (PLURINATIONAL STATE OF)

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	1100 [1000–1200]	1300 [1200–1400]	1400 [1300–1500]
New HIV infections (0–14)	<100 [<100– <200]	<100 [<100– <100]	<100 [<100– <100]
New HIV infections (women, 15+)	<500 [<500– <500]	<500 [<500– <500]	<500 [<500– <500]
New HIV infections (men, 15+)	720 [630–790]	900 [780–980]	930 [810–1000]
HIV incidence per 1000 population	0.12 [0.11–0.12]	0.13 [0.12–0.14]	0.13 [0.11–0.14]
AIDS-related deaths			
AIDS-related deaths (all ages)	1600 [1500–1800]	1100 [960–1200]	670 [550–760]
AIDS-related deaths (0–14)	<200 [<100– <200]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<500 [<500– <500]	<500 [<500– <500]	<200 [<200– <500]
AIDS-related deaths (men, 15+)	1100 [960–1200]	760 [650–850]	<500 [<500–540]
People living with HIV			
People living with HIV (all ages)	23 000 [20 000–25 000]	21 000 [19 000–23 000]	22 000 [20 000–24 000]
People living with HIV (0–14)	1000 [990–1100]	790 [720–850]	620 [560–670]
People living with HIV (women, 15+)	6500 [5800–7200]	6300 [5800–7000]	6900 [6400–7500]
People living with HIV (men, 15+)	15 000 [13 000–17 000]	14 000 [12 000–16 000]	15 000 [13 000–17 000]
HIV prevalence (15–49)	0.4 [0.3–0.4]	0.3 [0.3–0.3]	0.3 [0.3–0.3]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	No specific legislation
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 18 years
Spousal consent for married women to access sexual and reproductive health services	Yes
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV	
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

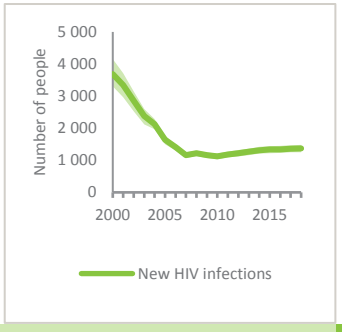
VIOLENCE

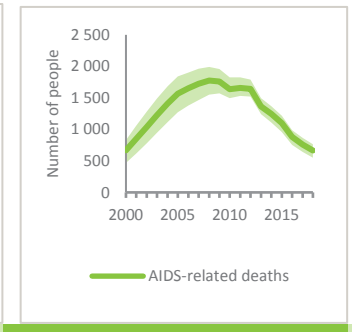
	2016
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	39.4

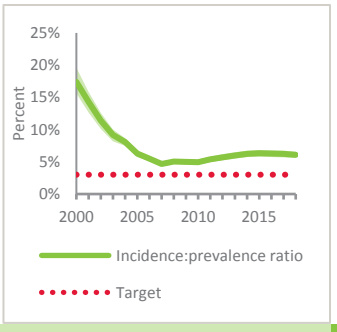
EXPENDITURES

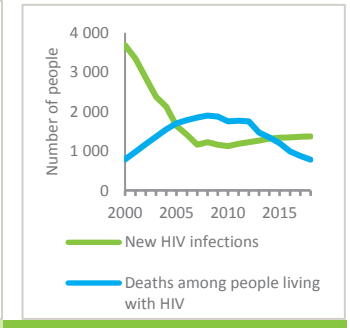
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2012	$2 112 301	$4 786 726	...	$3 549 926	$97 951	$11 768 762

EPIDEMIC TRANSITION METRICS







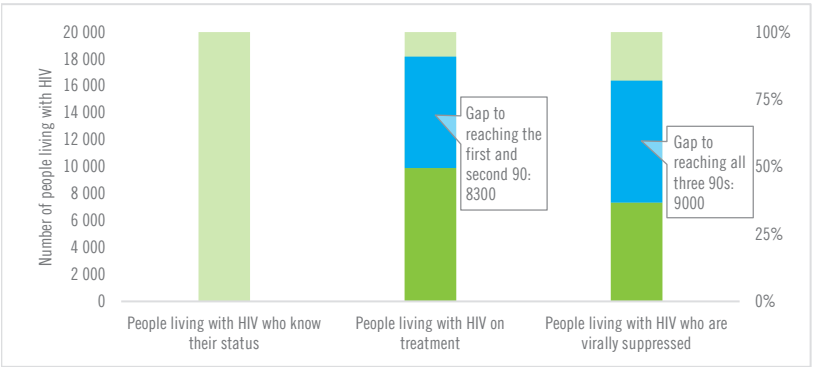


Change in new HIV infections since 2010	= 22%	Change in AIDS-related deaths since 2010	= -59%	Incidence: prevalence ratio	= 6%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	...	25.4%	...	22.6%	1.1%
Know their HIV status	...	...	...	63.8%	
Antiretroviral therapy coverage	32.0%	...	...	...	...
Condom use	...	66.0%	...	80.0%	
Coverage of HIV prevention programmes	...	33.9%	...	55.3%	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



All ages	...% [...–...%]	44% [40–48%] 9900	33% [30–36%]
Children (0–14)	...% [...–...%]	40% [37–43%] 250	37% [33–39%]
Women (15+)	...% [...–...%]	44% [41–49%] 3100	30% [28–33%]
Men (15+)	...% [...–...%]	44% [39–49%] 6600	34% [30–37%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	34% [29–38%]	>95% [>95– >95%]
Early infant diagnosis	38.0% [33.6–44.5%]	...% [...–...%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	560 [360–800]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.2%
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	44 000 [34 000–54 000]	48 000 [38 000–59 000]	53 000 [42 000–65 000]
New HIV infections (0–14)	... [...–...]	... [...–...]	... [...–...]
New HIV infections (women, 15+)	... [...–...]	... [...–...]	... [...–...]
New HIV infections (men, 15+)	... [...–...]	... [...–...]	... [...–...]
HIV incidence per 1000 population	0.23 [0.18–0.28]	0.24 [0.19–0.29]	0.26 [0.2–0.31]
AIDS-related deaths			
AIDS-related deaths (all ages)	15 000 [11 000–19 000]	16 000 [12 000–21 000]	15 000 [11 000–19 000]
AIDS-related deaths (0–14)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (women, 15+)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (men, 15+)	... [...–...]	... [...–...]	... [...–...]
People living with HIV			
People living with HIV (all ages)	670 000 [520 000–830 000]	800 000 [620 000–1 000 000]	900 000 [690 000–1 100 000]
People living with HIV (0–14)	... [...–...]	... [...–...]	... [...–...]
People living with HIV (women, 15+)	... [...–...]	... [...–...]	... [...–...]
People living with HIV (men, 15+)	... [...–...]	... [...–...]	... [...–...]
HIV prevalence (15–49)	0.5 [0.4–0.6]	0.5 [0.4–0.6]	0.5 [0.4–0.7]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No
Criminalization of sex work among consenting adults	Any criminalization or punitive regulation of sex work
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as non-criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	No
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV	
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

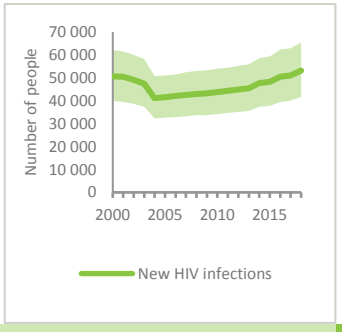
VIOLENCE

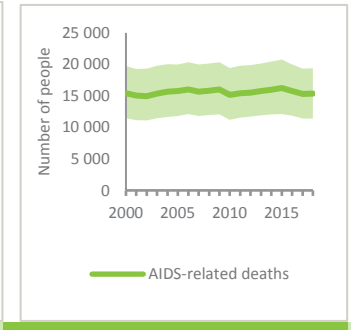
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	

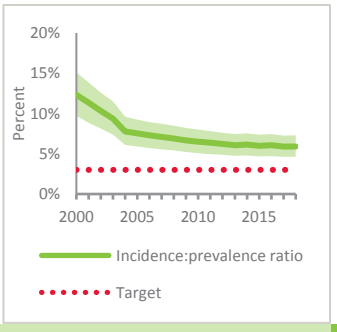
EXPENDITURES

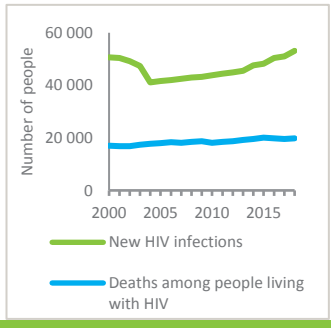
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2018	...	$699 139 356	...	...	...	$699 139 356

EPIDEMIC TRANSITION METRICS







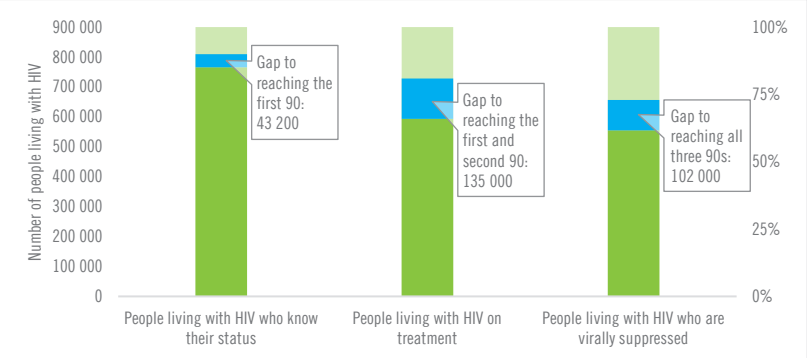


Change in new HIV infections since 2010	= 21%	Change in AIDS-related deaths since 2010	= 1%	Incidence: prevalence ratio	= 6%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	5.3%	18.3%	...	30.0%	...
Know their HIV status	52.3%	72.6%	...	76.9%	
Antiretroviral therapy coverage	...	...	...	...	...
Condom use	...	64.3%	...	70.8%	
Coverage of HIV prevention programmes	22.4%	29.8%	...	59.3%	
Avoidance of health care because of stigma and discrimination	...	17.3%	...	...	
Expenditures (2017)	$0	$0	$0		

HIV TESTING AND TREATMENT CASCADE



All ages	85% [66– >95%]	66% [51–82%] 593 000	62% [47–77%]
Children (0–14)	...% [...–...%]	...% [...–...%] ...	...% [...–...%]
Women (15+)	...% [...–...%]	...% [...–...%] ...	...% [...–...%]
Men (15+)	...% [...–...%]	...% [...–...%] ...	...% [...–...%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	...% [...–...%]	...% [...–...%]
Early infant diagnosis	21.9% [17.4–29.9%]	...% [...–...%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	11 000 [9300 –13 000]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	...
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period (2018)	8108
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	3700 [3100–4100]	4600 [3700–5000]	5000 [4000–5500]
New HIV infections (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
New HIV infections (women, 15+)	620 [540–700]	790 [700–890]	950 [830–1100]
New HIV infections (men, 15+)	3100 [2500–3400]	3700 [3000–4200]	4000 [3100–4500]
HIV incidence per 1000 population	0.22 [0.18–0.24]	0.26 [0.21–0.29]	0.27 [0.22–0.3]
AIDS-related deaths			
AIDS-related deaths (all ages)	... [...–...]	... [...–...]	590 [<500–770]
AIDS-related deaths (0–14)	... [...–...]	... [...–...]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	... [...–...]	... [...–...]	<200 [<200– <200]
AIDS-related deaths (men, 15+)	... [...–...]	... [...–...]	<500 [<500–580]
People living with HIV			
People living with HIV (all ages)	39 000 [34 000–43 000]	57 000 [50 000–62 000]	71 000 [63 000–78 000]
People living with HIV (0–14)	<500 [<500– <500]	<500 [<500– <500]	<500 [<500– <500]
People living with HIV (women, 15+)	6600 [6000–7100]	9700 [8800–10 000]	12 000 [11 000–13 000]
People living with HIV (men, 15+)	32 000 [28 000–36 000]	47 000 [41 000–52 000]	59 000 [51 000–66 000]
HIV prevalence (15–49)	0.4 [0.3–0.4]	0.5 [0.4–0.5]	0.5 [0.5–0.6]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No
Criminalization of sex work among consenting adults	Any criminalization or punitive regulation of sex work
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as non-criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 14 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	Yes

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV	
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

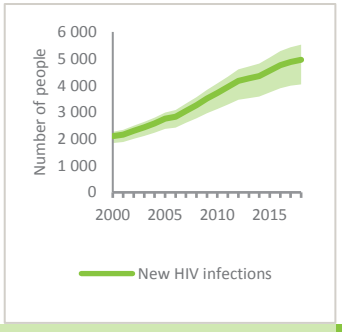
VIOLENCE

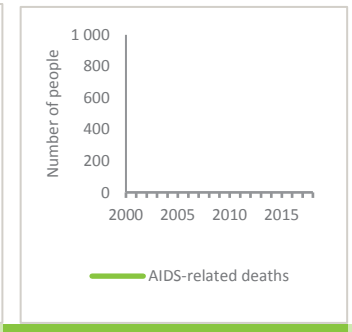
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	

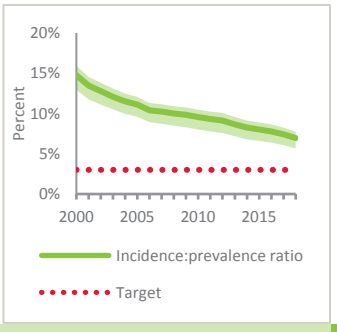
EXPENDITURES

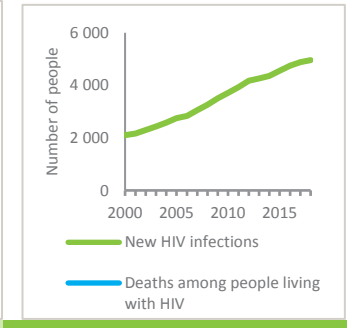
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2018	$108 369 580	$207 644 768	...	...	...	$316 014 348

EPIDEMIC TRANSITION METRICS







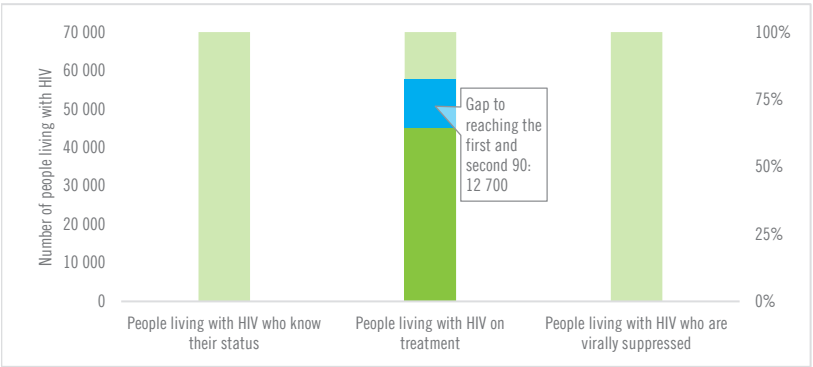


Change in new HIV infections since 2010	= 34%	Change in AIDS-related deaths since 2010	=	Incidence: prevalence ratio	= 7%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	42 000
HIV prevalence	0.0%	13.9%	...	...	0.5%
Know their HIV status	58.0%	62.2%	...	...	
Antiretroviral therapy coverage	79.4%	89.0%	...	92.2%	89.0%
Condom use	97.0%	42.1%	...	...	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (2016)	$169 593	$665 414	$0		

