



WORLD  
AIDS DAY  
2015

On the Fast-Track to end AIDS by 2030

# Focus on location and population



# Contents

05	Foreword
07	Introduction
	<b>Part 01</b>
14	Efficiency and effectiveness
24	Eliminating stigma and discrimination and advancing human rights
32	90–90–90
50	Voluntary medical male circumcision
58	Condoms
66	Pre-exposure prophylaxis
74	Adolescent girls and young women
82	Gay men and other men who have sex with men
92	Transgender people
100	People who inject drugs
108	Sex workers
116	Prisoners
124	Conclusion
	<b>Part 02</b>
130	<b>Where services are needed</b>
132	<i>Botswana</i>
134	<i>Brazil</i>
136	<i>Cameroon</i>
142	<i>Chad</i>
144	<i>China</i>
148	<i>Côte d'Ivoire</i>
152	<i>Democratic Republic of the Congo</i>
158	<i>Ghana</i>
162	<i>Haiti</i>
168	<i>India</i>
172	<i>Indonesia</i>
178	<i>Iran (Islamic Republic of)</i>
182	<i>Kenya</i>
188	<i>Lesotho</i>
190	<i>Malawi</i>
194	<i>Mali</i>
198	<i>Mozambique</i>
204	<i>Myanmar</i>
208	<i>Namibia</i>
214	<i>Nigeria</i>
220	<i>Pakistan</i>
226	<i>South Africa</i>
230	<i>Swaziland</i>
234	<i>Uganda</i>
238	<i>Ukraine</i>
242	<i>United Republic of Tanzania</i>
246	<i>Viet Nam</i>
250	<i>Zambia</i>
254	<i>Zimbabwe</i>
260	<b>References</b>

**THE WORLD HAS COMMITTED  
TO END THE AIDS EPIDEMIC BY 2030  
AS PART OF THE SUSTAINABLE  
DEVELOPMENT GOALS.**



# Foreword

Michel Sidibé

UNAIDS Executive Director

The world has committed to end the AIDS epidemic by 2030 as part of the Sustainable Development Goals. This ambitious yet wholly attainable objective represents an unparalleled opportunity to change the course of history for ever—something our generation must do for the generations to come.

Today, we live in fragile communities where inequities can persist when essential services don't reach the people in need. To change this dynamic we must quicken the pace of action. We know that strengthening local services to reach key populations will lead to healthier and more resilient societies.

The good news is that we have what it takes to break this epidemic and keep it from rebounding—the course set out in the new UNAIDS 2016–2021 Strategy—to prevent substantially more new HIV infections and AIDS-related deaths and to eliminate HIV-related stigma and discrimination.

Increasingly we are able to refine our efforts and be more precise in our ability to reach people who might otherwise be left behind. With this attention to location and population, countries are able to redistribute resources to improve access. With the Fast-Track approach and front-loaded investments we can expect the gaps to be closed faster. This means resources can go further to reach more people with life-changing results.

Within the pages of this World AIDS Day report, *Focus on location and population*, are more than 50 examples of how countries are getting on the Fast-Track. It shows how governments are working with community groups and international partners to scale up health and social services that put people at the centre and located where they can do more people more good.

These examples show us that ending the AIDS epidemic is achievable if we focus on people accessing the right services delivered in the right place. This report also contains nearly 100 maps that display an unprecedented amount of subnational data generated and reported by national HIV programmes.

These granular data drive the location-population approach of Fast-Track. The maps are symbols of the innovation and integration that define the sustainable development era. The 17 Sustainable Development Goals reflect a greater understanding of how our efforts to end poverty, improve global health, eliminate inequalities and address climate change are interconnected.

To leverage the power required for change, we must move forward together. Ending the AIDS epidemic means that adolescent girls and young women have access to education and appropriate HIV and sexual and reproductive health services. It means key populations, such as people who inject drugs and transgender people, have full access to health services delivered with dignity and respect. And it means that every child is born free from HIV, and that they and their mothers not only survive but thrive.

This is an exciting time in the AIDS response. We are building momentum towards a sustainable, equitable and healthy future for all.

**ENDING THE AIDS EPIDEMIC IS  
ACHIEVABLE IF WE FOCUS ON PEOPLE  
ACCESSING THE RIGHT SERVICES  
DELIVERED IN THE RIGHT PLACE.**

# Introduction

The world has committed to the Sustainable Development Goals—the objective for AIDS is absolute: ending the epidemic by 2030. This bold ambition stands on top of the foundation of an unprecedented public health and human rights response that has averted 30 million HIV infections and saw 15.8 million people accessing antiretroviral therapy.

Progress has been achieved in each region of the world. But the pace is too slow. Ending the AIDS epidemic will require extraordinary efforts in leadership, investment and focus over the next five years to deliver even more services and even greater social change. In anticipation of this challenge, UNAIDS launched a global Fast-Track initiative on World AIDS Day 2014.

One year on, this report catalogues Fast-Track initiatives from around the globe. Among these efforts, a common theme emerges: the Fast-Track approach is guided at the national level, but it is realized at the local level. Fast-Track requires cities, towns and communities to take charge of their HIV responses by analysing the nature of their epidemic and then using a location–population approach to focus their resources on evidence-informed, high-impact programmes in the geographical areas and among the populations in greatest need.

## **Ten Fast-Track Targets for 2020**

The UNAIDS 2016–2021 Strategy has established a set of three people-centred goals and 10 measurable targets that must be met by 2020 to end the AIDS epidemic by 2030 (1). The knowledge and tools exist to reach these targets. To Fast-Track, countries must recalibrate their HIV programmes to achieve these targets, hold each other accountable for results and ensure that no one is left behind.

Dozens of countries have produced investment cases and HIV response–effectiveness analyses that calculate an optimal mix of services and make specific recommendations that call for tough choices: reallocation of resources away from areas and services where there is little to be achieved, and front-loading investment in high-priority areas to achieve long-term gains.

The potential power of front-loading has been calculated for Kenya, where an estimated 1.4 million people were living with HIV and 56 000 new HIV infections occurred in 2014 (2). HIV has lowered life expectancy, deepened poverty, reduced economic growth, exacerbated hunger and worsened basic health indicators (3). Kenya's leaders have declared a Prevention Revolution—a national ambition to reach zero new HIV infections by 2030. If increases in expenditure start small and increase steadily over time, a US\$ 1 billion investment in combination HIV prevention over a 30-year period will avert 1.1 million new

infections. If that same investment is front-loaded with greater expenditure in the early years, reaping reductions in future treatment costs, the number of new infections averted will be increased by 22% (4). Front-loading changes the course of the epidemic, putting countries on a Fast-Track.

### **Comprehensive, high-impact programmes**

Part 1 of this report provides evidence of how elements of the Fast-Track approach are already being implemented successfully in various locations and with different populations. At the start of each chapter, data have been mapped to illustrate the successes and challenges of a location–population approach. These examples show that Fast-Track is a comprehensive approach by health systems working in close collaboration with civil society, including long-proven programmes such as condom promotion and distribution, harm reduction, HIV testing and antiretroviral therapy, combined with recent and emerging evidence-informed programmes such as pre-exposure prophylaxis, voluntary medical male circumcision and treatment for all people living with HIV. An increasing number of countries are integrating HIV testing and treatment services into a continuum-of-care cascade to achieve the 90–90–90 treatment targets by 2020: 90% of people (children, adolescents and adults) living with HIV know their status, 90% of people living with HIV who know their status are accessing treatment, and 90% of people on treatment have suppressed viral loads.

Mozambique has aligned its HIV testing programme to local population sizes and HIV prevalence, identifying 27% more people living with HIV while decreasing testing volume by 6%. The Blantyre district in Malawi has demonstrated the power of HIV self-testing to newly diagnose people living with HIV and enrol people into treatment. Guangxi in China has dramatically reduced AIDS-related deaths by adopting the strategy recommended by the World Health Organization of immediately offering antiretroviral therapy to all people diagnosed with HIV. Rwanda is unplugging bottlenecks towards the elimination of mother-to-child transmission of HIV. Khayelitsha in South Africa is improving HIV treatment for children through adherence clubs within a community model of care. The Sustainable East Africa Research in Community Health (SEARCH) trial in Kenya and Uganda is combining HIV testing and treatment with the delivery of a range of primary health-care services for every person within 32 rural communities in a bold effort to reduce their collective viral load to zero, stop the spread of HIV and improve overall health, education and economic productivity.

Impressive efforts are also being made to reduce new HIV infections, from Kenya's Prevention Revolution to South Africa's establishment of the world's largest condom distribution network, and from San Francisco's aggressive scale-up of pre-exposure prophylaxis among gay men and other men who have sex with men, to male circumcision being used as a gateway to HIV testing and treatment among men in Maseru, Lesotho. The global commitment to end mother-to-child transmission of HIV is linking the goals of prevention with accelerated testing and treatment strategies. Since the mid-1990s, programmes to prevent mother-to-child transmission of HIV have averted 1.4 million infections among infants (5).

## Reaching the populations in greatest need

In order for Fast-Track to be successful, services must be focused on at key populations and accessed within an enabling environment that protects individual rights and moves society towards the goal of zero discrimination. UNAIDS has identified 12 populations in danger of being left behind by the AIDS response (6), including six populations at higher risk of HIV infection: adolescent girls and young women, men who have sex with men, transgender people, people who inject drugs, prisoners and sex workers. The importance of each of these populations varies by region and within countries. For example, in southern Africa, age-disparate intergenerational sexual relationships and transactional sex place adolescent girls and young women at extremely high risk of HIV (7); in eastern Europe and central Asia, most new HIV infections are associated with people who inject drugs (6); and in the Latin American and Caribbean regions, the largest proportion of new HIV infections is among men who have sex with men (6).

Decriminalization of possession of small quantities of drugs is increasing access to services and reducing new infections among people who inject drugs in the Netherlands, Portugal and Switzerland (8). Social media and mobile dating applications are boosting HIV prevention among men who have sex with men in Guatemala City. Transgender sex workers in Uruguay are advocating for full access to health and social services. Sensitization education of health-care workers is reducing stigma and discrimination in Thailand. Sex workers in Namibia are collecting and using strategic information to advocate for improved HIV services and to work with the local police to reduce harassment and violence.

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### 12 populations that have been left behind by the AIDS response

01. *People living with HIV*
02. *Adolescent girls and young women*
03. *Prisoners*
04. *Migrants*
05. *People who inject drugs*
06. *Sex workers*
07. *Gay men and other men who have sex with men*
08. *Transgender people*
09. *Children and pregnant women living with HIV*
10. *Displaced persons*
11. *People with disabilities*
12. *People aged 50 years and older*

Source: The gap report. Geneva: UNAIDS; 2014.

All 12 populations require special efforts to counteract the social determinants that increase their vulnerability to unemployment and homelessness and limit their access to health care, education and other social services. The desperate struggle of people displaced by conflict has been thrust into the international spotlight by waves of women, men and children seeking refuge in Europe. In sub-Saharan Africa, conflict and post-conflict traumas are laced with elevated risk of AIDS-related illness and death. In the Central African Republic, conflict has destroyed 43% of health facilities and displaced thousands of people, resulting in the loss to follow-up of a third of people accessing antiretroviral therapy. Political and religious leaders, civil society groups and youth associations in the Central African Republic have backed a special effort to reconnect people living with HIV to treatment services—and by September 2015, 1374 people had been located and re-enrolled into treatment.