HIV TESTING AND TREATMENT CASCADE



All ages	...% [...–...%]	63% [56–70%] 45 100	...% [...–...%]
Children (0–14)	...% [...–...%]	56% [50–61%] 140	...% [...–...%]
Women (15+)	77% [70–83%]	53% [48–57%] 6400	...% [...–...%]
Men (15+)	88% [76– >95%]	65% [56–73%] 38 500	...% [...–...%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	72% [65–80%]	>95% [>95– >95%]
Early infant diagnosis	...% [...–...%]	81.2% [73.7–90.1%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	510 [310–770]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment (2018)	36%

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	...
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner (2016)	
— Women	26.1%
— Men	49.2%
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

COLOMBIA

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	8800 [6400–11 000]	7900 [5600–10 000]	6900 [4700–9100]
New HIV infections (0–14)	590 [<500–750]	510 [<500–630]	510 [<500–660]
New HIV infections (women, 15+)	1400 [1000–1800]	1100 [760–1500]	910 [630–1300]
New HIV infections (men, 15+)	6800 [5000–8900]	6300 [4400–8400]	5400 [3700–7400]
HIV incidence per 1000 population	0.19 [0.14–0.25]	0.17 [0.12–0.22]	0.14 [0.1–0.19]
AIDS-related deaths			
AIDS-related deaths (all ages)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (0–14)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (women, 15+)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (men, 15+)	... [...–...]	... [...–...]	... [...–...]
People living with HIV			
People living with HIV (all ages)	130 000 [100 000–150 000]	140 000 [120 000–170 000]	160 000 [130 000–180 000]
People living with HIV (0–14)	5200 [4500–6100]	4000 [3400–4800]	3600 [2900–4300]
People living with HIV (women, 15+)	26 000 [22 000–30 000]	29 000 [24 000–34 000]	31 000 [26 000–36 000]
People living with HIV (men, 15+)	94 000 [77 000–110 000]	110 000 [91 000–130 000]	120 000 [98 000–150 000]
HIV prevalence (15–49)	0.4 [0.3–0.5]	0.4 [0.3–0.5]	0.4 [0.3–0.5]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	...
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 14 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

	2010	2015
Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV *(2010 refers to women only)*	44.7	37.2
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months		
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent		

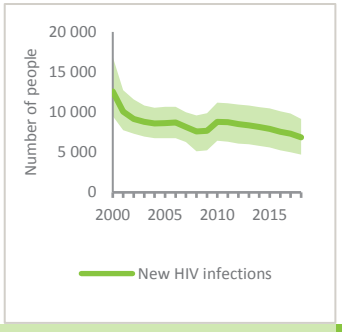
VIOLENCE

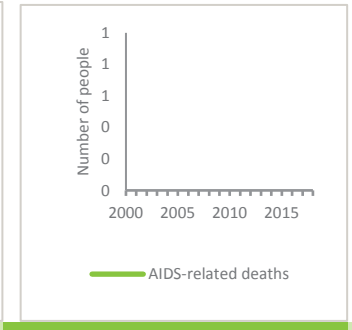
	2010	2015
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	37.4	33.3

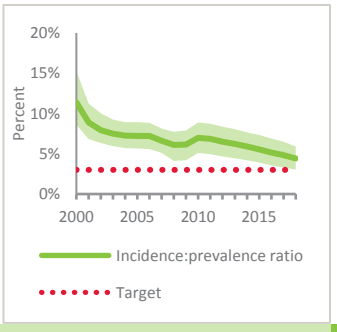
EXPENDITURES

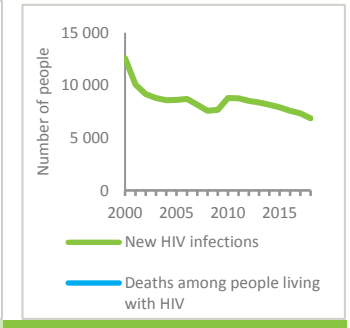
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2013	$34 547 857	$84 674 170	...	...	...	$119 528 046

EPIDEMIC TRANSITION METRICS







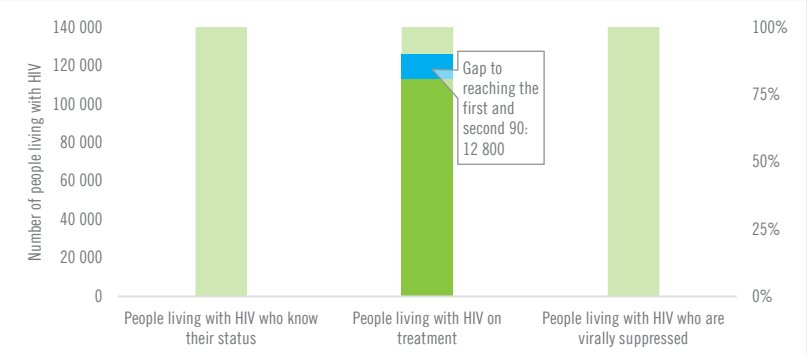


Change in new HIV infections since 2010	= -22%	Change in AIDS-related deaths since 2010	=	Incidence: prevalence ratio	= 4%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	1.2%	17.0%	2.8%	21.4%	...
Know their HIV status	90.6%	26.3%	...	42.9%	
Antiretroviral therapy coverage	...	...	...	...	...
Condom use	98.3%	17.0%	35.8%	...	
Coverage of HIV prevention programmes	...	38.0%	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (2016)	$0	$414 142	$0		

HIV TESTING AND TREATMENT CASCADE



	People living with HIV who know their status	People living with HIV on treatment	People living with HIV who are virally suppressed
All ages	...% [...–...%]	73% [60–86%] 113 000	...% [...–...%]
Children (0–14)	...% [...–...%]	41% [32–49%] 1500	...% [...–...%]
Women (15+)	...% [...–...%]	77% [64–90%] 23 900	...% [...–...%]
Men (15+)	...% [...–...%]	73% [59–88%] 87 700	...% [...–...%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	33% [26–40%]	21% [17–25%]
Early infant diagnosis	7.1% [5.8–8.9%]	30.7% [26.2–37.3%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	2000 [1500 –2500]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	...
Knowledge of HIV prevention among young people aged 15–24 years (2015)	
— Women	31.63%
— Men	28.52%
Condom use at last sex with a non-marital, non-cohabiting partner (2015)	
— Women	42.4%
— Men	70.5%
Women aged 15–49 years who have their demand for family planning satisfied by modern methods (2015)	86.8%
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects (2018)	5
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

COSTA RICA

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	830 [730–920]	950 [830–1100]	1000 [860–1200]
New HIV infections (0–14)	... [...–...]	... [...–...]	... [...–...]
New HIV infections (women, 15+)	<200 [<200– <200]	<200 [<200– <200]	<200 [<200– <200]
New HIV infections (men, 15+)	650 [550–740]	770 [630–900]	820 [660–960]
HIV incidence per 1000 population	0.19 [0.16–0.21]	0.2 [0.18–0.23]	0.21 [0.18–0.24]
AIDS-related deaths			
AIDS-related deaths (all ages)	<500 [<200– <500]	<500 [<200– <500]	<500 [<200– <500]
AIDS-related deaths (0–14)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (women, 15+)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (men, 15+)	<200 [<200– <500]	<200 [<200– <500]	<200 [<200– <500]
People living with HIV			
People living with HIV (all ages)	9300 [8400–10 000]	13 000 [11 000–14 000]	15 000 [13 000–17 000]
People living with HIV (0–14)	... [...–...]	... [...–...]	... [...–...]
People living with HIV (women, 15+)	2000 [1800–2200]	2600 [2400–2900]	2900 [2700–3300]
People living with HIV (men, 15+)	7200 [6300–8100]	10 000 [8900–11 000]	12 000 [10 000–13 000]
HIV prevalence (15–49)	0.3 [0.3–0.3]	0.4 [0.3–0.4]	0.4 [0.4–0.5]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No, but prosecutions exist based on general criminal laws
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	No
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	No
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV

	2014
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	8.8

	2014
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	15.5

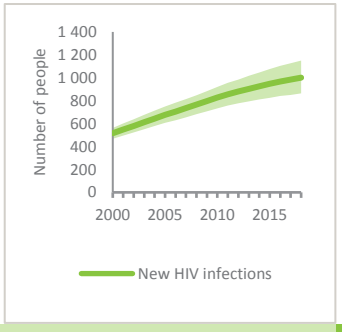
VIOLENCE

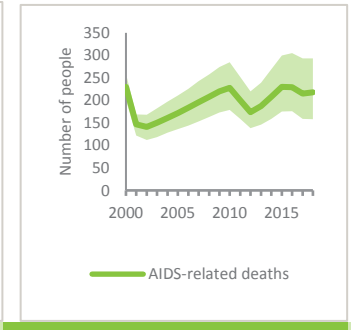
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months

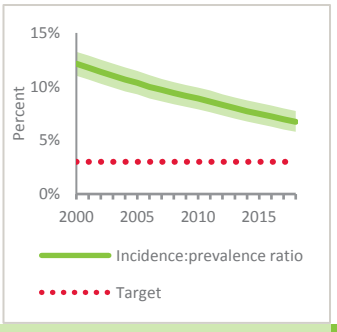
EXPENDITURES

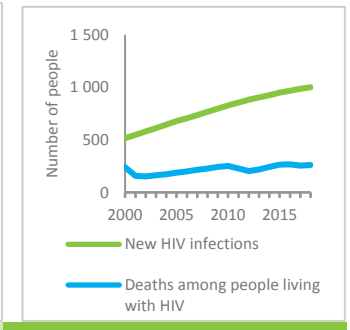
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2018	$1 628 121	$44 000 708	...	$1 935 200	$480 461	$48 044 490

EPIDEMIC TRANSITION METRICS







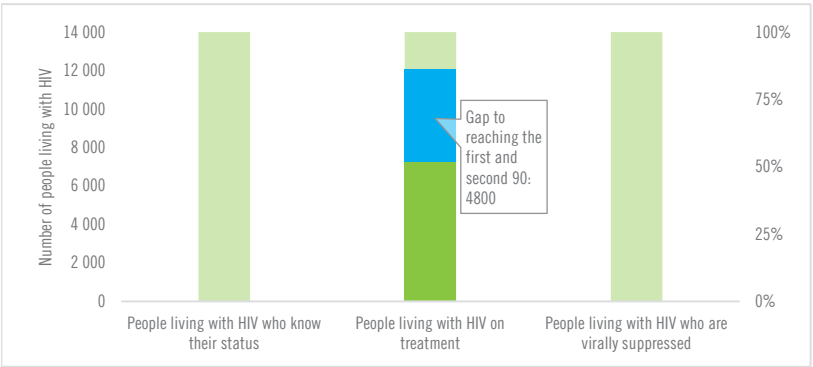


Change in new HIV infections since 2010	= 21%	Change in AIDS-related deaths since 2010	= -4%	Incidence: prevalence ratio	= 7%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	100
HIV prevalence	1.4%	15.4%	...	24.6%	0.3%
Know their HIV status	100%	100%	...	100%	
Antiretroviral therapy coverage	...	...	...	...	79.8%
Condom use	74.0%	39.2%	...	78.6%	
Coverage of HIV prevention programmes	83.3%	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (2014)	$0	$0	$0		

HIV TESTING AND TREATMENT CASCADE



	People living with HIV who know their status	People living with HIV on treatment	People living with HIV who are virally suppressed
All ages	...% [...–...%]	49% [44–54%] 7200	...% [...–...%]
Children (0–14)	...% [...–...%]	...% [...–...%] ...	...% [...–...%]
Women (15+)	...% [...–...%]	60% [54–66%] 1800	...% [...–...%]
Men (15+)	...% [...–...%]	46% [40–52%] 5400	...% [...–...%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	...% [...–...%]	...% [...–...%]
Early infant diagnosis	...% [...–...%]	...% [...–...%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	42 [32–53]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	...
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

ECUADOR

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	2500 [1400–4600]	2400 [1300–4500]	2200 [1200–4400]
New HIV infections (0–14)	<100 [<100– <200]	<100 [<100– <200]	<100 [<100– <200]
New HIV infections (women, 15+)	700 [<500–1300]	690 [<500–1300]	650 [<500–1200]
New HIV infections (men, 15+)	1700 [990–3300]	1700 [890–3100]	1500 [800–3100]
HIV incidence per 1000 population	0.17 [0.1–0.32]	0.15 [0.08–0.29]	0.13 [0.07–0.27]
AIDS-related deaths			
AIDS-related deaths (all ages)	1100 [520–2200]	1100 [520–2400]	620 [<500–1500]
AIDS-related deaths (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<500 [<200– <500]	<200 [<100– <500]	<200 [<100– <500]
AIDS-related deaths (men, 15+)	790 [<500–1600]	980 [<500–2000]	<500 [<500–1100]
People living with HIV			
People living with HIV (all ages)	34 000 [22 000–57 000]	40 000 [27 000–65 000]	44 000 [29 000–71 000]
People living with HIV (0–14)	640 [<500–1100]	660 [<500–1100]	660 [<500–1200]
People living with HIV (women, 15+)	9000 [6100–15 000]	11 000 [7700–18 000]	13 000 [8700–20 000]
People living with HIV (men, 15+)	24 000 [16 000–41 000]	28 000 [18 000–46 000]	30 000 [20 000–50 000]
HIV prevalence (15–49)	0.4 [0.2–0.6]	0.4 [0.2–0.6]	0.4 [0.2–0.6]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	No
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	No
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV	
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

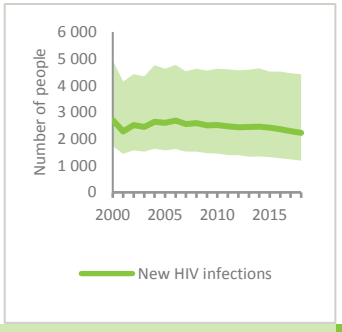
VIOLENCE

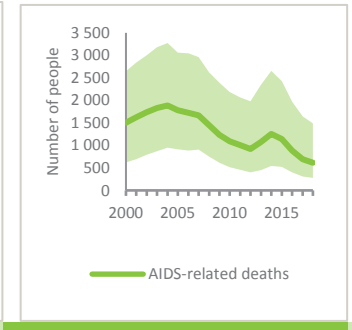
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	

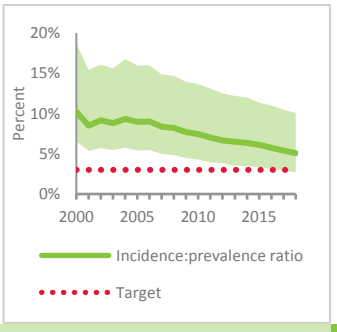
EXPENDITURES

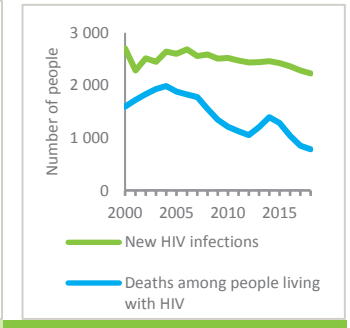
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2018	$305 994	$14 807 266	...	$501 000	...	$15 614 260