### **Granular data drive a location-population approach**

An unprecedented amount of subnational data generated and reported by national HIV programmes have been compiled within this report. Part 2 presents maps of data from the first and second subnational administrative levels for 29 of the 35 Fast-Track priority countries that account for 90% of the total burden of new HIV infections globally. The maps reveal where new infections are occurring, where antiretroviral therapy and other service gaps are largest, where key populations are in need of prevention services and where discriminatory attitudes persist. HIV programme managers at the local, national and regional levels are using the data in these maps to identify and address programmatic gaps.

### **Cities critical to the Fast-Track approach**

Cities contain large proportions of the total number of people living with HIV in Fast-Track countries. Urbanization involves substantial, often abrupt shifts in social systems, values and communal structures of authority, resulting in higher rates of premarital and non-spousal sex. The vibrancy, stress and anonymity of urban life, and its bustle of encounters and interactions, provide increased opportunities for behaviours and sexual networking that may increase the risk of HIV infection (9).

At the same time, cities offer the density and economies of scale, institutional response frameworks, public and private sector infrastructure and health systems that can help to address the AIDS epidemic in a more effective manner and make a critical contribution to national and international efforts to ending the AIDS epidemic (9).

## **Transforming exceptions to norms to end the AIDS epidemic**

The case studies and maps within this report demonstrate the power of a Fast-Track approach. Fast-Track is happening, but in too few places. Leadership and investment are required within more communities, more cities and more countries to replicate these examples at a global scale and build the momentum required to achieve the 10 Fast-Track Targets by 2020 and realize the target within the Sustainable Development Goals to end the AIDS epidemic as a public health threat by 2030.





# Part 01

# Efficiency and effectiveness

Getting on the Fast-Track will require additional investment—and wiser use of that investment.

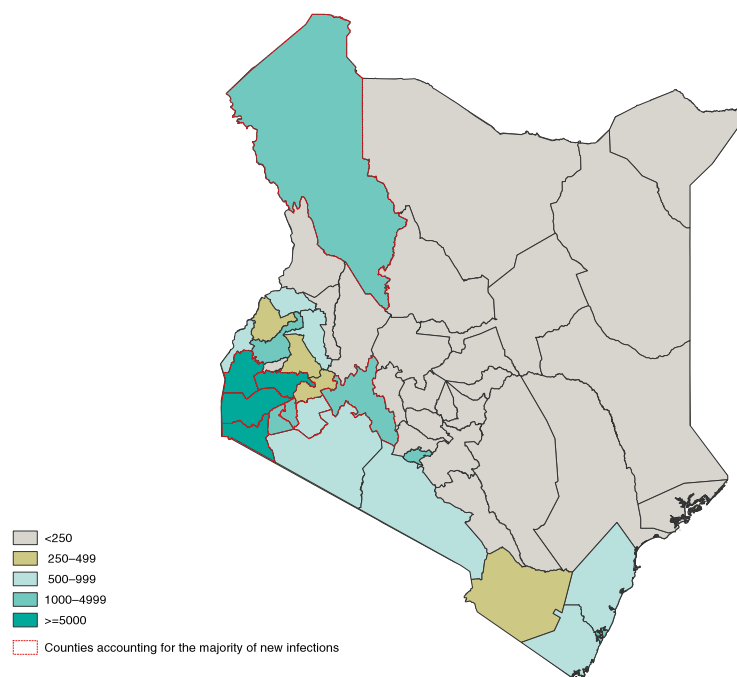
Reaching the targets in the UNAIDS 2016–2021 Strategy will require an estimated US\$ 31.1 billion globally in 2020. This estimate assumes that significant efficiency gains and reductions in commodity costs will be achieved.

Increasing evidence suggests that the provision of HIV services within many countries have not been aligned to the locations and populations with the greatest disease burden. For example, recent studies show large variations in the unit costs

Figure 1

## Estimated new HIV infections in Kenya, 2014

Sixty-five per cent of new HIV infections in Kenya occurred in nine of the East African country's 47 counties: Bomet, Homo Bay, Kisii, Kisumu, Migori, Nakuru, Nyamira, Siaya and Turkana. Kenya's Prevention Revolution calls for a paradigm shift in the national HIV response, moving it from a one-size-fits-all approach to one that is population-driven and geographically focused. A combination HIV prevention strategy focused on priority geographic areas and populations—combined with increasing coverage of antiretroviral therapy—could avert more than 1.1 million new HIV infections and more than 760 000 AIDS-related deaths by 2030.



Sources: UNAIDS estimates; Kenya Ministry of Health.

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## FAST-TRACK TARGET

- ▶ *US\$ 31.1 billion invested in the global HIV response in 2020.*
- 

## FAST FACT

- ▶ *An estimated US\$ 20 billion was spent on the global HIV response in 2014.*
- 

## CHALLENGES AT A GLANCE

- ▶ **Wrong services:** resources are not allocated towards scaling up the programmes that are most cost-effective within the local context.
  - ▶ **Wrong places:** resources are not focused in locations with the highest HIV burden.
  - ▶ **Wrong people:** resources are not focused on the populations with the greatest need.
  - ▶ **Wrong way:** high-impact HIV services are not delivered in a way that meets the needs of the target population or at the lowest possible cost. For example, inefficient procurement of antiretroviral medicines can dramatically raise the cost of HIV treatment.
  - ▶ **Resistance to change:** efficiency analyses have been conducted in many countries, but the tough decisions required to follow up on the resulting recommendations have not always been made.
- 

of services within countries—a strong sign of a potential for efficiency gains. Similarly, analyses of testing yield by facility show that an important proportion of facilities yield no or very few HIV diagnoses, indicating that efficiencies are possible if the placement of HIV testing sites is reconsidered (1). Making optimal use of available funding to achieve the greatest health and human rights returns from the resources available is critical.

Investment cases and similar efficiency analyses are increasingly being conducted at national and subnational levels to guide the reallocation of available resources in a way that minimizes new HIV infections and AIDS-related deaths. These analyses primarily focus on whether the most effective HIV programmes are being implemented and if they target the appropriate populations and geographic areas.

Moving forward, national and local leaders must make tough decisions about reallocating resources according to the results of these efficiency analyses. Additional efforts also are needed to do things the right way—optimizing how HIV services are delivered.

### **Kenya's Prevention Revolution**

Women in Kenya are disproportionately affected by HIV: they accounted for nearly 60% of adult new infections in 2013 and had an HIV prevalence of 7.6% (compared to 5.6% for men) (2). Frustrated by the persistence of this imbalance, the National AIDS Control Council and the Ministry of Health's National AIDS and STI Control Programme joined forces with religious leaders, international supporters and women's representatives from all over the country in 2014 to declare a national ambition to reach zero new HIV infections by 2030. This "Prevention Revolution" calls for a paradigm shift in Kenya's response, moving it from a one-size-fits-all approach driven by the health sector to one that is population-driven and geographically focused. This new approach emphasizes a combination HIV prevention package that includes biomedical, behavioural and structural interventions that "make HIV prevention everyone's business" (2).

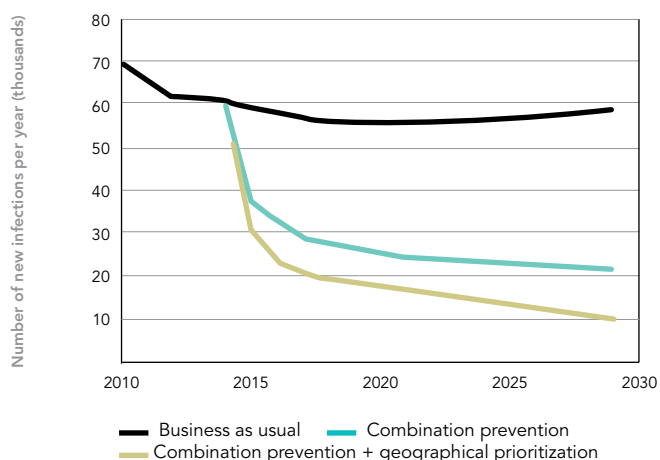
An analysis of epidemiological data found that just nine of Kenya's 47 counties account for an estimated 65% of all new HIV infections (Figure 1), and that HIV prevalence among key populations is extremely high: 29% among sex workers, 18% among men who have sex with men and 18% among people who inject drugs. A combination HIV prevention strategy—combined with increasing coverage of antiretroviral therapy to 90% of eligible people living with HIV—could reduce the number of new HIV infections by 66%. Prioritizing this same approach in the geographical areas in greatest need would reduce the number of new HIV infections by 80% (Figure 2).<sup>1</sup> Achieving these results would require an additional investment of US\$ 110 million in 2015 and more than US\$ 500 million by 2020 (3).

The analysis and the Prevention Revolution Roadmap provided important input for Kenya's HIV response strategy for 2014–2019. The United States President's Emergency Plan for AIDS Relief (PEPFAR) and other partners are supporting the Kenyan health system to "scale up to saturation" in eight of the priority counties, with the goal of reaching 80% coverage of antiretroviral therapy for all people living with HIV by 2017. These eight counties are estimated to contribute 51% of new HIV infections in the country; they also are estimated to be the home of 50% of people living with HIV, 53% of pregnant women living with HIV, 50% of female sex workers, 58% of men who have sex with men and 45% of unmet treatment need. Another 12 counties have been designated for "aggressive scale-up" by end of 2018. They contribute to an additional 30% of new infections, 30% of people living with HIV, 29% of pregnant women living with HIV, 28% of female sex workers, 29% of men who have sex with men and 36% of unmet treatment need (1).

1. Antiretroviral therapy eligibility in Kenya was <CD4 350 at the time of the analysis.

Figure 2

### Projected rate of new HIV infections over time nationally



Source: Kenya HIV Prevention Revolution road map: count down to 2030. Nairobi: Kenya Ministry of Health; 2014.

### Geographic and population focus and improving implementation in Zimbabwe

The achievements of Zimbabwe’s HIV response are among the most remarkable in southern Africa. From 2004 to 2014, the number of people accessing antiretroviral therapy increased from 11 800 to 788 000. Similarly, new HIV infections declined by 46% between 2002 and 2014, and HIV prevalence fell from 25.9% in 2002 to 16.7% in 2014 (4).

To build on these accomplishments and put the country on track to end the AIDS epidemic, the National AIDS Council worked with partners to develop a second-generation investment case—an efficiency analysis of the HIV response within the context of the country’s health delivery system as a whole. Several investment scenarios were developed, and it was determined that simply maintaining the current level of services would see the loss of hard-fought gains: annual new infections would double between 2015 and 2025, and annual AIDS-related deaths would climb from about 60 000 to nearly 90 000 over the same period (5).

Maintaining business as usual was clearly a poor option. In contrast, optimizing the HIV response—including better geographic focus and prioritization of high-impact programmes, plus increasing investment by 30% over the next decade—could put Zimbabwe on track to avert 560 000 new infections and 291 000 AIDS-related deaths by 2030 (5) (Figure 3).

Key partners are adjusting their support in line with the investment case. Hotspot mapping by the National AIDS Council and analysis of service yield data by PEPFAR are improving the geographic focus of key services. HIV testing yield data at 1724 PEPFAR-supported sites and community-based services show that just 30% of sites had identified around 80% of all newly diagnosed people living with HIV during the period October 2013 to September 2014 (Figure 4). Forty-nine sites did not identify any new HIV cases during that time, and 123 sites identified fewer than four HIV-positive people (1).