EPIDEMIC TRANSITION METRICS







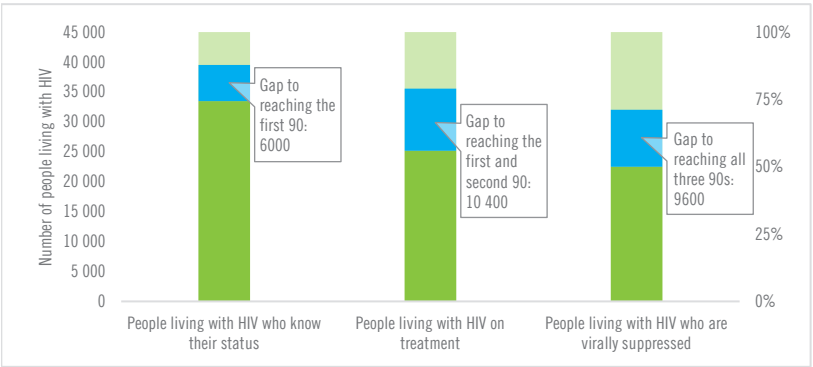


Change in new HIV infections since 2010	= -12%	Change in AIDS-related deaths since 2010	= -44%	Incidence: prevalence ratio	= 5%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	...	16.5%	...	34.8%	1.3%
Know their HIV status	...	56.3%	...	60.4%	
Antiretroviral therapy coverage	...	...	...	...	89.7%
Condom use	69.7%	77.0%	...	94.0%	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (2017)	$0	$0	$0		

HIV TESTING AND TREATMENT CASCADE



All ages	76% [51– >95%]	57% [38–93%] 25 100	51% [34–83%]
Children (0–14)	92% [60– >95%]	82% [54– >95%] 540	75% [49– >95%]
Women (15+)	84% [56– >95%]	62% [42– >95%] 8100	59% [40–93%]
Men (15+)	73% [48– >95%]	55% [36–90%] 16 500	47% [31–78%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	78% [50– >95%]	>95% [68– >95%]
Early infant diagnosis	1.5% [<1–2.3%]	...% [...–...%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	950 [720–1200]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.2%
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

EL SALVADOR

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	1400 [1000–1700]	900 [670–1100]	700 [530–870]
New HIV infections (0–14)	<200 [<100– <200]	<100 [<100– <200]	<100 [<100– <100]
New HIV infections (women, 15+)	<500 [<500–500]	<500 [<500– <500]	<500 [<200– <500]
New HIV infections (men, 15+)	840 [610–1100]	560 [<500–710]	<500 [<500–550]
HIV incidence per 1000 population	0.22 [0.17–0.27]	0.14 [0.11–0.18]	0.11 [0.08–0.14]
AIDS-related deaths			
AIDS-related deaths (all ages)	<500 [<500–730]	620 [<500–920]	700 [<500–1000]
AIDS-related deaths (0–14)	<100 [<100– <200]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<200 [<100– <500]	<200 [<100– <200]	<200 [<100– <500]
AIDS-related deaths (men, 15+)	<500 [<200– <500]	<500 [<500–700]	<500 [<500–720]
People living with HIV			
People living with HIV (all ages)	26 000 [20 000–31 000]	26 000 [21 000–31 000]	25 000 [21 000–30 000]
People living with HIV (0–14)	770 [600–970]	680 [540–850]	610 [<500–740]
People living with HIV (women, 15+)	8400 [6600–10 000]	9100 [7300–11 000]	9100 [7400–11 000]
People living with HIV (men, 15+)	16 000 [13 000–20 000]	16 000 [13 000–19 000]	16 000 [13 000–18 000]
HIV prevalence (15–49)	0.7 [0.6–0.9]	0.6 [0.5–0.7]	0.6 [0.5–0.7]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Any criminalization or punitive regulation of sex work
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	No
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

	2014
Percentage of women aged 15–49 years who report discriminatory attitudes towards people living with HIV	33.1
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

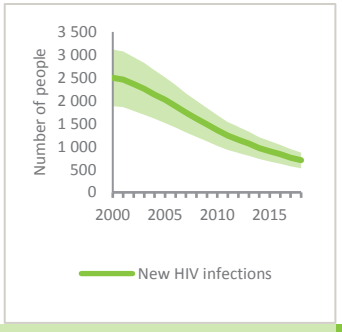
VIOLENCE

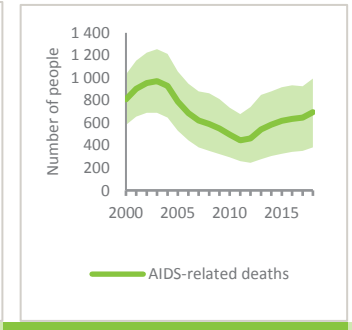
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months

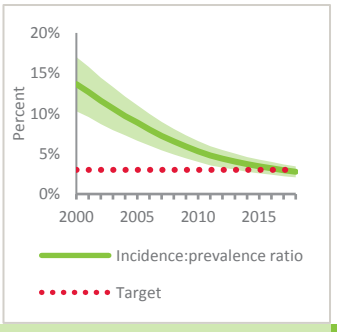
EXPENDITURES

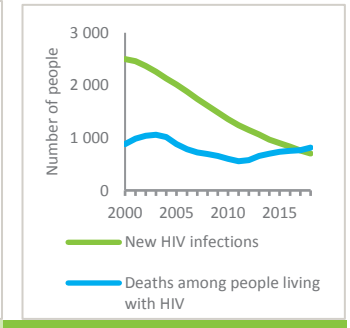
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2018	$3 194 118	$36 850 429	$2 206 076	$5 744 405	$1 293 236	$49 288 264

EPIDEMIC TRANSITION METRICS







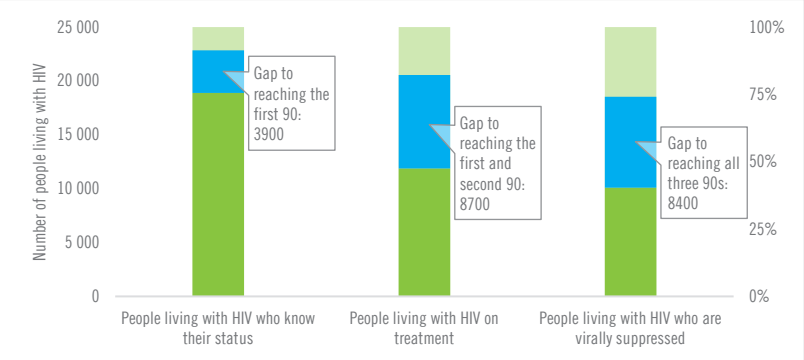


Change in new HIV infections since 2010	= -48%	Change in AIDS-related deaths since 2010	= 41%	Incidence: prevalence ratio	= 3%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	2.2%	12.0%	...	15.3%	0.1%
Know their HIV status	89.5%	77.3%	...	74.4%	
Antiretroviral therapy coverage	...	...	...	...	...
Condom use	91.4%	52.6%	...	75.7%	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (2017)	$877 771	$1 390 322	$0		

HIV TESTING AND TREATMENT CASCADE



All ages	74% [61–87%]	47% [39–55%] 11 900	40% [33–46%]
Children (0–14)	36% [28–44%]	24% [19–30%] 150	21% [17–26%]
Women (15+)	78% [64–92%]	52% [43–62%] 4800	45% [37–53%]
Men (15+)	74% [60–86%]	44% [36–52%] 6900	37% [31–43%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	24% [19–29%]	40% [33–46%]
Early infant diagnosis	26.7% [22.1–33.5%]	37.1% [32.3–44.3%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	220 [140–310]
People living with HIV who started TB preventive therapy (2017)	95.4%
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.3%
Knowledge of HIV prevention among young people aged 15–24 years (2014)	
— Women	31.1%
— Men	33.9%
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

GUATEMALA

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	2200 [2100–2300]	2100 [2000–2200]	2300 [2200–2400]
New HIV infections (0–14)	<500 [<500– <500]	<500 [<500– <500]	<500 [<200– <500]
New HIV infections (women, 15+)	860 [830–910]	790 [760–830]	870 [830–920]
New HIV infections (men, 15+)	990 [890–1100]	1100 [960–1100]	1200 [1100–1300]
HIV incidence per 1000 population	0.15 [0.15–0.16]	0.13 [0.12–0.14]	0.14 [0.13–0.14]
AIDS-related deaths			
AIDS-related deaths (all ages)	1700 [1500–1900]	2200 [2000–2400]	2200 [2000–2400]
AIDS-related deaths (0–14)	<500 [<500– <500]	<200 [<200– <200]	<200 [<200– <200]
AIDS-related deaths (women, 15+)	680 [610–780]	740 [650–850]	940 [860–1000]
AIDS-related deaths (men, 15+)	750 [610–890]	1300 [1100–1400]	1100 [960–1200]
People living with HIV			
People living with HIV (all ages)	49 000 [44 000–53 000]	48 000 [44 000–52 000]	47 000 [43 000–51 000]
People living with HIV (0–14)	3200 [3000–3400]	2400 [2200–2600]	2000 [1800–2200]
People living with HIV (women, 15+)	19 000 [17 000–20 000]	19 000 [18 000–21 000]	19 000 [18 000–21 000]
People living with HIV (men, 15+)	27 000 [24 000–30 000]	26 000 [24 000–29 000]	26 000 [24 000–28 000]
HIV prevalence (15–49)	0.6 [0.5–0.6]	0.4 [0.4–0.5]	0.4 [0.3–0.4]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Any criminalization or punitive regulation of sex work
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 18 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	Yes

STIGMA AND DISCRIMINATION

	2015
Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV	57.3
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

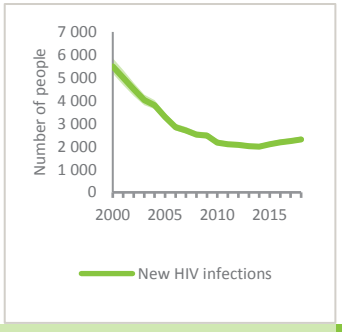
VIOLENCE

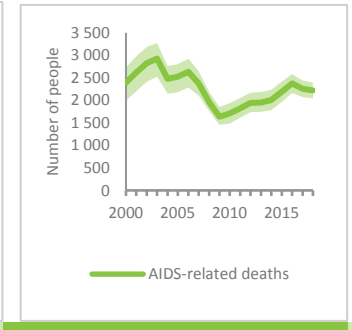
	2015
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	8.5

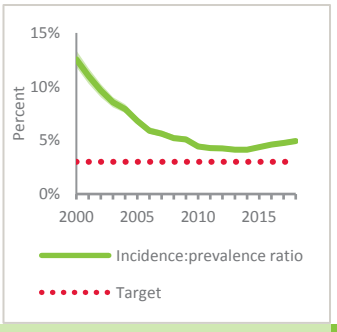
EXPENDITURES

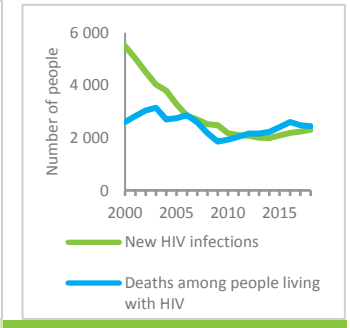
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2018	$9413	$18 101 609	$3 727 389	$1 960 361	$637 253	$24 436 024

EPIDEMIC TRANSITION METRICS







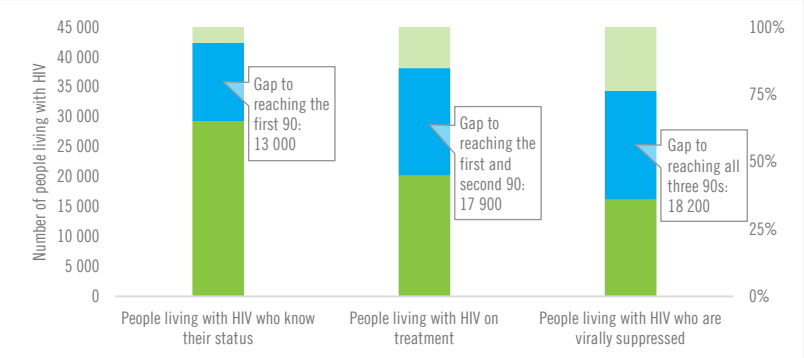


Change in new HIV infections since 2010	= 6%	Change in AIDS-related deaths since 2010	= 30%	Incidence: prevalence ratio	= 5%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	1.0%	9.0%	...	22.2%	0.7%
Know their HIV status	85.9%	77.9%	...	92.2%	
Antiretroviral therapy coverage	3.9%	28.6%	...	9.2%	30.6%
Condom use	97.4%	69.3%	...	66.2%	
Coverage of HIV prevention programmes	29.0%	26.0%	...	16.0%	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (2016)	$401 175	$2 697 379	$0		

HIV TESTING AND TREATMENT CASCADE



All ages	62% [57–68%]	43% [40–47%] 20 200	34% [32–37%]
Children (0–14)	88% [80–95%]	36% [33–39%] 730	25% [23–27%]
Women (15+)	56% [52–61%]	38% [35–42%] 7300	30% [28–33%]
Men (15+)	65% [59–71%]	47% [43–52%] 12 200	38% [35–42%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	26% [23–29%]	34% [31–38%]
Early infant diagnosis	...% [...–...%]	23.5% [21.5–25.9%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	330 [250–410]
People living with HIV who started TB preventive therapy (2017)	27.8%
Women who tested positive for HIV among those screened for cervical cancer (programme data) (2018)	11.1%
People coinfected with HIV and hepatitis B virus receiving combined treatment (2018)	48.2%
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment (2018)	28.6%

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.3%
Knowledge of HIV prevention among young people aged 15–24 years (2015)	
— Women	22.2%
— Men	21.9%
Condom use at last sex with a non-marital, non-cohabiting partner (2015)	
— Women	19.9%
— Men	45.3%
Women aged 15–49 years who have their demand for family planning satisfied by modern methods (2015)	66.2%
Men aged 15–49 years who are circumcised (2015)	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period (2018)	45
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

HONDURAS

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	740 [500–1000]	770 [<500–1100]	800 [<500–1100]
New HIV infections (0–14)	<200 [<100– <200]	<100 [<100– <200]	<100 [<100– <100]
New HIV infections (women, 15+)	<200 [<200– <500]	<500 [<200– <500]	<500 [<200– <500]
New HIV infections (men, 15+)	<500 [<500–620]	<500 [<500–690]	510 [<500–740]
HIV incidence per 1000 population	0.09 [0.06–0.13]	0.09 [0.05–0.13]	0.09 [0.05–0.12]
AIDS-related deaths			
AIDS-related deaths (all ages)	1400 [990–1800]	1000 [730–1400]	780 [540–1100]
AIDS-related deaths (0–14)	<100 [<100– <200]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<500 [<200– <500]	<500 [<200– <500]	<500 [<200– <500]
AIDS-related deaths (men, 15+)	1000 [740–1300]	720 [510–970]	510 [<500–720]
People living with HIV			
People living with HIV (all ages)	26 000 [21 000–32 000]	24 000 [19 000–29 000]	23 000 [18 000–28 000]
People living with HIV (0–14)	1600 [1300–1900]	1100 [930–1300]	890 [710–1100]
People living with HIV (women, 15+)	8900 [7300–11 000]	8800 [7300–11 000]	8900 [7200–11 000]
People living with HIV (men, 15+)	16 000 [12 000–19 000]	14 000 [11 000–17 000]	13 000 [10 000–17 000]
HIV prevalence (15–49)	0.5 [0.4–0.6]	0.4 [0.3–0.5]	0.3 [0.3–0.4]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 18 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	Yes

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV

Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	**2013** 4.1
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	**2013** 9.9

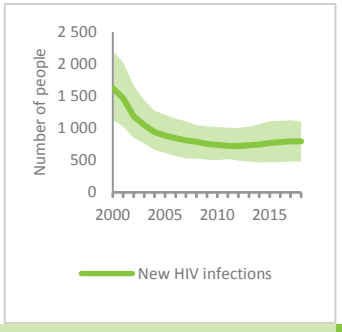
VIOLENCE

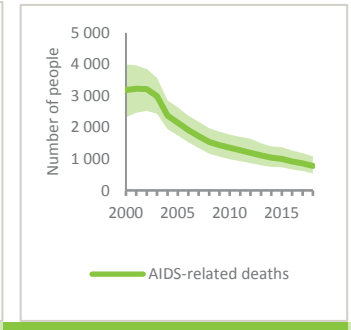
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months

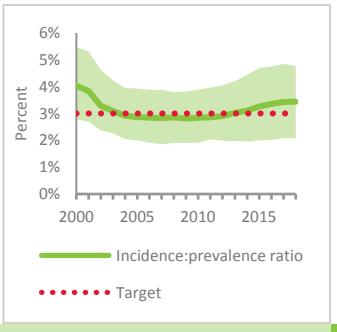
EXPENDITURES

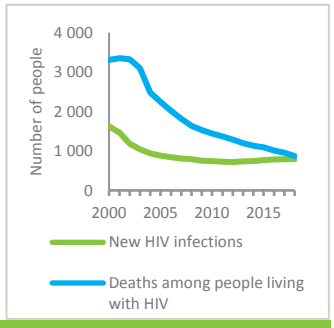
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2013	$3 692 374	$15 784 431	$4 855 998	$8 468 368	$3 177 785	$36 713 777

EPIDEMIC TRANSITION METRICS







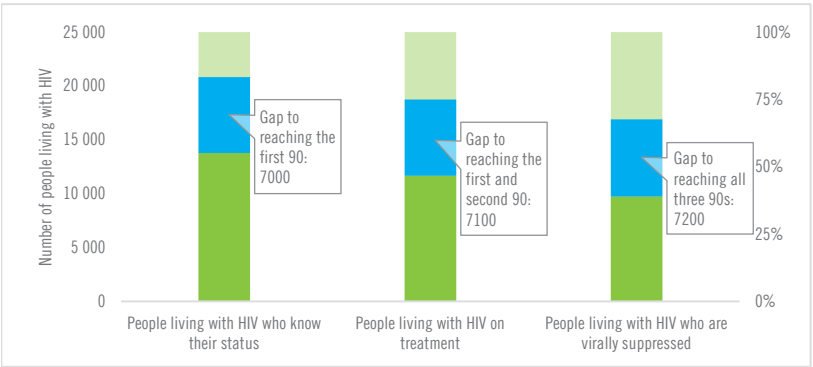


Change in new HIV infections since 2010	= 7%	Change in AIDS-related deaths since 2010	= -43%	Incidence: prevalence ratio	= 3%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	2.0%	8.4%	...	8.2%	1.7%
Know their HIV status	...	...	...	...	
Antiretroviral therapy coverage	...	...	...	...	...
Condom use	72.9%	24.7%	...	41.2%	
Coverage of HIV prevention programmes	...	70.6%	...	83.0%	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



All ages	60% [47–72%]	50% [40–61%] 11 700	42% [33–51%]
Children (0–14)	52% [42–63%]	41% [33–49%] 360	37% [30–44%]
Women (15+)	71% [57–84%]	61% [49–72%] 5400	49% [40–58%]
Men (15+)	53% [40–65%]	44% [34–55%] 5900	38% [29–47%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	49% [40–59%]	59% [48–72%]
Early infant diagnosis	65.1% [54.6–79.4%]	44.5% [36.4–53.9%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	240 [160–350]
People living with HIV who started TB preventive therapy (2017)	45.3%
Women who tested positive for HIV among those screened for cervical cancer (programme data) (2018)	13.5%
People coinfected with HIV and hepatitis B virus receiving combined treatment (2018)	100%
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment (2018)	33.3%

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.2%
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

MEXICO

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	11 000 [8800–13 000]	11 000 [8400–14 000]	11 000 [7600–14 000]
New HIV infections (0–14)	<500 [<500– <500]	<200 [<200– <500]	<200 [<200– <500]
New HIV infections (women, 15+)	1500 [1100–1800]	1400 [1100–1800]	1400 [970–1900]
New HIV infections (men, 15+)	9200 [7300–11 000]	9600 [7200–12 000]	9300 [6500–12 000]
HIV incidence per 1000 population	0.09 [0.08–0.11]	0.09 [0.07–0.11]	0.08 [0.06–0.11]
AIDS-related deaths			
AIDS-related deaths (all ages)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (0–14)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (women, 15+)	... [...–...]	... [...–...]	... [...–...]
AIDS-related deaths (men, 15+)	... [...–...]	... [...–...]	... [...–...]
People living with HIV			
People living with HIV (all ages)	180 000 [150 000–210 000]	210 000 [180 000–240 000]	230 000 [200 000–270 000]
People living with HIV (0–14)	2600 [2200–3100]	2500 [2100–3000]	2300 [1900–2600]
People living with HIV (women, 15+)	28 000 [24 000–33 000]	33 000 [29 000–38 000]	37 000 [32 000–42 000]
People living with HIV (men, 15+)	150 000 [130 000–170 000]	180 000 [150 000–200 000]	190 000 [170 000–220 000]
HIV prevalence (15–49)	0.2 [0.2–0.3]	0.2 [0.2–0.3]	0.2 [0.2–0.3]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No, but prosecutions exist based on general criminal laws
Criminalization of sex work among consenting adults	Issue is determined/differs at subnational level
Criminalization of same-sex sexual acts	No specific legislation
Drug use or possession for personal use is an offence	The law allows possession of a certain amount of drugs
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 18 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

	2015
Percentage of women aged 15–49 years who report discriminatory attitudes towards people living with HIV	15.4
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

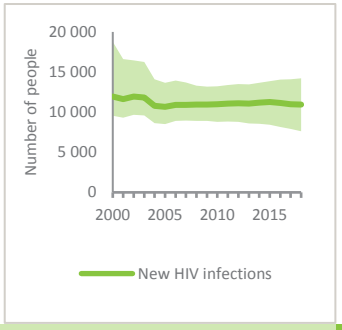
VIOLENCE

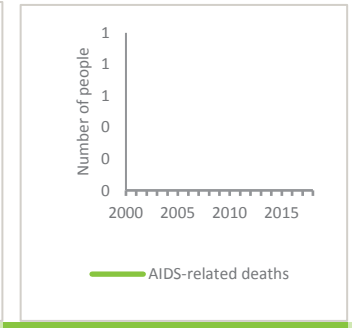
	2011	2016
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	6.5	8.1

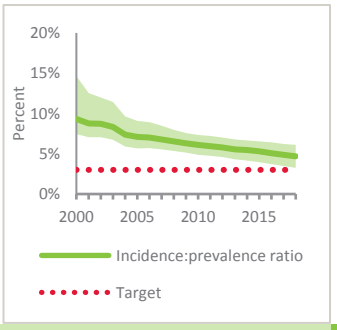
EXPENDITURES

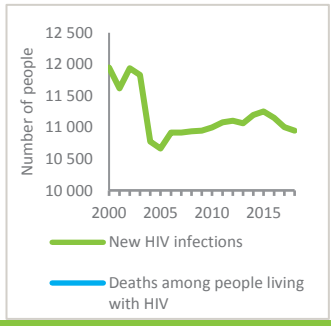
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2015	$67 939 646	$867 060 986	...	...	$1 190 948	$936 191 579

EPIDEMIC TRANSITION METRICS







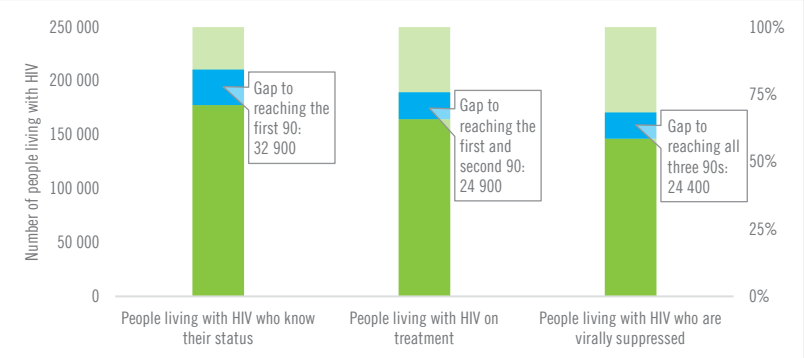


Change in new HIV infections since 2010	= 0%	Change in AIDS-related deaths since 2010	=	Incidence: prevalence ratio	= 5%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	240 000	1 200 000	...	120 000	200 000
HIV prevalence	1.0%	12.6%	4.3%	8.7%	0.7%
Know their HIV status	65.8%	39.8%	...	62.3%	
Antiretroviral therapy coverage	...	...	...	...	...
Condom use	84.4%	65.3%	...	74.9%	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (2015)	$2 896 831	$12 296 685	$1 744 656		

HIV TESTING AND TREATMENT CASCADE



All ages	76% [65–86%]	70% [60–80%] 165 000	63% [53–71%]
Children (0–14)	...% [...–...%]	...% [...–...%] ...	...% [...–...%]
Women (15+)	...% [...–...%]	...% [...–...%] ...	...% [...–...%]
Men (15+)	...% [...–...%]	...% [...–...%] ...	...% [...–...%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	...% [...–...%]	...% [...–...%]
Early infant diagnosis	...% [...–...%]	...% [...–...%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	3500 [2700 –4500]
People living with HIV who started TB preventive therapy (2017)	2.3%
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	...
Knowledge of HIV prevention among young people aged 15–24 years (2015)	
— Women	31.3%
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects (2018)	6
— Coverage of opioid substitution therapy (2018)	9.3%
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

NICARAGUA

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	580 [<500–800]	<500 [<500–680]	<500 [<500–620]
New HIV infections (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
New HIV infections (women, 15+)	<200 [<200– <500]	<200 [<100– <200]	<200 [<100– <200]
New HIV infections (men, 15+)	<500 [<500– <500]	<500 [<500– <500]	<500 [<200– <500]
HIV incidence per 1000 population	0.1 [0.08–0.14]	0.08 [0.05–0.11]	0.07 [0.04–0.1]
AIDS-related deaths			
AIDS-related deaths (all ages)	<500 [<200– <500]	<500 [<200– <500]	<200 [<200– <500]
AIDS-related deaths (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<100 [<100– <200]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (men, 15+)	<200 [<100– <500]	<200 [<100– <500]	<200 [<100– <200]
People living with HIV			
People living with HIV (all ages)	7900 [6500–10 000]	8900 [7200–12 000]	9400 [7600–12 000]
People living with HIV (0–14)	<500 [<200– <500]	<500 [<200– <500]	<500 [<200– <500]
People living with HIV (women, 15+)	2500 [2000–3200]	2900 [2300–3800]	3000 [2500–3900]
People living with HIV (men, 15+)	5200 [4100–6600]	5800 [4600–7400]	6100 [5000–7900]
HIV prevalence (15–49)	0.2 [0.2–0.3]	0.2 [0.2–0.3]	0.2 [0.2–0.3]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	No specific legislation
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as non-criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	No
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	No

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV

Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	**2013** 4
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	**2013** 8.1

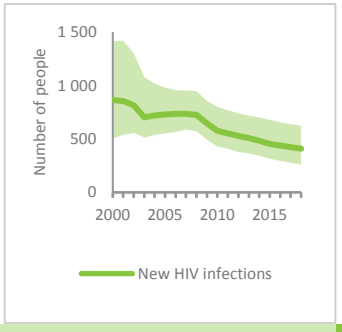
VIOLENCE

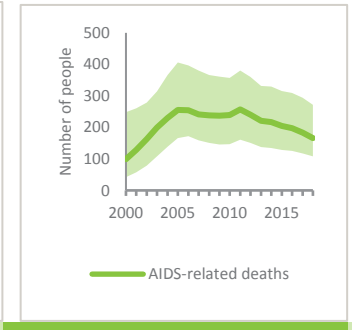
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months

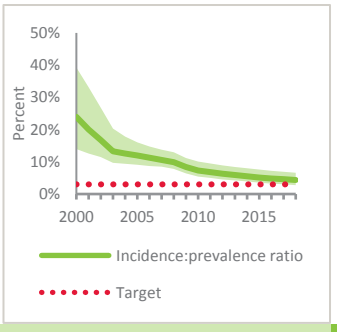
EXPENDITURES

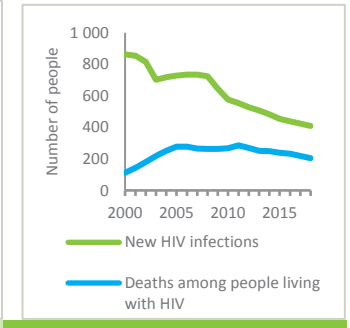
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2010	$1 150 592	$9 682 304	...	$9 155 592	$2 793 096	$24 894 867

EPIDEMIC TRANSITION METRICS







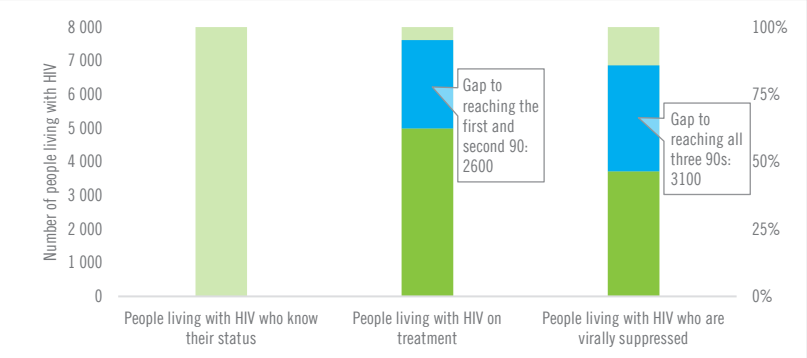


Change in new HIV infections since 2010	= -29%	Change in AIDS-related deaths since 2010	= -31%	Incidence: prevalence ratio	= 4%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	2.6%	8.6%	...	8.1%	0.3%
Know their HIV status	83.0%	95.8%	...	93.5%	
Antiretroviral therapy coverage	...	...	...	...	...
Condom use	92.1%	55.1%	...	60.4%	
Coverage of HIV prevention programmes	88.4%	70.8%	...	87.4%	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