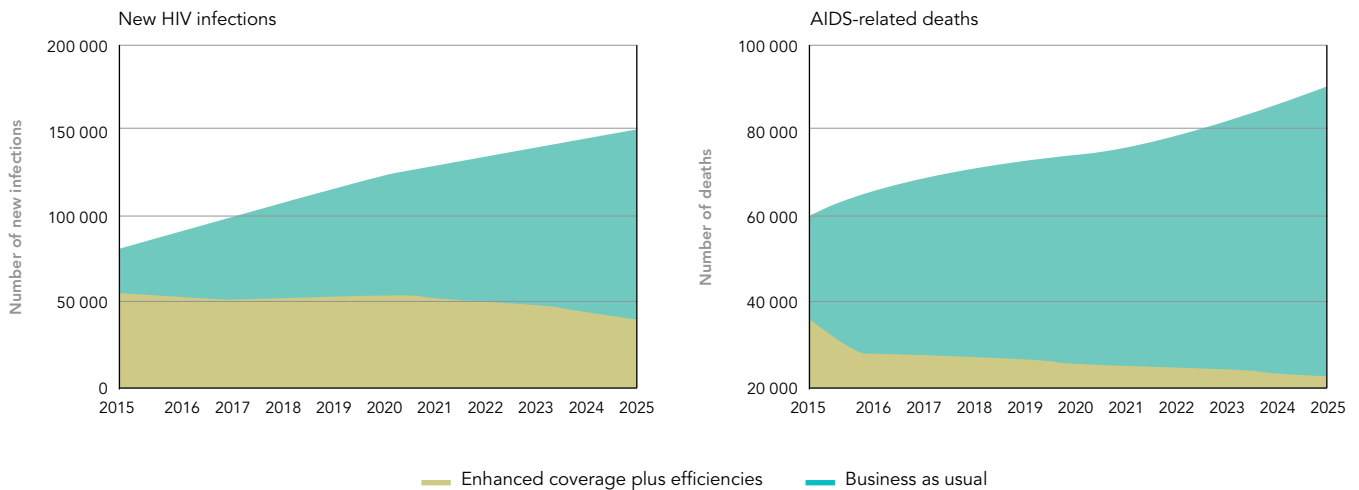
As a result of this analysis, PEPFAR is focusing future support on the 36 districts—including the major urban centres of Bulawayo, Chitunguza, Harare and Mutare—that are home to an estimated 80% of people living with HIV. Within these districts, high-volume sites will receive additional PEPFAR support, while support for lower-yield sites will be reduced to overarching activities (such as the distribution of antiretroviral medicines and technical assistance to ensure that patients continue to receive quality services). The target is to reach 80% coverage of treatment in these districts by 2017 (1), complementing the service scale-up supported by the Global Fund, domestic financing raised through the AIDS levy and the efforts of other partners.

### Focusing investments on populations with the greatest need in Sudan

Domestic investment in the AIDS response has declined in Sudan. Between 2011 and 2013, domestic public funding for the national HIV response declined from US\$ 6.6 million to US\$ 3.7 million, while international funding declined from US\$ 14.5 million to US\$ 9.1 million (6).

Figure 3

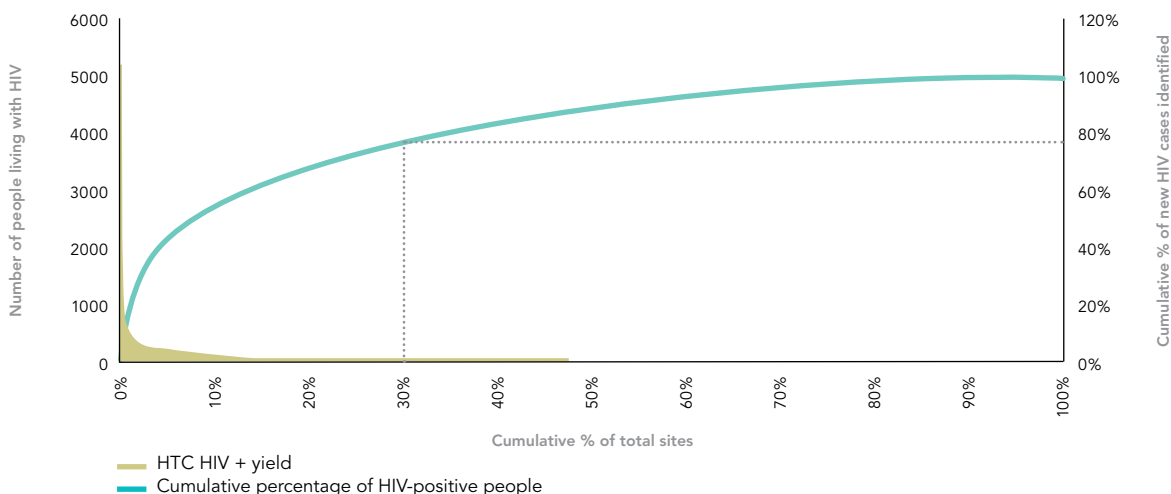
### Two scenarios for Zimbabwe, 2015–2025: business as usual vs. enhanced coverage with efficiencies



Source: Discussion paper: towards a “second generation” HIV investment case for Zimbabwe. Harare: Government of Zimbabwe and UNAIDS; 2015.

Figure 4

**HIV diagnoses yield from PEPFAR-supported testing sites, Zimbabwe, 2014**



Source: PEPFAR

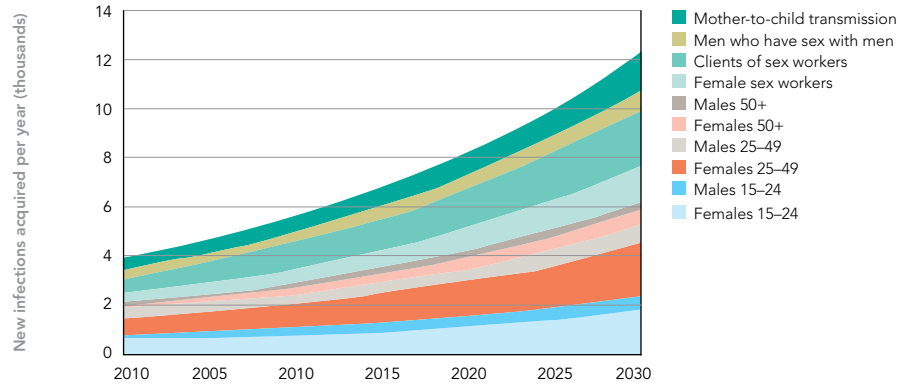
Optimal use of limited HIV funding is increasingly important, both to serve people who are in need of HIV services and to achieve the country’s HIV targets. An analysis of Sudan’s low-level epidemic found that an estimated 31% of all HIV infections occurred between sex workers and their clients, and that a substantial proportion of infections within the general population are between clients of sex workers and their regular sexual partners. Nearly 7% of infections are among men who have sex with men. If no changes were made to the HIV response, a steady increase in HIV incidence—combined with 1.5% population growth—would drive a significant expansion of the epidemic through sexual and mother-to-child transmission (Figure 5), as well as greater AIDS-related deaths (6).

If, however, the same US\$ 6.4 million annual budget for the HIV response was maintained but directed in a different way, significant results would be realized. In particular, if it was reallocated from the general population to prevention and testing services for female sex workers, clients of sex workers and men who have sex with men—and to more antiretroviral therapy for the increased number of HIV cases that would be identified through the new testing approach—an additional 19 000 infections could be averted between 2014 and 2020. Considerable efficiencies could be achieved within efforts to prevent new HIV infections among children and keep their mothers alive, and by exploring synergies with other public health programmes (such as syphilis testing and treatment) (6).

As well as optimization, the analysis of Sudan’s HIV response recommended a minimum short-term investment of US\$ 8.1 million per year until 2016 to achieve a 25% reduction in cumulative incidence and deaths. Achieving more ambitious targets of a 50% reduction in HIV incidence and AIDS-related deaths would require US\$ 34 million annually (6).

Figure 5

### Model-predicted evolution of annual HIV incidence in Sudan, 2010–2030



Note: Future projections hold 2013 spending levels constant

Source: Populated Optima model for Sudan.

The Government of Sudan has incorporated recommendations from the study into its HIV response strategy. The analysis also was used as the basis for an application for funding from the Global Fund to Fight AIDS, Tuberculosis and Malaria. Integration of HIV services into mainstream health-service delivery has begun, and the Government is exploring introduction of point-of-care diagnostics to increase uptake of HIV testing (7). Additional investment and scale-up will be required to reach UNAIDS Fast-Track Targets.

### Location and population focus in Bangladesh

Bangladesh has maintained a low-level epidemic, with HIV prevalence in the adult population below 0.1% (8). In 2012, however, Bangladesh was one of only four countries in the Asia-Pacific region where the epidemic was still increasing (9), and international resources available for the HIV response have become more limited as the country sustains economic growth and moves towards middle-income status (10). With an opportunity to decisively end the AIDS epidemic in Bangladesh potentially slipping away, an investment case analysis was conducted in 2015.

A key finding of the analysis was that focusing HIV testing, enrolling new HIV cases into antiretroviral therapy and ensuring these new patients achieve viral suppression could yield a significant treatment-as-prevention dividend: a reduction in both AIDS-related deaths and new HIV infections. This impact would be maximized by prioritizing the populations and locations with the greatest need.

The country's 64 districts were ranked according to the population sizes of people at higher risk of HIV infection and those living with HIV. It was determined



that 23 districts contain 73% of the key populations and 81% of key populations that are currently being reached with services. If an optimized strategy is put into place, an average investment of US\$ 16 million a year until 2020 would put Bangladesh on track to reduce HIV infections to below 300 per year before 2030. At this level, HIV will no longer be a major public health concern. The analysis also found that every US\$ 1 spent under this scenario would save US\$ 21 on future treatment costs, thus making ending the AIDS epidemic a cost-effective investment.

### **Increasing the efficiency and impact of voluntary medical male circumcision**

Considerable progress has been made in the scale-up of voluntary medical male circumcision over the last five years (see chapter on voluntary medical male circumcision). These efforts, however, have faced a number of challenges around both supply and demand.

In most countries, the initial focus of voluntary medical male circumcision efforts was on men aged 15–49 years, as they are the bulk of the sexually active male population. Despite this focus, however, roughly 35% of clients were aged 10–14 years, and in most of the 14 priority countries, men over the age of 25 were accessing services at a lower rate. The situation raised questions regarding the cost-effectiveness of circumcising men at different ages. In an effort to ensure services are better focused and achieve greater impact, the Decision-Makers' Program Planning Tool (Version 2) was developed by USAID and applied in Malawi, South Africa, Swaziland, Uganda and the United Republic of Tanzania (11).

The Tool projects epidemiologic impact, cost and cost-effectiveness based on user-specified coverage targets. The results suggest that focusing services on men aged 15–34 years is one of the most cost-effective options in all countries studied. It also shows that over a 15-year period, the inclusion of males aged 10–14 years leads to a small increase in the number of HIV infections averted, but at a higher cost per averted infection. This is because adolescent boys are less sexually active, so the benefit of circumcision is only realized when they are older and have a higher risk of exposure to HIV. Over the long term (30+ years), however, circumcising males aged 10–14 years delivers the greatest reduction in HIV incidence from male circumcision (compared with targeting other age groups).