All ages	...% [...–...%]	53% [43–68%] 5000	40% [32–51%]
Children (0–14)	...% [...–...%]	55% [41–76%] 120	31% [24–43%]
Women (15+)	...% [...–...%]	54% [44–68%] 1600	39% [32–50%]
Men (15+)	...% [...–...%]	53% [43–68%] 3200	40% [32–51%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	60% [48–80%]	90% [73– >95%]
Early infant diagnosis	38.7% [29.1–48.7%]	77.2% [60.3– >95%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	140 [88–200]
People living with HIV who started TB preventive therapy (2017)	21.3%
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment (2018)	100%
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment (2018)	100%

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.1%
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

PANAMA

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	1400 [1300–1500]	1400 [1300–1600]	1300 [1100–1400]
New HIV infections (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
New HIV infections (women, 15+)	<500 [<500– <500]	<500 [<500– <500]	<500 [<500– <500]
New HIV infections (men, 15+)	980 [840–1100]	980 [830–1100]	900 [750–1000]
HIV incidence per 1000 population	0.4 [0.36–0.44]	0.37 [0.32–0.4]	0.32 [0.28–0.36]
AIDS-related deaths			
AIDS-related deaths (all ages)	<500 [<500–570]	550 [<500–650]	<500 [<500–530]
AIDS-related deaths (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<200 [<200– <200]	<200 [<200– <500]	<200 [<200– <200]
AIDS-related deaths (men, 15+)	<500 [<500– <500]	<500 [<500– <500]	<500 [<500– <500]
People living with HIV			
People living with HIV (all ages)	20 000 [18 000–22 000]	24 000 [22 000–26 000]	26 000 [24 000–29 000]
People living with HIV (0–14)	<500 [<500– <500]	<500 [<500– <500]	<500 [<500– <500]
People living with HIV (women, 15+)	5900 [5300–6400]	7200 [6500–7900]	8000 [7200–8700]
People living with HIV (men, 15+)	14 000 [12 000–15 000]	17 000 [15 000–19 000]	18 000 [16 000–20 000]
HIV prevalence (15–49)	0.8 [0.8–0.9]	0.9 [0.8–1]	0.9 [0.8–1]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	Yes
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	No specific legislation
Drug use or possession for personal use is an offence	The law allows possession of a certain amount of drugs
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 16 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	Yes

STIGMA AND DISCRIMINATION

	2013
Percentage of women aged 15–49 years who report discriminatory attitudes towards people living with HIV	36.5
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

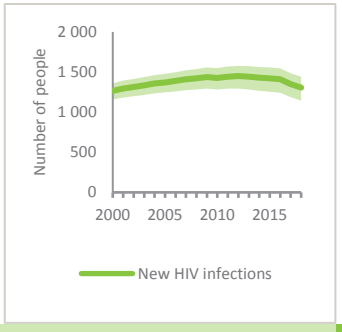
VIOLENCE

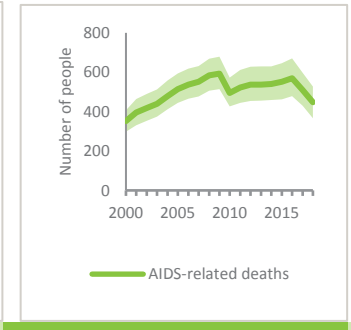
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months

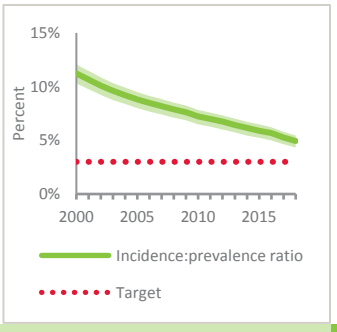
EXPENDITURES

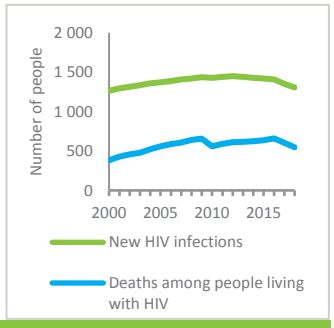
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2012	$25 136 198	$19 286 886	$2 020 143	$919 786	$472 003	$47 835 016

EPIDEMIC TRANSITION METRICS









Change in new HIV infections since 2010 = -8%

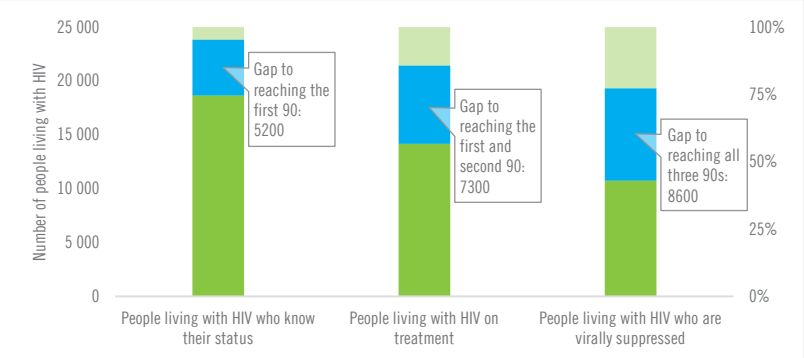
Change in AIDS-related deaths since 2010 = -9%

Incidence: prevalence ratio = 5%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	0.6%	6.7%	...	29.6%	1.1%
Know their HIV status	96.9%	99.2%	...	95.9%	
Antiretroviral therapy coverage	...	93.7%	...	...	92.4%
Condom use	97.0%	80.6%	...	80.0%	
Coverage of HIV prevention programmes	99.0%	97.9%	...	97.0%	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



All ages	70% [64–77%]	54% [48–59%] 14 200	41% [37–45%]
Children (0–14)	81% [73–90%]	76% [69–84%] 200	58% [52–64%]
Women (15+)	56% [50–61%]	45% [41–49%] 3600	37% [34–41%]
Men (15+)	77% [68–86%]	57% [50–64%] 10 400	42% [37–47%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	80% [71–91%]	92% [83– >95%]
Early infant diagnosis	48.4% [42.9–55.0%]	90.1% [82.4– >95%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	400 [310–510]
People living with HIV who started TB preventive therapy (2017)	11.2%
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment	...
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.5%
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

PARAGUAY

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	1200 [850–1900]	1200 [810–1900]	1100 [690–1700]
New HIV infections (0–14)	<100 [<100– <200]	<100 [<100– <200]	<100 [<100– <100]
New HIV infections (women, 15+)	<500 [<500–530]	<500 [<500–510]	<500 [<200– <500]
New HIV infections (men, 15+)	820 [580–1400]	830 [560–1300]	750 [<500–1200]
HIV incidence per 1000 population	0.2 [0.14–0.31]	0.18 [0.12–0.29]	0.16 [0.1–0.25]
AIDS-related deaths			
AIDS-related deaths (all ages)	790 [540–1200]	810 [530–1300]	720 [<500–1200]
AIDS-related deaths (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<200 [<200– <500]	<200 [<200– <500]	<200 [<200– <500]
AIDS-related deaths (men, 15+)	550 [<500–810]	590 [<500–980]	<500 [<500–850]
People living with HIV			
People living with HIV (all ages)	20 000 [14 000–27 000]	21 000 [16 000–30 000]	21 000 [16 000–31 000]
People living with HIV (0–14)	<500 [<500–660]	<500 [<500–680]	<500 [<500–640]
People living with HIV (women, 15+)	5700 [4300–8000]	6200 [4700–8800]	6400 [4900–9000]
People living with HIV (men, 15+)	14 000 [10 000–19 000]	14 000 [11 000–20 000]	14 000 [11 000–21 000]
HIV prevalence (15–49)	0.5 [0.4–0.8]	0.5 [0.4–0.7]	0.5 [0.3–0.7]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No, but prosecutions exist based on general criminal laws
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	Possession of drugs for personal use or drug use and/or consumption are specified as criminal offences
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	Yes
Parental consent for adolescents to access HIV testing	No
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	Yes

STIGMA AND DISCRIMINATION

Percentage of women aged 15–49 years who report discriminatory attitudes towards people living with HIV	**2016** 35
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	**2016** 16.5
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	**2016** 19.8

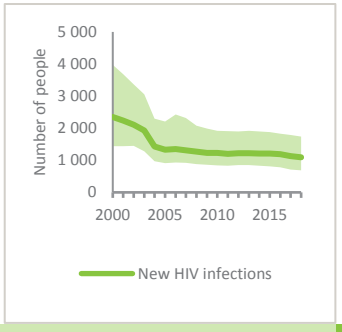
VIOLENCE

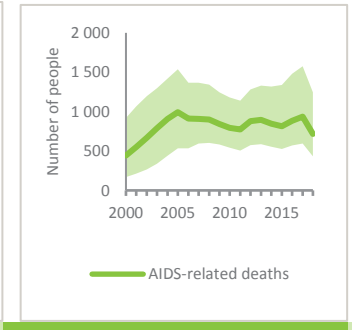
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	

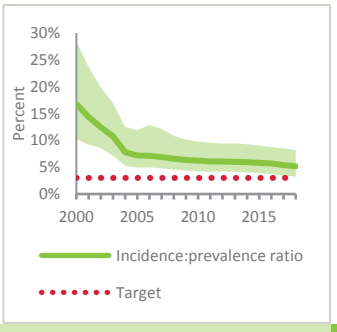
EXPENDITURES

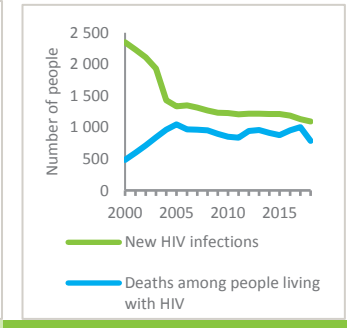
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2013	$1 133 010	$10 841 743	...	$2 932 872	$22 020	$14 941 352

EPIDEMIC TRANSITION METRICS







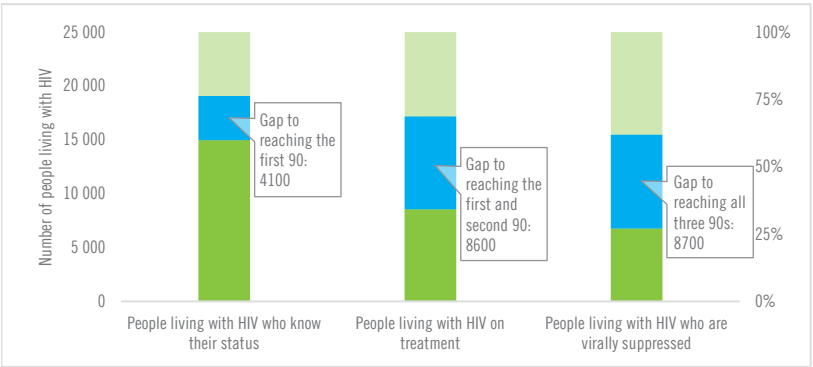


Change in new HIV infections since 2010	= -11%	Change in AIDS-related deaths since 2010	= -10%	Incidence: prevalence ratio	= 5%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	1.3%	20.7%	...	23.0%	...
Know their HIV status	78.8%	80.3%	...	86.9%	
Antiretroviral therapy coverage	...	26.1%	...	...	...
Condom use	96.0%	66.8%	...	54.3%	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	5.0%	16.6%	...	6.3%	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



All ages	71% [54– >95%]	40% [31–58%] 8500	32% [25–46%]
Children (0–14)	75% [50– >95%]	43% [28–68%] 170	26% [17–41%]
Women (15+)	84% [64– >95%]	43% [33–61%] 2800	34% [26–48%]
Men (15+)	65% [49–94%]	39% [29–57%] 5600	31% [24–45%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	43% [28–67%]	88% [60– >95%]
Early infant diagnosis	24.9% [15.8–38.5%]	59.8% [39.9–87.5%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	260 [220–300]
People living with HIV who started TB preventive therapy (2017)	9.8%
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment (2017)	96.5%
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.3%
Knowledge of HIV prevention among young people aged 15–24 years (2016)	
— Women	27.5%
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period	...
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

PERU

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	3500 [2200–5900]	3500 [2100–5800]	3300 [1900–5800]
New HIV infections (0–14)	<200 [<200– <500]	<200 [<100– <500]	<200 [<100– <500]
New HIV infections (women, 15+)	690 [<500–1100]	710 [<500–1200]	700 [<500–1200]
New HIV infections (men, 15+)	2600 [1600–4400]	2600 [1600–4400]	2500 [1500–4400]
HIV incidence per 1000 population	0.12 [0.08–0.2]	0.11 [0.07–0.19]	0.1 [0.06–0.18]
AIDS-related deaths			
AIDS-related deaths (all ages)	2100 [1400–3300]	1300 [790–2400]	1000 [650–1900]
AIDS-related deaths (0–14)	<200 [<100– <500]	<100 [<100– <200]	<100 [<100– <200]
AIDS-related deaths (women, 15+)	<500 [<200– <500]	<200 [<100– <500]	<200 [<200– <500]
AIDS-related deaths (men, 15+)	1700 [1100–2600]	1100 [630–2100]	790 [<500–1500]
People living with HIV			
People living with HIV (all ages)	65 000 [49 000–91 000]	74 000 [56 000–100 000]	79 000 [58 000–110 000]
People living with HIV (0–14)	1900 [1500–2600]	1600 [1200–2300]	1600 [1100–2300]
People living with HIV (women, 15+)	14 000 [11 000–19 000]	17 000 [13 000–23 000]	18 000 [13 000–25 000]
People living with HIV (men, 15+)	49 000 [37 000–69 000]	56 000 [42 000–78 000]	59 000 [43 000–84 000]
HIV prevalence (15–49)	0.3 [0.3–0.5]	0.3 [0.2–0.4]	0.3 [0.2–0.4]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No, but prosecutions exist based on general criminal laws
Criminalization of sex work among consenting adults	...
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	...
Criminalization of transgender people	...
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	Yes, for adolescents younger than 18 years
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	Yes

STIGMA AND DISCRIMINATION

Percentage of women and men aged 15–49 years who report discriminatory attitudes towards people living with HIV	
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

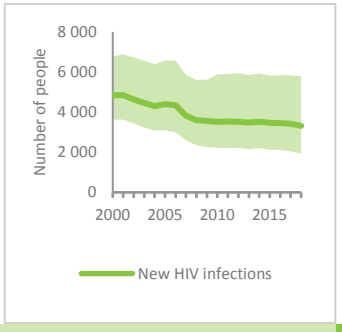
VIOLENCE

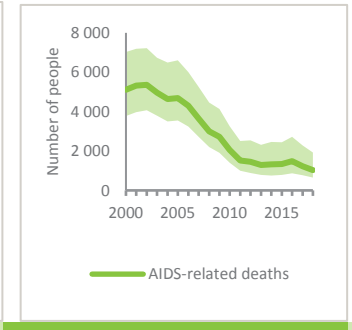
	2010	2016
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	13.9	10.8