Use of the planning tool has highlighted important age-dependent variation in men's HIV incidence and willingness to undergo circumcision. It also has revealed trade-offs between targeting increases in efficiency, immediacy of impact, magnitude of impact and cost-effectiveness that can be achieved by circumcising different age groups of clients. While an analysis focused on short-term impact might lead one to conclude that circumcising adolescent boys should not be a programme priority, turning these individuals away could reduce long-term impact. Such a move may create a negative perception of voluntary medical male circumcision, both among the age group and within the wider community. Furthermore, male circumcision, unlike any other HIV prevention service, is a one-time procedure that provides a lifetime benefit. Considering only short-term benefits would miss the point of this very cost-effective HIV prevention method.

### **Additional efficiency gains appear possible in eastern and southern Africa**

An important dimension of optimizing resources to minimize new HIV infections and AIDS-related deaths is ensuring that high-impact services such as antiretroviral therapy are delivered as efficiently as possible. When efficiency analyses show large differences in unit costs within and across countries, that is strong evidence of the potential for efficiency gains. For example, the average annual visit cost per antiretroviral therapy patient in Kenya in 2012 was estimated at US\$ 61,<sup>2</sup> but it ranged from US\$ 37 for established patients at private facilities to US\$ 96 for new patients at district and subdistrict hospitals (12). Health facilities with lower unit costs often are taking advantage of economies of scale and economies of scope.

Economies of scale can be achieved, for example, when health-care facilities provide antiretroviral therapy to more patients while fixed costs remain the same, resulting in a lower cost per patient. Economies of scope can be achieved when HIV treatment is integrated into the delivery of other health services, such as tuberculosis treatment or maternal and child health care (13).

The Access, Bottlenecks, Costs and Equity (ABCE) project analysed individual health facilities' staffing, capital inputs and service provision in Kenya, Uganda and Zambia to calculate an "efficiency score" for each facility, with a score of 100% indicating that a facility was maximizing its available resources. The researchers calculated the average efficiency scores across all facilities that provided antiretroviral therapy to be 51% in Kenya, 49% in Uganda and 49% in Zambia. They also found that the range between the highest and lowest scores among the facilities in each country was quite large. This suggests that many facilities have the capacity to serve much larger patient volumes using their current resources. For example, it was estimated that Zambia could increase its HIV treatment patient volume by 117%, which means that Zambia's health system likely has the capacity to reach the national goal of providing universal access to HIV treatment (14).

A separate study conducted in more than 300 service delivery sites in Kenya, Rwanda, South Africa and Zambia suggests there also are efficiency gains to be made in HIV testing and prevention of mother-to-child transmission. The Optimizing the Response in Prevention: HIV Efficiency in Africa study (or ORPHEA) estimates the average cost per unit of output for each service at each service delivery site. It also assesses the relative level of efficiency of each service provider and explores the major determinants of efficiency for each service (15).

In a preliminary analysis of potential gains that was made using these data, the unit costs of each facility were ranked and then divided into quartiles controlling for scale. It was then calculated that cost savings of between 40% and 70% could be achieved if the 75% of facilities with the highest unit costs could achieve the same level of efficiency as the facilities at the 25th percentile.

2 The cost per visit does not include the cost of antiretroviral medicines.

## **Fast-Track lessons learned**

Analyses of HIV programmes in both high-level and low-level epidemics consistently find that allocating resources to high-impact programmes in the geographic areas that have both the greatest number of populations at higher risk of infections and of people living with HIV will yield significant efficiency gains.

Studies of implementation efficiencies found in treatment and prevention services in some of the highest-level epidemics in the world suggest there are additional efficiency gains to be made by providing the right services to the right people in the right place—and by providing these services in the right way. Smoother integration of HIV services with complimentary health services can eliminate parallel systems, reduce costs and achieve greater uptake. Even more efficiencies can be gained through the lowering of the cost of commodities (such as antiretroviral medicines) and the introduction of new technologies (such as point-of-care diagnostics). Public health systems can extend service delivery through partnerships with the private sector and civil society organizations that have good reach and trust within communities of key populations. Additional efficiencies may result from spacing appointments for stable antiretroviral therapy patients. Finally, all of these efficiency efforts must be made alongside efforts to ensure services are high quality and respectful of the rights of people living with HIV and key populations at higher risk of infection.

As the what, where and how of HIV programme implementation become clearer, another challenge emerges: building the political will for optimization and additional investment. As the economies of low- and middle-income countries develop, additional national funds need to be earmarked to sustain scale-up of HIV responses, and these resources need to be spent as wisely as possible. This often means taking resources away from a low-burden district and reallocating them to a higher-burden one, or investing a greater share of resources in services for highly stigmatized populations. These are difficult decisions for local and national leaders to make, but making these tough efficiency choices—along with securing additional investment—is the leadership that is required to Fast-Track the world towards the goal of ending AIDS as a public health threat by 2030.

# Eliminating stigma and discrimination and advancing human rights

Promoting, respecting and protecting human rights is fundamental to human development and ending AIDS as a public health threat by 2030. As such, any attempt to Fast-Track the HIV response must use rights-based approaches and tackle the widespread and deep-seated stigma, discrimination and other human rights violations faced by people living with HIV and key populations that are at higher risk of HIV infection.

Figure 6

Percentage of people (aged 15–49) who report discriminatory attitudes towards people living with HIV, Côte d'Ivoire

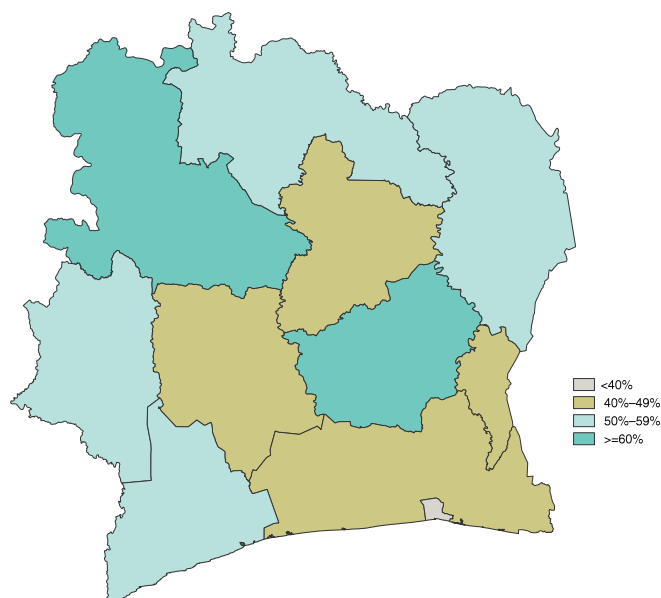
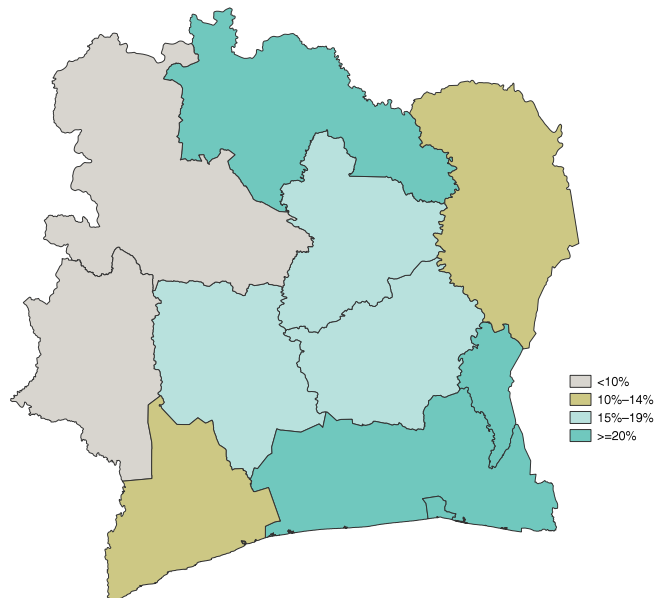


Figure 7

Among people who have heard of AIDS, the percentage who had an HIV test within the last 12 months, Côte d'Ivoire



Measuring discriminatory attitudes towards people living with HIV is used to track progress towards the commitment to eliminate stigma and discrimination made by United Nations Member States within the 2011 United Nations Political Declaration on HIV and AIDS. These maps of Côte d'Ivoire suggest that low coverage of HIV testing and higher reported discriminatory attitudes go hand-in-hand.

Data source: Côte d'Ivoire Demographic and Health Survey, 2011–2012.

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## FAST-TRACK TARGETS

- ▶ *Elimination of HIV-related discrimination by 2020.*
  - ▶ *Ninety per cent of people living with, at risk of and affected by HIV report no discrimination, especially in health, education and workplace settings.*
- 

## FAST FACTS

- ▶ *Stigma and discrimination towards people living with HIV and key populations remain widespread. In roughly 35% of countries with data available, more than 50% of women and men report discriminatory attitudes towards people living with HIV (1).*
  - ▶ *HIV-related stigma blocks access to condoms, HIV testing and adherence to antiretroviral therapy (2, 3). It also can have a deep negative psychological impact on people living with HIV and key populations at risk of HIV infection.*
  - ▶ *Evidence from the People Living with HIV Stigma Index indicates that an average of one in every eight people living with HIV is being denied health services (4).*
- 

## CHALLENGES AT A GLANCE

- ▶ **Intersection of stigma and discrimination:** key populations affected by HIV suffer from higher levels of stigma due to their increased risk of HIV infection and cultural rejection of their sexual orientation, gender identities and behaviour (such as sex work and drug use).
- ▶ **Punitive legal environments:** the criminalization of sex work, drug use and same-sex relationships, and overly broad criminalization of HIV non-disclosure, exposure and transmission.
- ▶ **Failure to recognize rights:** people living with HIV and other key populations who access services are seen as beneficiaries rather than people exercising their basic rights. This can lead to poor treatment and service quality.
- ▶ **Poor access to justice:** most cases of discrimination never make it to court. This is due to absent or poorly functioning mechanisms of redress, as well as harassment, violence and extortion from some law enforcement officers and slow and protracted legal processes.
- ▶ **Insufficient funding and scale:** too few countries have financing mechanisms for civil society. As a result, civil society organizations promoting human rights programmes and delivering community-based service delivery rarely have the means to take their activities to full scale.
- ▶ **Widespread discrimination in health-care settings:** denial of health services, inadequate and poor quality of care, and other forms of discrimination in health care affect people living with HIV and other key populations, depriving them of the highest attainable standard of health.

HIV-related stigma and discrimination is complex. Negative perceptions and the mistreatment that stems from them are related to more than HIV status as a health issue: they are associated with individual beliefs and attitudes, as well as cultural and religious norms around issues such as sexual orientation, gender identity, sexual rights, sex work and substance use. In addition, negative attitudes and behaviours may be reinforced by punitive laws, such as overly broad criminalization of HIV non-disclosure, exposure and transmission of HIV, or the criminalization of same-sex sexual relations, cross-dressing, sex work and drug use.

Discrimination and inequalities are present in many sectors, including health, education, employment, community, law enforcement and justice (5). Refugees and asylum seekers living with HIV also often face significant discrimination as many countries restrict the entry of, or forcibly return, people living with HIV. Within the health-care system, stigma and discrimination restrict the uptake and utilization of services, and they also lead to rights violations (such as mandatory HIV testing, lack of confidentiality in care, denial of health care, forced sterilization and abortion). For example, the links between HIV-related stigma, low uptake of HIV testing and limited engagement with prevention and care have been well documented (2). A 2013 systematic review of studies on stigma and discrimination covering almost 27 000 people living with HIV in 32 countries found that HIV-related stigma had such a deep psychological impact that it compromised adherence to antiretroviral therapy (3). Furthermore, although 69% of countries who reported on the National Commitments and Policy Instrument in 2014 indicated having non-discrimination laws to protect people living with HIV (5), these laws are frequently poorly enforced, with the justice system turning a blind eye to denial of services or incidents of violence or hate crimes.

Addressing HIV-related stigma and discrimination demands tackling misconceptions about HIV transmission and prevention, while also addressing harmful prejudice towards certain groups. This requires breaking down discriminatory attitudes and harmful social norms based on sexual orientation and gender identity, including those experienced by women, young people who are sexually active, sex workers and their clients, people who use drugs, prisoners and migrants.

### **Reducing stigma and discrimination among health-care workers in Thailand**

Thailand offers free HIV testing and treatment under its universal health-care scheme and, since October 2014, antiretroviral therapy has been provided to people living with HIV regardless of their CD4 level. Data from treatment registration in 2012, however, indicated that half of people living with HIV started treatment quite late, with a CD4 count less than 100. Health authorities recognized HIV-related stigma as a barrier to service uptake and they set a target to cut HIV-related stigma and discrimination in half by 2016.

To achieve this target in a measurable manner using evidence-informed activities, Thailand has been systematically monitoring stigma and discrimination in health-care settings. Under the leadership of the Ministry of Public Health, a multi-stakeholder research team reviewed and adapted global tools to the local

context, piloted the new tool in two provinces, refined it based on those initial experiences and generated evidence to inform remedial actions.<sup>1</sup>

The results revealed that more than 80% of health-care workers surveyed had at least one negative attitude towards people living with HIV and roughly 20% of the respondents had observed colleagues who either were unwilling to provide services to people living with HIV or had provided them with sub-standard services. More than half of respondents used unnecessary personal protection measures—such as wearing two layers of surgical gloves—when interacting with people living with HIV. Among the people living with HIV who were surveyed, about one quarter reported avoiding seeking treatment at local health-care facilities due to fear of disclosure or poor treatment and about one third reported having had their status disclosed without their consent (6).

The evidence triggered an acceleration of system-wide action. The Ministry of Public Health, in collaboration with civil society and international partners, developed initiatives to sensitize a broad range of health-care workers, including those in non-clinical work settings. Early results suggest that improving the attitude of health-care workers is not only key to providing better care to people living with HIV, but that it also has wider social benefits because health-care workers are highly regarded and seen as social role models.

The pilot also confirmed that stigma and discrimination within health-care settings can be routinely measured, with the information gathered serving as the basis for planning and managing action and evaluating the results. In 2015, the measurement tool was used by the national monitoring system in six more provinces; an additional 15 provinces have begun voluntarily using it.

The stigma and discrimination strategy also has been revised based on the new framework. By 2016, stigma-reduction programmes will be implemented throughout the country with domestic funding, and the tool will be routinely used to monitor progress and inform further action.

### **People who use drugs seek justice for peers in Jakarta**

People who use drugs in Jakarta, Indonesia, are working as paralegals to protect their peers from human rights abuses.

Indonesia continues to apply the death penalty for drug-related offences and people who inject drugs are struggling to protect themselves from HIV: an estimated 56.4% are living with the virus. Jakarta is one of Indonesia's provinces most affected by HIV, with nearly 100 000 people estimated to be living with HIV in the capital in 2013 (7).

The nongovernmental organization Lembaga Bantuan Hukum Masyarakat (Community Legal Aid Institute) trains people who use drugs to provide legal education and aid to their peers, and to support lawyers who represent people who use drugs (8).

1. The team included the International Health Policy Programme (IHPP), Chiang Mai University and provincial health offices, with technical support by RTI International, USAID and the UN Joint Team on AIDS in Thailand.

When an individual is arrested for a drug-related offence, the Institute's paralegals typically follow the arresting officers and detainees to the police station, where they help negotiate access to medication for HIV treatment or drug use, mediate detention or release conditions and contact the family of the detainees (if necessary) to post bail. The paralegals are also trained to document individual cases of rights violations, which is essential for helping negotiate the release of detainees from custody and for supporting consultations with lawyers who represent the detainees in court.

The training also enables the paralegals to conduct education workshops on Indonesian law that are held by local HIV and harm reduction organizations. Such workshops help people who use drugs to overcome stigma and better understand their legal rights.

The decision to recruit paralegals from the community of people who use drugs arose because of difficulties that were experienced when working only with lawyers (the original service providers of the programme). Widespread discrimination against people who use drugs made the client group wary of lawyers, and it also deterred lawyers from signing up to participate. As a result, the programme changed its approach: rather than training lawyers to be sensitive to the needs of people who use drugs, it chose to provide legal training to people who use drugs.

The programme's selection and training process is rigorous. Respect from peers is a key criterion for a new trainee, but leadership skills are not. In fact, selecting people who are not accustomed to being leaders helps preserve the non-hierarchical structure of the programme, keeping the focus on outreach and community education efforts (rather than internal politics). Training includes intensive courses on Indonesian law and due process, which culminates in examinations; it is supplemented by supervised outreach work in areas with concentrations of people who use drugs. All paralegals have access to the programme's directors to ensure that their experiences and concerns are incorporated into future planning as the programme evolves.

### **Strengthening enforcement of rights protections in Ghana**

Although Ghana's Constitution protects all citizens from discrimination in employment, education and housing—and ensures their right to privacy—there is ambiguity in the way these provisions apply to people living with HIV and to key populations (9). The Patients' Charter protects people living with HIV from discrimination within the health-care system, but the Charter's provisions are difficult to enforce beyond public health facilities. In addition, the penal code forbids consensual sex between adult males and criminalizes sex work, which deters sex workers and men who have sex with men from seeking health-care services.

Mechanisms exist in Ghana for the review and resolution of suspected rights violations, but they are fragmented, with few avenues for referral. There also is a lack of trust among people living with HIV, key populations and the civil society organizations that represent them. To overcome these obstacles, the Commission on Human Rights and Administrative Justice, the Ghana AIDS Commission



and the USAID-funded Health Policy Project developed a web-based reporting mechanism, launched in December 2013.

People living with HIV can directly report to the Commission by short message service (SMS) or through the reporting system's website, and they can choose to remain anonymous. A report triggers a follow-up process of mediation, investigation and adjudication, supported by human rights organizations and legal representatives (who often work pro bono). The lawyers also can access updates for cases they submit, and the aggregated data generated by the system is an invaluable advocacy tool. By September 2015, 32 cases of discrimination and abuses had been recorded, and 13 of them have been completely resolved. Complaints include violence, blackmail and denial of employment, health care and education (10).

Just as Ghana's reporting system was informed by similar systems in India, Jamaica and Kenya, other countries can benefit from Ghana's experience. What makes Ghana's model successful is its powerful combination of a legal framework that supports the provision of pro bono legal aid, a committed national human rights institution with a mandate to take action, a reporting system based within the Commission and the positive engagement of key stakeholders (including civil society).

### **Ending criminalization of HIV transmission in Australia**

Overly broad application of criminal law to HIV non-disclosure, exposure and transmission raises serious human rights and public health concerns. Such laws disregard best available scientific and medical evidence relating to HIV, and they ignore principles of legal and judicial fairness (11). They also perpetuate stigma, deter people from seeking HIV testing and learning their status and put the responsibility of HIV prevention solely on the HIV-positive partner.

In May 2015, the Australian state of Victoria repealed the country's only HIV-specific law criminalizing the intentional transmission of HIV (12). The repealed law—Section 19A of the Crimes Act 1958—carried a maximum penalty of 25 years imprisonment, even more than the maximum for manslaughter (which is 20 years). Cases of suspected intentional transmission will now be dealt with under general laws that cover other forms of injury.

The legislation to repeal the law was developed through the collaboration of several stakeholders, including legal, public health and human rights experts and representatives of people living with HIV. It was heralded by rights activists as a major step forward for the rights of people living with HIV (13).

### **Sex workers stand up for their rights in Asunción, Paraguay**

In 2013, the local government in Asunción, Paraguay, passed legislation to regulate sex work in the city. The legislation required sex workers to undergo mandatory HIV testing and carry a health card at all times (14). A year later, Paraguay's foremost organization of female sex workers, Unidas en la Esperanza—with support from UNAIDS, the Pan American Health Organization and civil society organizations—submitted a proposal to remove articles that

violated the rights of sex workers and served as obstacles to an effective HIV response in the city.

After an intense period of advocacy and debate, the local government approved all the proposed modifications, including a clause calling for the participation of sex workers in the implementation of the legislation. This example of successful advocacy for the rights of sex workers underscores the importance of including key populations in law reform. Not only did sex workers in Paraguay successfully advocate for their own rights, but they also helped to raise awareness and reduce discriminatory attitudes among local decision-makers.

### **Anti-stigma training in Jamaica changes attitudes of health and social workers**

Health and social workers receive varying levels of training in the provision of services to people living with HIV and key populations, but does this training have an impact on the quality of services? In Jamaica, the Communication for Change project, with funding from the United States President's Emergency Plan for AIDS Relief (PEPFAR), conducted a study in 2011 to find out.

Clinical and non-clinical workers were surveyed at 48 health facilities and 39 social service agencies, and 300 female sex workers and 150 male sex workers were surveyed through respondent-driven sampling. The majority of respondents were not trained in HIV or working with key populations (15).

Among the health and social workers, between 19% and 45% reported they were fearful of casual contact with people living with HIV, men who have sex with men and sex workers. Between 3% and 50% of health facility staff expressed fear of HIV transmission or a desire to avoid contact during clinical procedures, with the proportion rising depending on the complexity of the interaction. Fear of clinical interactions was much higher when serving people living with HIV (44–50%) than men who have sex with men (6–10%) and sex workers (3–4%) (15).

While most of the health and social workers surveyed believed that people living with HIV and key populations were deserving of quality care, a high percentage reported feelings of shame, blame and judgment against these clients. Respondents were most judgmental about the perceived immorality of homosexuality (63–83%) and sex work (75–61%), with significantly more clinical staff than social services staff reporting those views (15).

Attending training in HIV prevention was positively associated with a lack of fear or desire to avoid casual contact with people living with HIV and key populations. Among health facility staff, for instance, those trained in HIV prevention reported less shame, blame and judgment than untrained staff. Among social services staff, however, a reverse trend was shown (15).

Sex workers were asked whether they had disclosed to health-care providers that they were engaged in sex work. Nearly half of respondents [49.9%] indicated that they had disclosed their sex work status; those who had done so were significantly more likely to report being denied services, experiencing poorer quality of services and feeling rushed by health staff during their exam than those who had not disclosed their sex work status (15).

Based on these results, the researchers recommended that the health system train all of its staff in HIV prevention and psychosocial support for key populations at higher risk of HIV infection; they also suggested that the health system increase the number of health providers focused on providing friendly services to key populations. Strengthening the policy and legislative framework to sanction health-care providers when confidentiality is breached and discriminatory practices occur was also deemed an important change that should be made (15).

### **Fast-Track lessons learned**

Fast-Track HIV responses bring HIV services closer to the communities where they are most needed with a location–population approach that includes community engagement. This must be done in a way that is consistent with human rights, applying safeguards to ensure that reaching out to people living with HIV and key populations does no harm. Otherwise, an effort to make services more acceptable and accessible could be misappropriated, becoming an effort to track, discriminate and punish the very people it was meant to help.