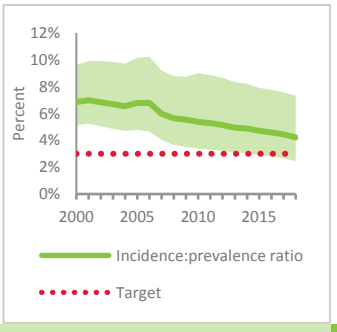
EXPENDITURES

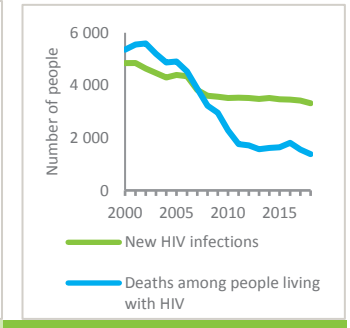
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2014	...	$78 148 248	...	...	...	$78 148 248

EPIDEMIC TRANSITION METRICS







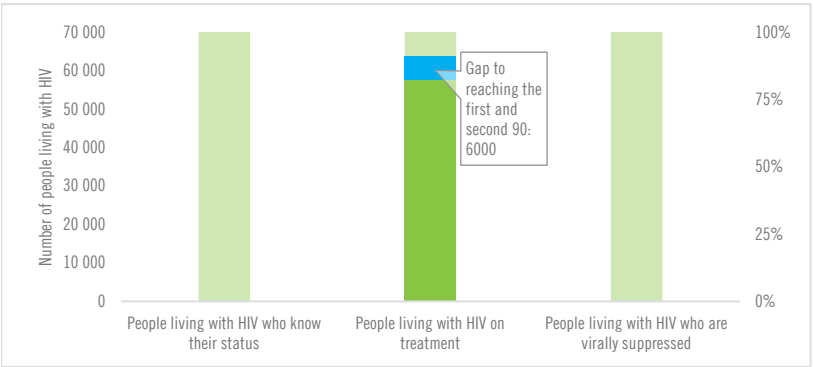


Change in new HIV infections since 2010	= -6%	Change in AIDS-related deaths since 2010	= -50%
Incidence: prevalence ratio	= 4%		

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	...	...	...	...	...
HIV prevalence	0.7%	3.0%	...	2.3%	0.5%
Know their HIV status	29.4%	...	...	...	
Antiretroviral therapy coverage	...	...	...	...	81.1%
Condom use	90.5%	...	...	...	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



All ages	...% [...–...%]	73% [54– >95%] 57 800	...% [...–...%]
Children (0–14)	...% [...–...%]	48% [34–70%] 740	...% [...–...%]
Women (15+)	...% [...–...%]	78% [58– >95%] 14 100	...% [...–...%]
Men (15+)	...% [...–...%]	73% [53– >95%] 43 000	...% [...–...%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	41% [33–56%]	85% [67– >95%]
Early infant diagnosis	...% [...–...%]	82.2% [62.1– >95%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	1800 [1400 –2300]
People living with HIV who started TB preventive therapy (2017)	16.1%
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment (2018)	100%
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment	...

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	...
Knowledge of HIV prevention among young people aged 15–24 years (2016)	
— Women	75.3%
— Men	0%
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods (2017)	39%
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period (2018)	544
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	...
— Safe injection rooms available (2019)	...

URUGUAY

COUNTRY DATA

EPIDEMIC ESTIMATES

	2010	2015	2018
New HIV infections			
New HIV infections (all ages)	810 [510–1100]	810 [<500–1300]	890 [<500–1600]
New HIV infections (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
New HIV infections (women, 15+)	<500 [<200– <500]	<500 [<200– <500]	<500 [<100– <500]
New HIV infections (men, 15+)	570 [<500–810]	590 [<500–970]	670 [<500–1200]
HIV incidence per 1000 population	0.24 [0.15–0.34]	0.24 [0.12–0.39]	0.26 [0.11–0.47]
AIDS-related deaths			
AIDS-related deaths (all ages)	<500 [<200– <500]	<200 [<100– <500]	<200 [<100– <500]
AIDS-related deaths (0–14)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (women, 15+)	<100 [<100– <100]	<100 [<100– <100]	<100 [<100– <100]
AIDS-related deaths (men, 15+)	<500 [<200– <500]	<200 [<100– <200]	<200 [<100– <500]
People living with HIV			
People living with HIV (all ages)	9600 [8000–11 000]	12 000 [9300–15 000]	14 000 [9900–19 000]
People living with HIV (0–14)	<200 [<200– <200]	<200 [<200– <200]	<200 [<100– <200]
People living with HIV (women, 15+)	2800 [2400–3200]	3600 [2800–4500]	4000 [3000–5300]
People living with HIV (men, 15+)	6700 [5300–8000]	8600 [6300–11 000]	9900 [6700–13 000]
HIV prevalence (15–49)	0.5 [0.4–0.5]	0.5 [0.4–0.7]	0.6 [0.4–0.8]

LAWS AND POLICIES

Laws criminalizing the transmission of, non-disclosure of or exposure to HIV transmission	No
Criminalization of sex work among consenting adults	Sex work is not subject to punitive regulations or is not criminalized
Criminalization of same-sex sexual acts	Laws penalizing same-sex sexual acts have been decriminalized or never existed
Drug use or possession for personal use is an offence	No
Criminalization of transgender people	Neither criminalized nor prosecuted
Laws or policies restricting the entry, stay and residence of people living with HIV	No
Parental consent for adolescents to access HIV testing	No
Spousal consent for married women to access sexual and reproductive health services	No
Mandatory HIV testing for marriage, work or residence permits or for certain groups	Yes

STIGMA AND DISCRIMINATION

	2013
Percentage of women aged 15–49 years who report discriminatory attitudes towards people living with HIV	12.7
Percentage of people living with HIV denied health services because of their HIV status in the last 12 months	
Percentage of people living with HIV who reported a health-care professional told others about their HIV status without their consent	

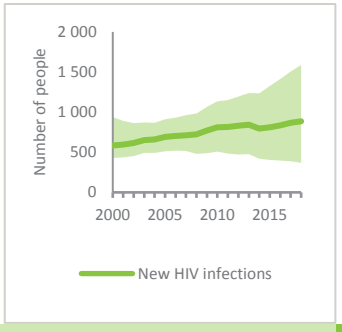
VIOLENCE

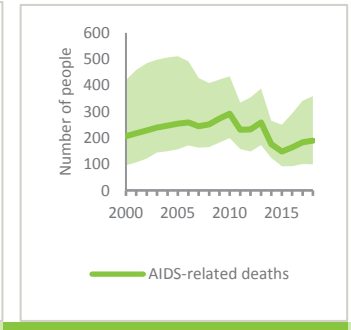
Proportion of ever-married or partnered women aged 15–49 years who experienced physical or sexual violence from a male intimate partner in the past 12 months	

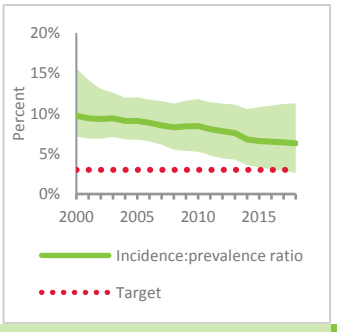
EXPENDITURES

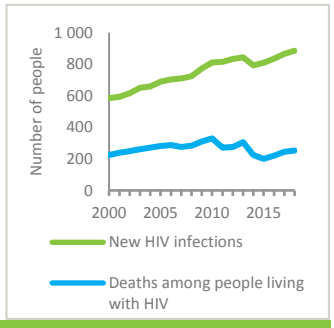
	Financing sources					
	Domestic private	Domestic public	International: PEPFAR	International: Global Fund	International: all others	Total
Last available report: 2007	$6 543 398	$6 851 169	...	...	$291 464	$14 077 809

EPIDEMIC TRANSITION METRICS







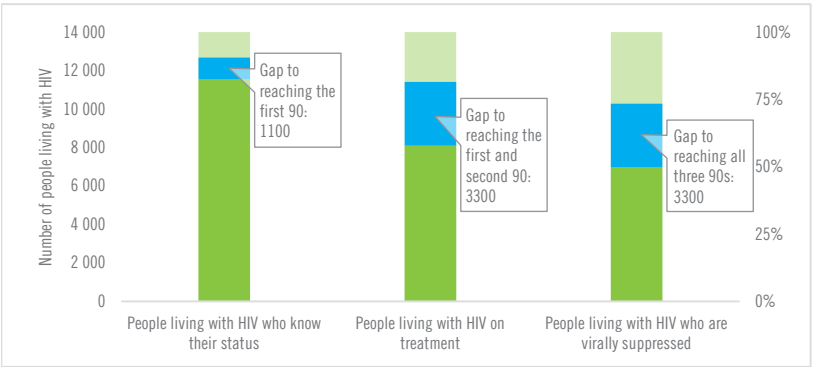


Change in new HIV infections since 2010	= 9%	Change in AIDS-related deaths since 2010	= -35%	Incidence: prevalence ratio	= 6%

KEY POPULATIONS

	Sex workers	Gay men and other men who have sex with men	People who inject drugs	Transgender people	Prisoners
Estimated size of population	6900	25 000	...	1600	...
HIV prevalence	1.0%	8.5%	...	...	1.3%
Know their HIV status	...	...	...	...	
Antiretroviral therapy coverage	...	...	...	...	...
Condom use	...	...	...	...	
Coverage of HIV prevention programmes	...	...	...	...	
Avoidance of health care because of stigma and discrimination	...	...	...	...	
Expenditures (0)	...	...	...		

HIV TESTING AND TREATMENT CASCADE



All ages	82% [58– >95%]	58% [41–76%] 8100	50% [35–65%]
Children (0–14)	64% [47–90%]	64% [47–90%] 80	64% [47–90%]
Women (15+)	>95% [73– >95%]	73% [54– >95%] 2900	72% [53– >95%]
Men (15+)	75% [51– >95%]	51% [35–69%] 5100	40% [27–55%]

ELIMINATION OF MOTHER-TO-CHILD TRANSMISSION

	2010	2018
Percentage of pregnant women living with HIV accessing antiretroviral medicines	>95% [89– >95%]	>95% [71– >95%]
Early infant diagnosis	66.1% [55.0–80.0%]	75.0% [56.4– >95%]

HIV COMORBIDITIES

Estimated number of incident tuberculosis cases among people living with HIV (2017)	170 [140–190]
People living with HIV who started TB preventive therapy (2017)	...
Cervical cancer screening of women living with HIV	...
People coinfected with HIV and hepatitis B virus receiving combined treatment (2018)	100%
People coinfected with HIV and hepatitis C virus starting hepatitis C treatment (2018)	9.6%

HIV PREVENTION

Adults aged 15+ years with unsuppressed viral load	0.3%
Knowledge of HIV prevention among young people aged 15–24 years	
— Women	...
— Men	...
Condom use at last sex with a non-marital, non-cohabiting partner	
— Women	...
— Men	...
Women aged 15–49 years who have their demand for family planning satisfied by modern methods	...
Men aged 15–49 years who are circumcised	Not applicable
Voluntary medical male circumcisions performed according to national standards	Not applicable
People who received PrEP at least once during the reporting period (2018)	54
Harm reduction	
— Use of sterile injecting equipment at last injection	...
— Needles and syringes distributed per person who injects	...
— Coverage of opioid substitution therapy	...
— Naloxone available (2019)	No
— Safe injection rooms available (2019)	No

ANNEX ON METHODS

METHODS FOR DERIVING UNAIDS HIV ESTIMATES

INTRODUCTION

UNAIDS annually provides revised global, regional and country-specific modelled estimates using the best available epidemiological and programmatic data to track the HIV epidemic. Modelled estimates are required because it is impossible to count the exact number of people living with HIV, people who are newly infected with HIV or people who have died from AIDS-related causes in any country: doing so would require regularly testing every person for HIV and investigating all deaths, which is logistically impossible and ethically problematic. Modelled estimates—and the lower and upper bounds around these estimates—provide a scientifically appropriate way of describing HIV epidemic levels and trends.

PARTNERSHIPS IN DEVELOPING METHODS FOR UNAIDS ESTIMATES

Country teams use UNAIDS-supported software to develop estimates annually. The country teams are primarily comprised of demographers, epidemiologists, monitoring and evaluation specialists, and technical partners.

The software used to produce the estimates is Spectrum, which is developed by Avenir Health, and the Estimates and Projections Package, which is developed by the East–West Center.[1] The UNAIDS Reference Group on Estimates, Modelling and Projections provides technical guidance on the development of the HIV component of the software.[2]

1 More information on Avenir Health can be found at www.avenirhealth.org. The East–West Center website can be found at www.eastwestcenter.org.

2 For more on the UNAIDS Reference Group on Estimates, Modelling and Projections, please visit www.epidem.org.

A BRIEF DESCRIPTION OF METHODS USED BY UNAIDS TO CREATE ESTIMATES[3]

For countries where HIV transmission is high enough to sustain an epidemic in the general population, available epidemiological data typically consist of HIV prevalence results from pregnant women attending antenatal clinics and from nationally representative population-based surveys. Many countries have historically conducted HIV sentinel surveillance among women attending antenatal clinics, which requires collecting data from a selection of clinics for a few months every few years. More recently, a number of countries have stopped conducting sentinel surveillance among pregnant women and are now using the data from the routine HIV tests conducted when pregnant women attend antenatal clinics and are tested for HIV. These data avoid the need to conduct a separate surveillance effort, and they provide a complete set of data from all clinics across the country instead of samples from specific sites.

The trends from pregnant women at antenatal clinics, whether done through surveillance or routine data, can be used to inform estimates of national prevalence trends, whereas data from population-based surveys—which are conducted less frequently but have broader geographical coverage and also include men—are more useful for informing estimates of national HIV prevalence levels. Data from these surveys also contribute to estimating age- and sex-specific HIV prevalence and incidence levels and trends. For a few countries in sub-Saharan Africa that have not conducted population-based surveys, HIV prevalence levels are adjusted based on comparisons of antenatal clinic surveillance and population-based survey data from other countries in the region. HIV prevalence trends and numbers of people on antiretroviral therapy are then used to derive an estimate of HIV incidence trends.

Historically, countries with high HIV transmission have produced separate HIV prevalence and incidence trends for rural and urban areas when there are well-established geographical differences in prevalence. To better describe and account for further geographical heterogeneity, an increasing number of countries have produced subnational estimates (e.g., at the level of the province or state) that, in some cases, also account for rural and urban differences. These subnational or rural–urban estimates and trends are then aggregated to obtain national estimates.

In the remaining countries, where HIV transmission occurs largely among key populations at higher risk of HIV and the epidemic can be described as low-level, the estimates are derived from either surveillance among key populations and the general, low-risk population, or from HIV case reporting data, depending on which data are most reliable in a particular country. In countries with high-quality HIV surveillance data among the key populations, the data from repeated HIV prevalence studies that are focused on key populations are used to derive national estimates and trends. Estimates of the size of key populations are increasingly derived empirically in each country; when studies are not available, they are derived based on regional values and consensus among experts. Other data sources—including HIV case reporting data, population-based surveys and surveillance among pregnant women—are used to estimate the HIV prevalence in the general, low-risk population. The HIV prevalence curves and numbers of people on antiretroviral therapy are then used to derive national HIV incidence trends.