Significant challenges remain. Persistent punitive laws and strongly held cultural values against key populations are pervasive in many countries. Reforming such laws, policies and attitudes remains one of the single most important elements of efforts to increase access and uptake of HIV programmes and services (16).

Greater monitoring and reporting of stigma, discrimination and violence against people living with HIV and key populations is needed to change negative cultural values and practices through mechanisms such as Thailand’s health-system monitoring tool and the Stigma Index.

Ghana’s introduction of an online and SMS reporting system for discrimination shows how information and communication technology can be harnessed for timely action. The work of Lembaga Bantuan Hukum Masyarakat in Jakarta teaches us that empowering key populations to know their rights and seek redress when those same rights are violated can remove barriers to accessing health services. Advocacy in Victoria, Australia, helped repeal a punitive law, and in Asunción, sex workers have shown that key populations can be powerful advocates for legal and policy reform.

The Fast-Track Target is absolute and in keeping with the immediate nature of the non-discrimination obligations instilled by human rights treaties: nothing other than zero discrimination is acceptable.

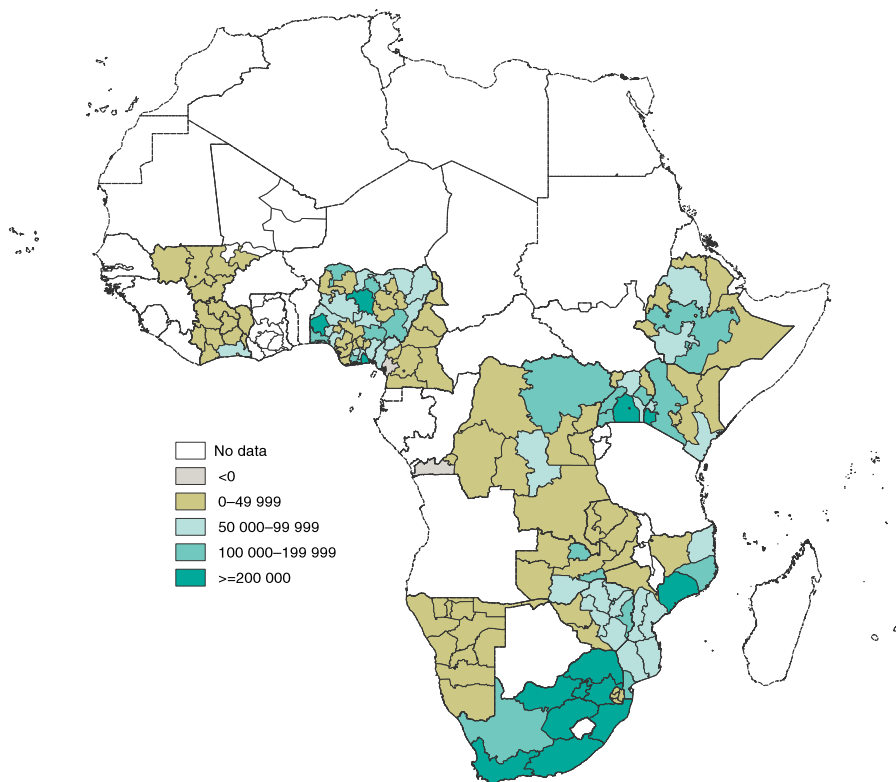
# 90-90-90

In March 2015 the global HIV response reached a major milestone: over 15 million people were receiving antiretroviral therapy globally. By June 2015 this had increased to 15.8 million people on treatment.

At the core of Fast-Track is an intensive effort to build on these achievements and reach the 90-90-90 treatment targets by 2020: 90% of people (children, adolescents and adults) living with HIV know their HIV status, 90% of people who know their HIV-positive status are accessing treatment and 90% of people on treatment have suppressed viral loads. Access to HIV testing and treatment is also part of the fundamental right to health.

Figure 8

**Number of people living with HIV who were not receiving antiretroviral therapy, 2014 and 2015**



Source: UNAIDS estimates, 2014 or mid-2015 for the following countries: Cameroon, Côte d'Ivoire, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Namibia, Nigeria, South Africa, Swaziland, Uganda, Zambia, Zimbabwe.

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## FAST-TRACK TARGETS

- ▶ *Ninety per cent of people (children, adolescents and adults) living with HIV know their HIV status.*
  - ▶ *Ninety per cent of people who know their HIV-positive status are accessing treatment.*
  - ▶ *Ninety per cent of people on treatment have suppressed viral loads.*
  - ▶ *Zero new HIV infections among children, and mothers are alive and well.*
- 

## FAST FACTS

- ▶ *In sub-Saharan Africa, an estimated 49% [43–55%] of adults living with HIV do not know their HIV status, approximately 57% [53–61%] of adults living with HIV are not receiving antiretroviral therapy and an estimated 68% [62–77%] of adults living with HIV are not virally suppressed (1).*
  - ▶ *In sub-Saharan Africa, half the infants whose mothers are living with HIV do not receive a virological HIV test within the first two months of life, as recommended by the World Health Organization (WHO). Only one third of children living with HIV in 2014 were receiving antiretroviral therapy. Without treatment, half of children living with HIV die before their second birthday.*
  - ▶ *The Latin America and Caribbean region is close to meeting its testing targets. An estimated 70% of people living with HIV know their status (1).*
  - ▶ *Globally, only 41% [38–46%] of adults and 32% [30–34%] of children living with HIV are receiving treatment (1).*
  - ▶ *Marked differences are seen in antiretroviral coverage among men and women. Globally 46% [43–53%] of adult women (15 years and older) are receiving treatment while only 36% [34–42%] of adult men are receiving treatment (1).*
  - ▶ *Among low- and middle-income countries, Brazil, the Lao People's Democratic Republic, Malaysia, Mexico, Myanmar and the Republic of Moldova have achieved viral suppression for more than 80% of people receiving antiretroviral therapy (2).*
-

## CHALLENGES AT A GLANCE

- ▶ **Stigma:** fear of social rejection and discriminatory health-care workers are still among the commonly cited reasons for avoiding an HIV test.
- ▶ **Discriminatory laws and policies:** in many countries, mandatory disclosure and criminalization of key populations continue to discourage HIV testing, perpetuate myths and fears, and compromise scale-up of testing and treatment.
- ▶ **Overly centralized procedures:** in countries where HIV remains highly medicalized, testing, prescribing and dispensing functions and responsibilities are often confined to medical doctors and laboratory personnel, limiting the number of tests that can be performed, delaying feedback to the individual and creating service provision bottlenecks.
- ▶ **Availability of fairly priced medicines:** the lack of coherence between trade, human rights and public health policies is threatening the right of people living with HIV, particularly infants, to receive good-quality medicines at a fair price. High prices are especially important for the growing number of people who need second- and third-line regimens. In addition, national procurement and supply chain management systems require strengthening to avoid stock-outs of essential medicines.
- ▶ **Inadequate access to key diagnostic tools:** essential diagnostic methods, including early infant diagnosis and viral load monitoring for all people receiving antiretroviral therapy, remain inaccessible for many people living with HIV, slowing scale-up, undermining treatment outcomes and increasing programme costs.
- ▶ **Inadequate support for treatment adherence:** although many people living with HIV confront substantial barriers to treatment adherence, innovative methods to support strong patient adherence, including ensuring food security, have yet to be brought to scale.

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Meeting the 90–90–90 treatment targets requires approaching HIV testing and treatment services as an interlinked HIV treatment cascade: ensuring easy access to an HIV test both within the community and at health facilities, immediate treatment following diagnosis for all people living with HIV and access to support services to ensure good-quality care, retention and viral suppression. Substantially greater focus must be given to the role of viral load tests to monitor and guide adherence, switch patients to second- and third-line regimens when needed, maintain high percentages of patients with viral suppression and maximize the public health impact of antiretroviral therapy. Innovative approaches to HIV testing and community-centred delivery of HIV treatment will be needed.

An increasing number of communities, cities, provinces and countries are committing themselves to achieve 90–90–90, revising HIV testing policies and crafting strategies to target the people most at risk of infection, consolidating services and leveraging new technologies for good-quality patient and

public health outcomes. These efforts to move people towards viral suppression are extending life expectancy, preventing illness and new infections, and saving money.

The global commitment to end mother-to-child HIV transmission and halt new paediatric HIV infections is a prime example of how prevention and treatment go hand-in-hand. The prevention of mother-to-child transmission is a unique intersect between HIV prevention for the infant with testing outreach to identify women living with HIV, and simultaneously preventing transmission to the infant and protecting the mother's health through antiretroviral therapy. In addition, the four-prong prevention of mother-to-child transmission approach has enabled programmes to accelerate access to paediatric treatment by prioritizing early infant diagnosis and ensuring all those found to be living with HIV are entered into immediate antiretroviral therapy. It has also highlighted the urgency of following mother–infant pairs in order to ensure proper follow-up, and facilitate adherence and viral suppression. What has also been highlighted is the urgency of immediate treatment of a positive partner in a serodiscordant couple, in accordance with WHO guidelines.

Scientific advancement and operational experience have continued to shape the global response to the prevention of mother-to-child transmission. In 2013, WHO issued guidelines recommending triple antiretroviral medicines to prevent HIV transmission, with the medicines to be taken from 14 weeks gestation and stopped at the end of breastfeeding. The guidelines also recommended life-long antiretroviral therapy for women eligible under national antiretroviral therapy guidelines. After reviewing the WHO recommendations, Malawi went one step further, providing immediate and life-long antiretroviral medicines for pregnant women living with HIV, thus avoiding an on-again, off-again approach to antiretroviral therapy. The results were positive, and this approach is now recommended by WHO.

### **The first 90: 90% of people living with HIV know their HIV status**

The first and perhaps greatest challenge to achieving 90–90–90 is reaching all children, adolescents and adults at risk of HIV infection with simple, quick and accurate HIV testing options. Early diagnosis of HIV infection and immediate initiation of antiretroviral therapy safeguards the health of people living with HIV and greatly reduces the chance of further transmission of the virus.

Most countries require substantial new investments and policy reforms to enable rapid scale-up of innovative HIV testing outside of traditional health facilities. In high-prevalence settings, community-based approaches bring HIV tests to more convenient locations where people live and work. These include door-to-door testing campaigns, multi-disease community screening initiatives, mobile testing services, school and workplace testing, and self-testing methods.

Children at higher risk—such as orphans, vulnerable children, poor children, malnourished children, children outside of school and children born to mothers living with HIV—require special attention. Diagnosis of HIV in children under 18 months requires a specialized virological test that identifies the actual viral particles in the child's dried blood spot and provides the definitive diagnosis. This

requires highly specialized laboratory equipment and personnel, which many countries do not have in adequate numbers. Even when countries have such laboratory equipment in place, reliance on centralized laboratories for early infant diagnosis results in substantial delays in receiving test results as well as risks that the test results will be lost. The emergence of point-of-care diagnostic tools will reduce these delays. Among 21 priority countries in sub-Saharan Africa, only 49% of HIV-exposed infants received a virological test within two months of birth.

In lower-level epidemics, sex workers, people who inject drugs and other marginalized groups require targeted and innovative testing strategies that are community-based and sensitive to stigma and privacy concerns.

### More efficient and more effective HIV testing in Mozambique

Despite Mozambique having an extremely high burden of HIV, testing rates in 2011 were alarmingly low. In a survey conducted in 2011, only 14% of men and 26% of women reported being tested for HIV and receiving results within the past 12 months (3). Two of every five sex workers in Nampula, the country's third largest city, had never been tested for HIV (4), and approximately 90% of men living with HIV who have sex with men did not know their HIV status (5).

Mozambique's national AIDS programme, with support from the United States Centers for Disease Control and Prevention, performed a comprehensive evaluation that revealed HIV testing and counselling services were not aligned with local population sizes and HIV prevalence, especially for key populations. In response, Mozambique changed its HIV testing and counselling strategy in an effort to increase HIV case detection. Additional emphasis was placed on a key combination of prevention services and community-based testing focused on areas with high HIV prevalence and concentrations of key populations. Service delivery targets and implementing partner activities were then readjusted (6).

The changes rapidly produced dramatic results. In 2012, 27% more people living with HIV were newly identified, increasing from approximately 86 000 in 2011 to 109 000 in 2012. These gains were achieved alongside a 6% decrease in testing volume. The better-focused community-based testing identified more people living with HIV than in the previous year, even though almost 50% less testing was done through this modality (6).

Mozambique's success demonstrates the advantage of strategic and targeted HIV testing approaches. It also underscores how attention to key populations, diagnostic yield and programmatic prioritization can have a rapid and great impact. As countries scale up to achieve the "first 90," they must focus efforts where there are testing deficits and prioritize resources and services where they can make the most impact.

### HIV testing in pharmacies and retail clinics in the United States of America

HIV testing uptake can be improved by providing the service in unconventional venues. In the United States of America, only 45% of the population has ever been tested for HIV, and 13% of people living with HIV do not know their HIV



status (7, 8). Within populations at elevated risk of HIV infection, testing rates and knowledge of HIV status are even lower. In a study that covered 20 American cities, only 49% of young gay men and other men who have sex with men living with HIV (18 to 24 years) knew of their infection, whereas 76% of those aged 40 and older were aware of their HIV infection. (7).

Rapid point-of-care HIV testing was piloted in 21 community pharmacies and retail clinics across the United States in 2011. More than 100 staff at selected sites were trained to perform on-site rapid HIV diagnostics on oral samples and deliver counselling and referral services. Over two years, 1540 HIV tests were administered, with 70% of them performed on site during regular working hours and the rest conducted at HIV testing events, such as local health fairs. The entire HIV testing process could be achieved in less than 30 minutes, including pre-test counselling and consent, waiting for test results and post-test counselling. Individuals screening positive for HIV were referred to locations for confirmatory HIV testing.

HIV testing services not only proved feasible in pharmacy and retail clinic settings but also appear to be sustainable. Seventeen of the 21 sites indicated they would seek assistance or support to continue HIV testing after the programme ended.

### Self-testing in Blantyre district, Malawi

HIV self-testing, whereby a person performs their own HIV rapid diagnostic test and interprets the result in private, is an emerging approach with massive potential for uptake due to its convenience and privacy. It empowers people who have concerns about disclosure and stigma and health facilities and increases access for people who are underserved by or face discrimination in facility-based testing centres. In rural areas, self-testing could prove more sustainable than community-based door-to-door approaches.

In Malawi, where over half of adults have not had an HIV test in the past 12 months and do not know their status (9), a feasibility study in 2012 demonstrated that high coverage of HIV testing can be achieved through HIV self-testing. More than 16 000 residents in 14 neighbourhoods in Blantyre district were offered one HIV self-test kit per year for a two-year period with accompanying instructions, pre- and post-test counselling, and specific information on where to go for a confirmation test and to enrol in treatment if the result was positive.

Within the first year, more than three-quarters of residents used their kits, and 76% of people who self-tested shared their results with a volunteer counsellor. During a second round the following year, similarly high coverage was achieved more quickly: 71% of residents self-tested within six months (9). The self-testing approach also facilitated linkage to care. Within the first year, over half of the people diagnosed with HIV were enrolled in HIV care; an additional 26% were already receiving treatment.

Self-testing was well accepted by the participants: 95% of people who self-tested were happy with the test kit, and 97% said they would “definitely recommend” it to friends and family (9). HIV self-testing also reached people without a previous

history of HIV testing: over a third of participants during the first year had never been tested for HIV. The approach also successfully reached young people, who were more likely than older people to report using their kits.

### Reaching children living with HIV in Côte d'Ivoire

Rapid enrolment in HIV treatment is critical for children living with HIV. Without treatment, a third of children living with HIV die before their first birthday, and another half die before reaching their second birthday. If a child starts antiretroviral therapy before 12 weeks of age, however, HIV-related mortality is reduced by 75% (10). For children this young, the only effective HIV diagnostic is virological testing.

Côte d'Ivoire is home to 230 000 children who have been orphaned due to AIDS (1). These children and many others, especially those born to mothers living with HIV, are at higher risk of HIV infection. Despite their higher risk, the HIV status of nearly 80% of orphans and other vulnerable children in Côte d'Ivoire is unknown, and only 40% of children born to mothers living with HIV in 2014 received early infant diagnostic testing (11). Treatment coverage among children in Côte d'Ivoire was estimated to be only 16% [15–18%] in 2014 (1).

Fourteen neonatal clinics in the Gbêkê, Hambol and Poro-Tchologo-Bagoué regions of Côte d'Ivoire are implementing a new approach to increase paediatric HIV testing uptake and linkage to care. Supported by the Elizabeth Glaser Pediatric AIDS Foundation with funding from the United States President's Emergency Plan for AIDS Relief (PEPFAR), the Kenya Project counsels parents and relatives of orphans and other vulnerable children on the benefits of paediatric HIV testing and offers children's HIV testing coupled with deworming. Parasites that contribute to malnutrition and stunting are a significant health concern for families in these areas; parents less inclined to seek HIV services are attracted by the deworming services, thereby increasing uptake of HIV services. HIV test results are offered on site, along with parental counselling and immediate linkage to care for children who test positive for HIV.

Nearly 70% of the 20 000 children served through the project in 2013–2014 had an unknown HIV status. Through the new paediatric HIV testing strategy, over half of them were tested. HIV prevalence was close to 4%, and all of the 272 children who tested positive were enrolled into care.

Coupling deworming with HIV testing was an effective and novel strategy to reach and enrol more children into paediatric care. Understanding and addressing why some children did not test will help to further expand paediatric HIV care among orphans and other children made vulnerable by AIDS.

### Accelerating access to point-of-care pediatric diagnosis in Africa

Even though prevention of mother-to-child transmission services have averted 1.2 million HIV infections among infants since the mid-1990s, 220 000 children acquire HIV globally every year. There is an urgent need to ensure that HIV-

exposed children are promptly diagnosed so they can receive treatment. To help overcome challenges associated with early infant diagnosis, new portable diagnostic equipment is being piloted in community health-care facilities where many women and children seek care.

In September 2015, UNITAID and partners launched a US\$ 63 million, four-year initiative to scale up HIV diagnosis among newborns in nine African countries. In partnership with ministries of health, this initiative will make point-of-care testing more widely available to HIV-exposed infants early in their lives, when they are most at risk of dying, and enable those diagnosed with the virus to be put on life-saving treatment more quickly. The project will also pilot point-of-care diagnosis in a variety of child-centred services, such as paediatric clinics, where HIV testing is frequently unavailable.

Through this initiative, UNITAID and partners intend to prove that point-of-care HIV testing and treatment can be successfully scaled up to bring the world closer to an AIDS-free future.

### **The second 90: 90% of people who know their HIV-positive status are accessing treatment**

Overwhelming evidence of the health and preventive benefits of early initiation of antiretroviral therapy point to a clear conclusion: all people who test positive for HIV should start immediate treatment upon diagnosis. WHO recommends a treat-all approach: the offer of treatment to all people living with HIV regardless of CD4 count or viral load (12).

Immediate treatment maximizes the preventive benefits of treatment, reducing onward transmission of HIV. The immediate offering of treatment also helps plug a leak in the HIV treatment cascade, reducing the number of people lost between diagnosis and treatment initiation.

Additional efforts are required to remove barriers in availability, accessibility, acceptability and quality of health services. Addressing stigma and discrimination faced by people living with HIV in many health-care settings can encourage more people to test and start treatment, while higher treatment access has been associated with reductions in stigmatizing attitudes towards people living with HIV. Decentralization brings medicines and care closer to home, and integration of HIV treatment with services for tuberculosis, maternal and child health, hepatitis, noncommunicable diseases and other health conditions simplifies health care for patients. Food and nutrition support improves adherence and treatment outcomes (13). To increase the share of HIV treatment services delivered in community-based settings, immediate steps are needed to mobilize and elevate the status of community health workers, including through focused training programmes and regulatory reforms.

Several low- and middle-income countries have achieved high treatment coverage, and other countries are rapidly expanding access to treatment. Over 60% of people living with HIV in Botswana and Rwanda receive antiretroviral

therapy, and coverage in Cambodia and Cuba is over 70% (1). In Mozambique and South Africa, coverage increased from around 15% in 2010 to more than 40% in 2014. These countries are proving to others that the “second 90” is not an aspirational, far-flung target. It is achievable now.

### SEARCHing for people living with HIV in Kenya and Uganda

HIV is often not the first health issue on people’s minds, even in high-prevalence settings. A child with persistent diarrhoea or malaria or a mother struggling with diabetes may be a more immediate threat to a family.

In recognition of this, the Sustainable East Africa Research in Community Health (SEARCH) project is accelerating HIV testing and treatment uptake in 32 communities across three regions of Kenya and Uganda by integrating a community-based treat-all approach within the delivery of a range of primary health-care services. This initiative aims to demonstrate that antiretroviral therapy for all people living with HIV reduces a community’s collective viral load to zero, stops the spread of HIV and improves overall health, education and economic productivity.

Mobile campaigns visit individual communities and offer HIV testing within a suite of multi-disease prevention and treatment services. SEARCH not only brings HIV services closer to people’s homes; it also reduces HIV-related stigma and addresses gaps in each step of the HIV treatment cascade (14). If individuals do not attend community health campaigns, they are approached at their homes and receive follow-up over two months with home-based HIV testing and other health services. People who test positive for HIV are immediately offered antiretroviral therapy—a systematic linkage to care that is also made for people diagnosed with malaria, tuberculosis, hypertension, diabetes and other diseases. The procedures for initiation of HIV treatment and monitoring a patient’s progress have been streamlined to fit the local environment and make adherence easier for people.

Community health campaigns are also community-led. Local council leaders and village elders helped design and implement community mobilization efforts during the month before the campaign, tailoring efforts to local situations and making health care more sustainable.

SEARCH has achieved impressive results in the locations it supports. More than 250 000 people have been reached, and the percentage of adults testing for HIV increased from 57% to 80% (14, 15). Among non-mobile residents, HIV testing coverage reached 89%. Adult HIV prevalence was 9.4%, with a median adult CD4+ count of 516 cells/ $\mu$ L (16). SEARCH has demonstrated that it is reaching new people too: 43% of HIV-tested individuals reported they had never been tested previously (16). Preliminary treatment results show that 93% of people diagnosed with HIV have been retained in care for at least six months, and 92% of those in care have a viral load below 400 copies/ml (17).

The initial results from the SEARCH initiation show that implementing an integrated approach to mobile HIV and health service delivery is feasible in a range of rural East African settings. They also demonstrate that community

engagement during planning and implementation of a community mobilization campaign is critical to achieving strong uptake among the campaign's target population. Getting to zero within the SEARCH communities may be within reach.