For most countries in western and central Europe and North America—and many countries in Latin America, the Caribbean, and the Middle East and North Africa that have insufficient HIV surveillance or survey data, but that have robust disease reporting systems—HIV case reporting and AIDS-related mortality data from vital registration systems are directly used to inform trends and levels in national HIV prevalence and incidence. These methods also allow countries to take into account evidence of underreporting or reporting delays in HIV case report data, as well as the misclassification of deaths from AIDS-related causes.

In all countries where UNAIDS supports the development of estimates, assumptions about the effectiveness of HIV programme scale-up and patterns of HIV transmission and disease progression are used to obtain the following age- and sex-specific estimates of people living with HIV, people newly infected with HIV, people dying from AIDS-related illness and other important indicators (including treatment programme coverage statistics). These assumptions are based on

3 A full description of the methods used for the 2019 estimates is available in the July 2019 supplement of the journal AIDS.

systematic literature reviews and analyses of raw study data by scientific experts. Demographic population data, including fertility estimates, are derived from the United Nations Population Division's World Population Prospects 2017 data files.

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

Final country-submitted files containing the modelled outputs are reviewed at UNAIDS to ensure that the results are comparable across regions and countries and over time.

In 2019, sub-national estimates were created and used by more than 25 countries for internal planning purposes. The methods for producing robust sub-national estimates varies by country and depends primarily on the availability of sub-national data. Four methods were used (Mathematical modelling, Model-based geo-statistics, small area estimation and direct estimates from prevalence surveys) to derive the sub-national estimates. The methods to generate robust sub-national estimates are still being refined.

UNCERTAINTY BOUNDS AROUND UNAIDS ESTIMATES

The estimation software calculates uncertainty bounds around each estimate. These bounds define the range within which the true value lies (if it can be measured). Narrow bounds indicate that an estimate is precise, while wide bounds indicate greater uncertainty regarding the estimate.

In countries using HIV surveillance data, the quantity and source of the data available partly determine the precision of the estimates: countries with more HIV surveillance data have smaller ranges than countries with less surveillance data or smaller sample sizes. Countries in which a national population-based survey has been conducted generally have smaller ranges around estimates than countries where such surveys have not been conducted. Countries producing subnational estimates at the provincial level have wider ranges. In countries using HIV case reporting and AIDS-related mortality data, the number of years of data and the magnitude of the cases reported or AIDS-related deaths observed will contribute to determining the precision of the estimate.

The assumptions required to arrive at the estimate also contribute to the extent of the ranges around the estimates: in brief, the more assumptions, the wider the uncertainty range, since each assumption introduces additional uncertainties. For example, the ranges around the estimates of adult HIV prevalence are smaller than those around the estimates of HIV incidence among children, which require additional data on prevalence among pregnant women and the probability of mother-to-child HIV transmission that have their own additional uncertainty.

UNAIDS is confident that the actual numbers of people living with HIV, people who are newly infected with HIV or people who have died from AIDS-related causes lie within the reported ranges. Over time, more and better data from countries will steadily reduce uncertainty.

IMPROVEMENTS INCLUDED IN THE 2019 UNAIDS ESTIMATES MODEL

Country teams create new Spectrum files every year. The files may differ from one year to the next for two reasons. First, new surveillance and programme data are entered into the model; this can change HIV prevalence and incidence trends over time or antiretroviral therapy coverage rates, including for past years. Second, improvements are incorporated into the model based on the latest available science and statistical methods, which leads to the creation of more accurate trends in HIV incidence. Due to these improvements to the model and the addition of new data to create the estimates, the results from previous years cannot be compared with the results from this year. A full historical set of estimates are created each year, however, enabling a description of trends over time.

Between the 2018 estimates and the 2019 estimates, the following changes were applied to the model

under the guidance of the UNAIDS Reference Group on Estimates, Modelling and Projections and based on the latest scientific evidence.

New incidence estimation model for generalized epidemics

In 2019, a new model (R-hybrid) was introduced that uses an improved function to estimate the rate of HIV infection during different phases of the HIV epidemic. For estimating infections early in the epidemic, when data were relatively sparse, the new model has a simple structure that follows the consistent pattern across countries of exponential growth, peak and decline. For more recent years the model has more flexibility to follow the increased amount of data to shape the trends in new infections. This new model improves the fit to existing prevalence data, especially for recent routine testing data from antenatal clinics.

The previous incidence estimation model used in generalized epidemics assumed HIV prevalence stabilized at the last observed value. The impact of adopting the R-hybrid model will be minimal in countries with substantial historical surveillance data and recent surveys, but in countries with few data points early in the epidemic or in recent years, the R-hybrid model should improve the fit to available data.

Mortality among people not receiving treatment

Assumptions of the risk of mortality among people not receiving treatment were reduced based on high quality vital registration data where fewer AIDS-related deaths among the untreated HIV positive adults were recorded than predicted by Spectrum.

The impact of this change is lower mortality rates among people not receiving treatment and fewer AIDS-related deaths overall.

Mortality among people receiving antiretroviral therapy

Previously, the model assumed that mortality rates following antiretroviral therapy initiation are constant over time, conditional on age, sex, baseline CD4 count and duration on treatment. However, recent studies have shown that these rates have declined over time, even after controlling for temporal changes in baseline CD4 count and treatment duration. A temporal reduction in mortality was included in the model as estimated from the IeDEA cohort data.

IeDEA data were also reanalysed for Latin America, North America, and Asia and the Pacific with improved assumptions about mortality among those lost to follow-up. This resulted in substantially lower mortality rates than previously estimated. In countries with high-quality mortality data, on- and off-treatment mortality were adjusted to match AIDS-related deaths. An option to specify allocation of treatment disproportionately to either those with low CD4 counts or according to eligibility criteria was introduced to better match the low number of AIDS-related mortality data observed in western and central Europe.

Fertility among women living with HIV

The 2019 Spectrum model included updated parameters about the fertility of women living with HIV who were not receiving antiretroviral therapy. The new parameters led to higher fertility among women living with HIV early in the epidemic, before treatment was provided to HIV-positive pregnant women. This adjustment increased historical estimates of children living with HIV.

In the 2019 model, HIV prevalence data from routine testing among pregnant women at antenatal clinics were used to calibrate the estimated births to women living with HIV. This increased the estimates in some countries and decreased the values in others. There is still some work to be done to ensure the country programme data used for this calibration are robust.

Breastfeeding among women living with HIV

New analysis of survey data done in early 2019 found that women who were living with HV before widespread HIV testing and treatment had shorter breastfeeding duration. The model previously assumed that women who did not know their HIV status had similar breastfeeding patterns as women who were HIV-negative.

In 2019, eight high-burden countries in eastern southern Africa with household surveys from the early 2000s adjusted the breastfeeding duration among

undiagnosed women living with HIV to reflect the new analysis. The impact of this change is reduced mother–to–child transmission during breastfeeding.

Probability of mother-to-child transmission

Analysis conducted for the UNAIDS Reference Group on Estimates, Modelling and Projections found minor updated transmission probabilities based on the latest published literature about the impact of different antiretroviral regimens on mother-to-child transmission. This had minimal impact on the child HIV estimates.

Updated age at initiation of antiretroviral therapy for children

The average age of children starting antiretroviral therapy has changed over the years as children are diagnosed earlier. Data from the IeDEA and CIPHER networks provide data on the average age of children starting antiretroviral therapy in multiple regions around the world. These data are available for each calendar year from 2002 through 2016. The most recent update of these data suggested an increase in the proportion of children under two years of age starting on treatment and a small reduction to the proportion of children older than 10 years of age starting on treatment. This has a small impact on both the number of children living with HIV and on AIDS-related deaths among children.

Retention on treatment of pregnant women

Many countries do not have robust data available on the retention of women on treatment during pregnancy. An analysis conducted for the UNAIDS Reference Group on Estimates, Modelling and Projections suggested that at the time of delivery, only 80% of women were retained on treatment. This estimate was used as a default value for women already on treatment before the pregnancy and for those women who started treatment during the pregnancy. Most of the high-burden countries in eastern and southern Africa updated this assumption to reflect available data. Previously, the default assumption was that 75% of women were retained on treatment at delivery before the pregnancy.

Changes to case surveillance and vital registration model

The age range of requested model inputs of new diagnoses, CD4 count at diagnosis and AIDS-related mortality was changed from all ages to 15 years and older. It was recommended that AIDS-related death estimates (adjusted for incomplete reporting and misclassification) rather than raw AIDS-related deaths from the vital registration system be used in the fitting process. A new function was added to estimate new diagnosis based on age, sex and year. Also, a new r-logistic fitting approach was added. Complementing this new model is another function that provides the user with the ability to determine which model best fits the inputs.

Surveillance data entered into the model

In 2018, Nigeria conducted a large household survey to improve the precision of the estimate of HIV prevalence in the country. The Nigeria AIDS Indicator and Impact Survey (NAIIS) found lower HIV prevalence than previous household surveys. The new survey estimates were included in the Nigeria Spectrum models and previous survey data were removed, resulting in a shift in HIV prevalence to a lower level over the full history of the epidemic. This change also shifted the estimated prevalence in western and central Africa to slightly lower levels.

At the global level, trends in new HIV infections, AIDS-related deaths and people living with HIV are similar to previous estimates, although there are shifts within regions. The number of AIDS-related deaths has shifted downward in all regions due to changes in the models. New HIV infections are slightly flatter than estimated in 2018 in Asia and the Pacific and in eastern Europe and central Asia. Lower estimates of people living with HIV in western and central Africa were offset by higher estimates in Asia and the Pacific.

More detailed information on revisions to the 2019 model and Spectrum generally can be found at www.epidem.org.

PUBLICATION OF COUNTRY-SPECIFIC ESTIMATES

UNAIDS aims to publish estimates for all countries with populations of 250 000 or more ((according to the United Nations Population Division 2017 World Population Prospects). For the countries with populations of 250 000 or more that did not submit estimates, UNAIDS developed estimates using the Spectrum software based on published or otherwise available information. These estimates contributed to regional and global totals but were not published as country-specific estimates.

In countries with low-level epidemics, the number of pregnant women living with HIV is difficult to estimate. Many women living with HIV in these countries are sex workers or people who use drugs—or they are the sexual partners of people who use drugs or gay men and other men who have sex with men—making them likely to have different fertility levels than the general population. UNAIDS does not present estimates of mother-to-child HIV transmission, including estimates related to children in some countries that have concentrated epidemics, unless adequate data are available to validate these estimates. UNAIDS also does not publish estimates related to children for countries where the estimated number of pregnant women living with HIV is less than 50.

With regard to reporting incidence trends, if there are not enough historical data to state with confidence whether a decline in incidence has occurred, UNAIDS will only publish data for the most recent year. This is done to prevent users from making inaccurate inferences about trends. Specifically, incidence trends are not published if there are fewer than four data points for the key population or if there have been no data for the past four years for countries using repeated survey or routine testing data. Trends prior to 2000 are not published for countries using case surveillance models if there are no early case surveillance or mortality data available.

Finally, UNAIDS does not publish country estimates when further data or analyses are needed to produce justifiable estimates. More information on the UNAIDS estimates and the individual Spectrum files for most countries can be found in the UNAIDS website. Data from the estimates can be found in the AIDSinfo section of the UNAIDS website (http://aidsinfo.unaids.org). ■

METHODS FOR DERIVING THE 90–90–90 TARGETS

INTRODUCTION

Since 2015, UNAIDS has reported estimates of global, regional and country-specific progress against the 90–90–90 targets. Progress toward these targets is monitored using three basic indicators:

- Indicator 1 (the first 90): The percentage of people living with HIV who know their HIV status.
- Indicator 2 (the second 90): The percentage of people living with HIV who know their status and are accessing treatment.
- Indicator 3 (the third 90): The percentage of people living with HIV on treatment who have suppressed viral loads.

Indicators 2 and 3 can also be expressed as a percentage of all people living with HIV. When numbers or coverage of the treatment target are expressed relative to the total number of people living with HIV, this is called "the HIV testing and treatment cascade."—therapy Annual estimates of antiretroviral therapy coverage among people living with HIV are available from the time when treatment was first introduced in countries.

DATA SOURCES FOR CONSTRUCTING COUNTRY MEASURES

Country-level progress against the 90–90–90 targets was constructed using reported data from Spectrum, the Global AIDS Monitoring tool and (for selected countries in western and central Europe)) the Dublin Declaration monitoring process. Estimates are published for all people and separately, by sex, for children (0 to 14 years) and for adults (15 years and older). Upper and lower ranges of uncertainty for country-level estimates were calculated from the range of estimated numbers of people living with HIV. This range may not fully capture uncertainty in the reported estimates.

A description of the target-related indicators that countries report against is provided in the UNAIDS 2019 Global AIDS Monitoring guidelines *(1)*. Data sources are also briefly described. A summary of the number of countries that are publicly reporting on each measure is provided in Table 18.1, organized by region.

The final set of country measures of progress against the 90–90–90 targets for 2015 through 2018 are available at http://aidsinfo.unaids.org. Not all countries were able to report against all three prongs of the 90–90–90 targets: complete treatment cascades are published for 60 countries in 2018, up from 23 in 2015.

Estimates of people living with HIV

All progress measures in this report are based on UNAIDS global, regional and country-specific modelled estimates from Spectrum of the numbers of people living with HIV. Estimates of people living with HIV in 2018 were available for 170 of 193 countries and territories and published for 137. Estimates of people living with HIV are developed for all countries with populations above 250 000.

More details about how UNAIDS derives estimates and uncertainty bounds around the number of people living with HIV can be found in Part 1 of this annex. Published country estimates of people living with HIV (available http://aidsinfo.unaids.org)the) represent 79% of the total global estimated number of people living with HIV in 2018.

Knowledge of HIV status among people living with HIV

Estimates of the number of people living with HIV who know their status were derived using the most recent HIV surveillance, programme data and nationally representative population-based survey data, and from modelled 2018 estimates for 102 countries. Where data were available separately for children (aged 0–14 years) and adults (aged 15 years and older, by sex), the age- and sex-specific measures were first calculated and then aggregated to produce a national measure.

For 74 countries in 2018—primarily outside of eastern and southern Africa and western and central Africa—the number of people living with HIV who knew their HIV status is based on HIV surveillance case notification data, programme registers or modelled estimates derived from case surveillance data. If the estimate from these sources was lower than the number of people accessing antiretroviral therapy, the reported value was excluded. For countries using HIV surveillance or programme data, a country should have included this measure only if the HIV surveillance system had been functioning since at least 2013 and people who have died, emigrated or who otherwise have been lost to follow-up are removed.

Although HIV surveillance systems, including those based on programme registers, can be a reasonably robust source of data to estimate the number of people living with HIV who know their status, biases in the reported numbers may still exist. For example, a country's measure of the knowledge of status may be underestimated if not all people diagnosed are reported to the surveillance system in a timely manner; the measure also may be overestimated if people are reported to the system or included on a register more than once and these duplicates are not detected. Similarly, if people die or emigrate but are not removed from the system, the number of people living with HIV who are reported to know their HIV status also will be overstated.

For 28 countries in eastern and southern Africa and western and central Africa, estimates of the numbers of people living with HIV who knew their status were derived using a new UNAIDS-supported mathematical model called the First 90 model. This model uses population-based survey and HIV testing service program data—together with country-specific HIV epidemic parameters from the standard UNAIDS Spectrum model—to produce outputs of knowledge of HIV status for adults, by sex. More details on the modelling approach are available in a forthcoming article (currently in press) *(2)*.

Knowledge of HIV status from the First 90 model for eastern and southern Africa and western and central Africa has a number of strengths compared with UNAIDS' previously recommended approach to estimating knowledge of status relying on population survey data and programme treatment coverage data. Most importantly, the new model differentiates in the population survey data those who are aware of their HIV status and those who likely seroconverted after their last HIV-negative test based on national incidence trends. This approach constrains the upper bound of the proportion of people living with HIV ever tested in the survey who likely knew their HIV status at the time of the survey, thus producing a more accurate estimate of the first 90. Results of the proportion of people who know their HIV status from the model are also available by sex, assuming male-to-female testing ratios have remained relatively constant over time. Estimates of knowledge of status by sex for adults are also available since 2010.

An important model limitation, similar to the previously recommended approach, is that caution should be used in interpreting results when the last population-based survey was conducted more than five years ago or if there are concerns about the accuracy of self-reported testing history in the survey. Model results also are only for those aged 15 years and older. UNAIDS continues to recommend that countries conservatively estimate knowledge of status among children as the proportion of children living with HIV on treatment (unless other information from case surveillance data are available). Additional strengths and limitations of the model are described in the forthcoming article referenced earlier in this section.

People accessing antiretroviral therapy

Global and regional measures of antiretroviral therapy numbers are abstracted from country-reported programme data through the UNAIDS-supported Spectrum software, the Global AIDS Monitoring reporting tool, and the Dublin Declaration reporting process. In 2018, 143 countries had publicly available estimates of the number of people on treatment, representing 85% of all people on treatment. For the small number of countries where reported numbers of people on treatment are not available in selected years—primarily in western and central Europe and North America, and inin China, India and the Russian Federation—estimates of the number of people on treatment are developed either in consultation with the public health agency responsible for monitoring the national treatment programme or based on published sources.

In partnership with UNICEF, WHO, the Government of the United States, the Global Fund and other partners that support treatment service delivery in countries, UNAIDS annually reviews and validates treatment numbers reported by countries through Global AIDS Monitoring and Spectrum. UNAIDS staff also provide technical assistance and training to country public health and clinical officers to ensure the quality of the treatment data reported. Nevertheless, this measure may overestimate the number of people on treatment if people who transfer from one facility to another are reported by both facilities. Similarly, coverage may be overestimated if people who have died, disengaged from care or emigrated are not identified and removed from treatment registries. Treatment numbers also may be underestimated if not all clinics report the numbers on treatment completely or in a timely manner.

In 2016, UNAIDS completed a triangulation of data to verify the UNAIDS global estimate of people accessing antiretroviral therapy at the end of 2015. Since early 2017, UNAIDS and other international partners have supported more than 15 countries, primarily in sub-Saharan Africa, to verify that the number of people reported to be currently on treatment is accurate. For more details about how confident UNAIDS is in reported treatment numbers, please see *How many people living with HIV access treatment?*[4]

People who have achieved viral suppression

Progress towards the viral suppression target among people on treatment and as a proportion of all people living with HIV was derived from data reported in Spectrum and through the online Global AIDS Monitoring reporting tool and the Dublin Declaration reporting process. For the purposes of reporting, the threshold for suppression is a viral load of less than 1000 copies per ml, although some countries may set lower thresholds or require persons to achieve an undetectable viral load. This guidance also specifies only a person's last test result from the reporting year be submitted, so the reported number suppressed among those tested should represent people and not tests performed.

UNAIDS2019 Global AIDS Monitoring guidelines were revised from those of 2018 to clarify that countries should report viral load suppression outcomes, regardless of testing coverage. However, viral load testing results will only be published in countries where access to testing is for all or nearly all (>90%) people on treatment or nationally representative (typically 50–90% testing coverage). Table 1 shows the increase in the number of countries able to report on viral load suppression compared to previous years. In 2015, only 26 countries had reliable estimates; in 2018, there were 76 countries with reported data.

For countries with nationally representative but not universally accessible access to treatment, the estimate of viral suppression among those tested (i.e., the third 90) was multiplied by the number of people on treatment to obtain overall viral suppression levels in the country. Countries where testing coverage was 90% or higher reported only the number suppressed among all people on treatment.

A number of challenges exist in using country-reported data to monitor the viral load suppression target. First, routine viral load testing may not be offered at all treatment facilities, and those facilities that do offer it may not be representative of the care available at facilities without viral load testing. By assuming that the percentage of people suppressed among those accessing viral load testing is representative of all people on treatment countries that do not have complete access to testing, the measure may be overestimated or underestimated (depending on the characteristics of the reporting clinics).

4 The document is available at http://www.unaids.org/en/resources/documents/2016/how-many-people-living-with-HIV-access-treatment.

TABLE 1 Data availability for constructing UNAIDS measures of progress against the 90–90–90 treatment targets

		Asia and the Pacific	Caribbean	Eastern Europe and central Asia	Eastern and southern Africa	Latin America	Middle East and North Africa	Western and central Africa	Western and central Europe and North America	Global
Number of countries		38	16	16	21	17	20	25	40	193
Number of countries in UNAIDS global estimates		28	10	16	20	17	19	24	36	170
Number of countries with publicly available data on estimates of people living with HIV	2015	20	9	12	20	16	15	24	23	139
	2016	20	9	12	20	16	15	24	24	140
	2017	20	9	12	20	16	15	24	23	139
	2018	20	9	12	20	16	15	24	21	137
Number of countries with publicly available data on knowledge of HIV status	2015	8	6	7	20	6	6	18	9	80
	2016	9	6	8	20	8	6	18	18	93
	2017	12	7	9	20	8	6	18	18	98
	2018	15	6	12	20	9	9	18	13	102
Number of countries with publicly available data on treatment	2015	20	9	13	20	16	15	24	21	138
	2016	20	9	13	20	16	15	24	23	140
	2017	21	9	13	20	16	15	24	24	142
	2018	22	9	14	20	16	17	24	21	143
Number of countries with publicly available data on people with suppressed viral load	2015	5	0	5	3	4	4	1	4	26
	2016	5	2	5	8	7	4	1	13	45
	2017	7	4	8	7	8	6	3	12	55
	2018	9	7	11	13	11	9	6	10	76

Source: UNAIDS special analysis, 2019.

Another challenge in measuring the accuracy of viral load suppression estimates is that UNAIDS guidance requests routine (i.e., annual) viral load testing results only for people who are on treatment and eligible for testing. If people newly initiated on treatment achieve viral suppression but have not yet been offered viral load testing, they will be incorrectly counted as not suppressed, and the resulting viral suppression estimate will be understated. UNAIDS also requests countries to only report results from routine viral load testing: if countries report test results primarily performed because of suspected treatment failure, the number of people virally suppressed in these countries will be underestimated. UNAIDS validates country submissions for quality, but it is not always possible to identify cases where both routine and other types of testing are occurring. Finally, UNAIDS guidance recommends reporting viral load test results only for people on antiretroviral therapy; persons who are not on treatment and naturally suppress the virus will not be included in this measure.

METHODS FOR CONSTRUCTION THE 90–90–90 TREATMENT TARGET AT THE REGIONAL AND GLOBAL LEVELS

All programme data submitted to UNAIDS were validated by UNAIDS and its partners prior to publication. Country-submitted data that did not meet the required validation checks for quality either at the indicator level or across the treatment cascade were not included in the composite regional or global measures.

To estimate regional and global progress against the 90–90–90 targets, UNAIDS imputed missing country data for the first and third 90 targets using a Bayesian hierarchical model with uncertainty based on regional trends, sex differences and country-specific data for those countries reporting data for some but not all years. Additional details on the modelling approach are available in a forthcoming article *(4)*. The proportion of data on knowledge of status and viral load suppression that was imputed by region from 2015 to 2018 are shown in Table 18.2.

Due to large differences in the proportion of people virally suppressed in western and central Europe and the United States for the years in which data were available, sub-regional estimates for North America and western and central Europe were separately calculated and then combined to estimate the western and central Europe and North America regional results at large. Upper and lower ranges of uncertainty around the global and regional estimates of the HIV testing and treatment cascade are provided that reflect uncertainty in the number of people living with HIV and uncertainty (from missing country data) in the number of people who know their HIV status and the number of people who are virally suppressed. Based on reports from data quality reviews prior to 2017, uncertainty from possible overreporting or underreporting of treatment numbers of 0.88 and 1.04 for the lower and upper bounds, respectively, was added to the bounds of treatment coverage among people living with HIV and the second and third 90s. Upper and lower ranges of uncertainty for the 90s do not capture uncertainty in the reported or missing programme data on the numbers of people who know their HIV status or the number of people on treatment who are virally suppressed.

As in previous years, results of global and regional progress towards the 90–90–90 treatment target presented in this report supersede all previously published estimates. The new approach to modelling the global and regional estimates of the first and third 90s builds on the previous UNAIDS approach, which was to calculate missing -data for countries using the ratio of knowledge of status and treatment for the first 90 and the ratio of the number of people suppressed among those on treatment in the region for countries where data were available. One of the benefits of the new approach is that it can use reported data when they are available to estimate trends in and across the region. Also, it is now possible to measure progress separately among adults by sex.

As with the previous approach, one primary drawback to the model is that it is difficult to quantify the extent to which progress in countries that reported data to UNAIDS is similar to that of countries without data in the region. This is particularly true for viral load suppression estimates, where reported data in some regions—especially in 2015 and 2016—are limited. For example, no countries in the Caribbean in 2015 were able to meet the threshold coverage of 50% testing coverage for reporting estimates of viral load suppression. In Asia and the Pacific, national-level estimates of viral load suppression are not available in any year for India and prior to 2018 for China. As access to viral load testing improves over time, the accuracy of the estimates of the third 90 will improve. ■

TABLE 2 Proportion of imputed data used to estimate the regional and global measures of the percentage of people living with HIV who know their HIV status and the percentage of people living with HIV on treatment who are virally suppressed

	Estimates of people living with HIV where knowledge of status is imputed (%)				People living with HIV on treatment where viral suppression is imputed (%)			
	2015	2016	2017	2018	2015	2016	2017	2018
Asia and the Pacific	12	8	10	51	83	84	85	56
Caribbean	7	5	5	18	100	96	63	51
Eastern Europe and central Asia	65	69	68	5	77	76	75	4
Eastern and southern Africa	0	0	0	0	58	33	46	21
Latin America	24	21	20	22	33	29	28	28
Middle East and North Africa	21	25	19	28	63	63	46	37
Western and central Africa	2	2	0	2	99	99	98	47
Western and central Europe and North America	29	4	82	95	33	6	87	98
Global	8	6	10	15	62	46	60	35

Source: UNAIDS special analysis, 2019.

DATA ON KEY POPULATIONS

DISTRIBUTION OF NEW HIV INFECTIONS BY SUBPOPULATION

The distribution of new HIV infections among subpopulations globally and by region was estimated based on data for 177 countries using five data sources.

For countries that model their HIV epidemic based on data from subpopulations, including key populations, the numbers of new infections were extracted from Spectrum 2019 files. This source provided data for sex workers from 59 countries, for people who inject drugs from 37 countries, for gay men and other men who have sex with men from 61 countries, and for transgender people from 19 countries (all of which were located in Latin America, the Caribbean and Asia and the Pacific). Additionally, 22 countries (mostly from Asia and the Pacific) had data from clients of sex workers.

The second source was mode of transmission studies conducted in countries between 2006 and 2012. The proportions of new infections estimated for each subpopulation, calculated by modes of transmission analyses, were multiplied by the number of total new gender-specific adult infections (among those aged 15–49 years) to derive an estimated number of new infections by subpopulation. This source provided data for sex workers from 18 countries, for people who inject drugs from 25 countries, and for gay men and other men who have sex with men from 22 countries.

New HIV infections for European countries with neither of the aforementioned data sources were derived from the European Centre for Disease Prevention and Control (ECDC) and WHO Regional Office for Europe HIV/AIDS surveillance in Europe 2017–2018 data *(4)*. The proportions of new diagnoses for each region in Europe (western, central and eastern) were applied to UNAIDS estimates of new infections in each country for people who inject drugs, gay men and other men who have sex with men, and transgender people. Data for sex workers were not available from the ECDC report. New HIV infections in China, India, the Russian Federation and the United States were taken from the most recent available national reports of new diagnoses.

New HIV infections among countries without a direct data source were calculated from regional benchmarks. The benchmarks were set by the median proportion of new infections in the specific subpopulation in all available countries in the same region. The majority of these countries were located in sub-Saharan Africa. There were 112 countries that used benchmark values for the sex work estimate, 92 countries for the people who inject drugs estimate, 69 countries for the gay men and other men who have sex with men estimate, and 82 countries for the transgender people estimate.

The calculated proportions of infections for each key population include the sex partners of members of key populations. New infections among sex partners of key populations were estimated using the number of sex partners and transmission probabilities from the literature.

QUALITY OF POPULATION SIZE ESTIMATES

The regional sections of this report include tables on the estimated size of key populations. These data are based on values reported through Global AIDS Monitoring in 2018. A comprehensive review of the data was conducted during this reporting round and therefore estimates should not be compared with data presented in previous UNAIDS' reports. As a result of this process, the estimates reported can be categorized as follows:

- "National population size estimate" refers to estimates that are empirically derived using one of the following methods: multiplier, capture-recapture, mapping/enumeration, network scale up method (NSUM) or population-based survey, or respondent driven sampling–successive sampling (RDS-SS). Estimates had to be national or a combination of multiple sites with a clear approach to extrapolating to a national estimate.
- "Local population size estimate" refers to estimates that are empirically derived using one of the before mentioned methods but only for a subnational group of sites that are insufficient for national extrapolation.
- "Insufficient data" refers either to estimates derived from: expert opinions, Delphi, wisdom of crowds, programmatic results or registry, regional benchmarks or unknown methods or estimates derived prior to 2010. Estimates may or may not be national. ■

REFERENCES

1. Global AIDS monitoring 2019: indicators for monitoring the 2016 United Nations Political Declaration on HIV and AIDS. Geneva: UNAIDS; 2017 (https://www.unaids.org/sites/default/files/media_asset/global-aids-monitoring_en.pdf, accessed 7 July 2019).
2. Maheu-Giroux M, Marsh K, Doyle C, Godin A, Delauney CL, Johnson LF et al. National HIV testing and diagnosis coverage in sub-Saharan Africa: a new modeling tool for estimating the "first 90" from program and survey data. AIDS. 2019. [in press]
3. Johnston LG, Sabin ML, Prybylski D, Sabin K, McFarland W, Baral S et al. Policy and practice: the importance of assessing self-reported HIV status in bio-behavioural surveys. Bull World Health Organ. 2016;94:605-12.
4. HIV infection and AIDS. Annual epidemiological report for 2017. Stockholm: European Centre for Disease Prevention and Control (ECDC); 2019 ((https://ecdc.europa.eu/sites/portal/files/documents/AER_for_2017-hiv-infection-aids_1.pdf, accessed 7 July 2019).

UNAIDS/JC2956/Latin America

UNAIDS
Joint United Nations
Programme on HIV/AIDS

20 Avenue Appia
1211 Geneva 27
Switzerland
+41 22 791 3666

unaids.org