### Moving to treatment for all in Guangxi, China

Expansion of HIV testing in China in recent years has improved HIV case detection. In 2014 twice as many HIV tests were conducted and over 2.5 times more people living with HIV were newly identified compared with 2010. However, some regions in China, the world's most populous nation, have struggled to enrol people newly diagnosed with HIV in treatment and reduce AIDS-related deaths.

In 2011, the Guangxi Zhuang Autonomous Region in southern China accounted for 22% of all HIV-related deaths in the country. Over 70% of people living with HIV were diagnosed at an advanced HIV stage, and nearly half of all HIV-related deaths occurred in the same calendar year as diagnosis. Almost 80% of people dying from HIV-related causes never received antiretroviral therapy. These statistics revealed a major deficit in linkage to treatment.

In 2012 and 2013, health facilities in Guangxi's Zhongshan and Pubei counties began offering immediate initiation of antiretroviral therapy following diagnosis of HIV. As a result, the average time between diagnosis of HIV and initiation of treatment plummeted from 53 days to five days. The new approach also reduced mortality by approximately two-thirds, from 27% to 10% (18). Guangxi has shown that immediate initiation of treatment, as recommended by WHO, is an effective strategy for plugging holes in the cascade, reducing HIV-related deaths and putting HIV responses on track to achieve 90–90–90.

### Universal access to integrated prevention of mother-to-child transmission services in Rwanda

In 2014 Rwanda had reduced new HIV infections among children by 88% since 2009 and had an 18-month transmission rate of 1.8%. These results have been achieved through continuous quality improvement and willingness to innovate.

One such comprehensive review occurred in 2011. Programme data showed that many health facilities that offer maternal, neonatal and child health services did not offer HIV counselling and testing routinely, missing the opportunity to provide women with prevention of mother-to-child transmission services. In addition, only two-thirds of pregnant women were tested and counselled for prevention of mother-to-child transmission, and only 24% of pregnant women living with HIV received prevention of mother-to-child transmission services. These missed opportunities were a result of limited integration of prevention of mother-to-child transmission services in maternal, neonatal and child health services.

To address this challenge, the decision was taken to integrate prevention of mother-to-child transmission, services at different levels. First, programme funds

were used to improve the capacity of the health systems through construction of maternity units, procurement of laboratory diagnostic equipment and support for human resources. Second, managers at public health facilities were empowered to reorganize service delivery and to make decisions on how best to integrate prevention of mother-to-child transmission services in maternal, neonatal and child health services. They identified strategies to prioritize services for children exposed to HIV, to strengthen follow-up until breastfeeding risk ends, to ensure HIV test results are confirmed, and to confirm that all infants confirmed as living with HIV are initiated on antiretroviral therapy. Linkages between maternal, neonatal and child health staff and antiretroviral therapy staff ensure children living with HIV are followed up in antiretroviral therapy services.

Public-private partnerships were established to ensure the private health sector was involved in the prevention of mother-to-child transmission initiative. HIV testing, drugs, training and monitoring tools were provided by the government free of charge. In return, the private sector provides service delivery data to the government through routine reporting systems. Integration of prevention of mother-to-child transmission indicators into the maternal, neonatal and child health registers has improved the quality of prevention of mother-to-child transmission programme reporting and linkages with broader child survival efforts.

Despite the gains made in the Rwanda prevention of mother-to-child transmission programme, challenges remain, such as loss to follow-up of mother-infant pairs within the continuum of care and ensuring high uptake among women at higher risk of infection HIV, such as sex workers. These challenges need to be addressed for the country to move further towards eliminating mother-to-child transmission (19).

### **The third 90: 90% of people on treatment have suppressed viral loads**

Living a healthy life with HIV requires reducing the amount of the virus in the person's body to undetectable levels. Although antiretroviral medicines can reduce viral replication to undetectable levels, patients may still encounter barriers to viral suppression: some patients are not sufficiently supported to understand the importance of treatment adherence; some experience severe life challenges that impede their ability to adhere to treatment regimens; other patients experience treatment failure and need to change to second- or third-line treatment regimens. Other barriers to treatment include medicine stock-outs; patients' having to travel long distances to health-care facilities or being cut off from facilities during bad weather; conflict and natural disasters; and food insecurity and poor nutrition.

Affordable once-a-day pills are readily available on the international market, and viral load tests provide a much more accurate reading of a person's response to treatment. Decentralization of treatment services, appropriate spacing of appointments and the shifting of dispensing of medicines and other routine tasks to community health workers can greatly reduce the time and money a person living with HIV spends to continue treatment. Community groups can support adults and children to adhere to their medications. Food and nutrition support, including cash transfers, bolster the treatment outcomes of people on

low incomes. Advances in information technology can improve the management of medicine purchases and distribution in low-resource settings. Health systems successfully integrating these measures are more likely to achieve the 90–90–90 target.

The priority given to viral suppression as the ultimate outcome of the 90-90-90 target underscores the urgent need to ensure that every person living with HIV has meaningful access to viral load monitoring. In 2014, partners in the Diagnostics Access Initiative joined together with the Government of South Africa to negotiate a share reduction in the price for a leading viral load testing platform. This agreement has already led to savings exceeding US\$ 13 million, but additional efforts are needed to fully leverage this price reduction to expand access to essential viral load testing.

### Treatment as prevention in KwaZulu-Natal, South Africa

South Africa has the largest number of people on antiretroviral therapy worldwide, with approximately 3.2 million people on treatment as of June 2015 (2). Antiretroviral therapy coverage has nearly doubled in South Africa in only a few years, from 25% [24–28%] of all people living with HIV in 2011, to 45% [43–49%] of all people living with HIV in 2014 (1).

HIV treatment expansion in South Africa has saved an estimated 1.3 million lives since 1995 (1). For example, in rural KwaZulu-Natal, over half of the estimated 1.8 million people living with HIV in 2014 were receiving antiretroviral therapy, and life expectancy increased by 11 years from 2004 to 2011 (20). As treatment coverage increases, the preventive effect of treatment on communities can also be seen. A study in KwaZulu-Natal found that living in a community with 30–40% antiretroviral therapy coverage reduced a person's HIV risk by 38% compared with living in an area with under 10% antiretroviral therapy coverage. The data show that each 1% increase in antiretroviral therapy coverage reduces HIV infection risk by 1.4% (21).

Evidence from KwaZulu-Natal also shows the preventive effect of treatment within households. As antiretroviral therapy coverage in men in a household increased, HIV infection risk in women decreased. A similar impact was seen for increases in antiretroviral therapy coverage in women and infection risk in men. For each 10 percentage point increase in opposite-sex treatment coverage in households, HIV infection risk dropped by 6% (22).

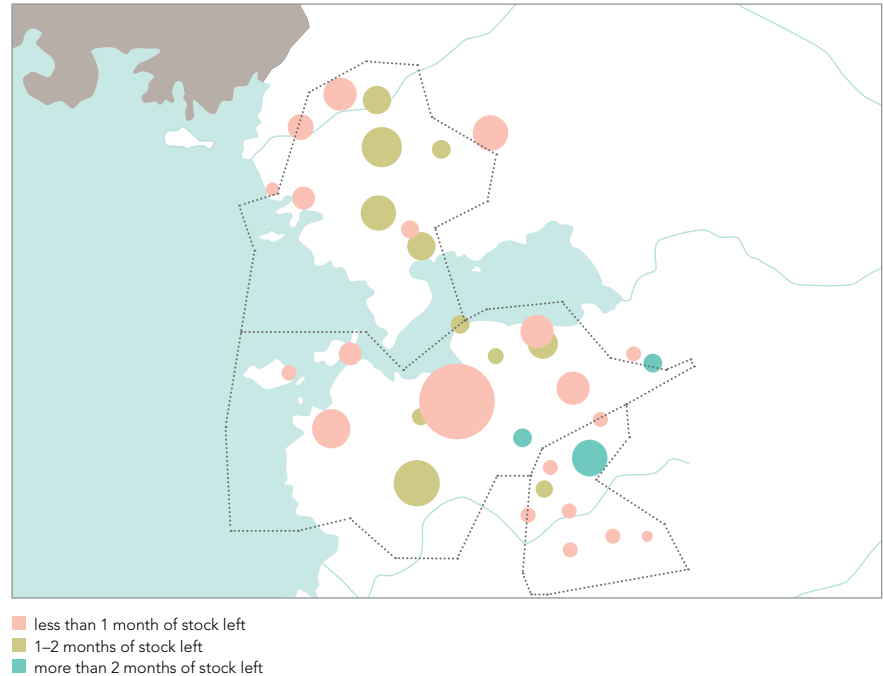
Evaluations of antiretroviral therapy coverage impact in KwaZulu-Natal confirm that “treatment as prevention” works in real-world settings outside of clinical trials.

### Ensuring antiretroviral medicines are in stock in Kenya

Kenya's Ministry of Health launched the Kenya HIV Situation Room, which portrays data from the Kenya Medical Supplies Authority, showing the remaining stock of essential HIV medicines, including efavirenz, a critical component of HIV treatment in Kenya. These data are presented geographically on maps such as the one for efavirenz shown in Figure 9. The size of the bubble illustrates the

Figure 9

**Remaining stock of efavirenz (size of circle) and how close they are to stock-out (colour of the circle) in select counties in Kenya, 2015**



Source: Kenya HIV Situation Room. Kenya: Ministry of Health; 2015.

quantities dispensed, and the colour coding indicates where there is less than one month of stock remaining (red), one to two months of stock remaining (yellow) or more than two months of stock remaining (green).

Such information is used as an early alert to help prevent stock-outs. This information is important for planning and managing medical supply chains, which can be complicated by seasonal changes when rains and floods reduce access to some areas of the country.

### Scaling up viral load testing and access to second-line treatment in Zimbabwe

Viral load tests can provide an earlier indication of treatment failure than the CD4 tests that are more commonly available in low- and middle-income countries. WHO has strongly recommended the use of viral load tests since 2013, but many countries have been slow to switch due to the costs involved, especially in rural areas where clinics are often far away from more centralized laboratory services.

In 2012, second-line antiretroviral therapy services were decentralized to primary care clinics in rural Zimbabwe. Around the same time, routine viral load testing using dried blood spots was piloted in 26 clinics in the rural Buhera district, accessible to 14 000 people (23). A total of 92% of patients were reached by



routine annual viral load testing, which included enhanced adherence counselling and repeat viral load testing after three months for people with unsuppressed viral load. Fourteen per cent of patients had high viral loads, and 68% of them received a repeat viral load test (23). Among people retested, 36.9% (1.1% of all tested) were switched to second-line treatment.

Scale-up of viral load monitoring and decentralized access to second-line antiretroviral therapy was proven feasible in this resource-limited setting. These initiatives also revealed important information about viral suppression on second-line antiretroviral therapy. While the majority (72%) of people had re-suppressed viral loads after switching to second-line antiretroviral therapy, nearly 28% did not respond adequately or at all, and 18% of those that initially re-suppressed viral load experienced a rebound (24). This underscores the importance of regular viral load monitoring and treatment adherence support.

### Supporting children on treatment in Khayelitsha, South Africa

The treatment gap for children is larger than the gap for adults. An estimated 30% [28–32%] of children living with HIV are receiving antiretroviral therapy in sub-Saharan Africa, compared with 43% [39–47%] of adults in the region (1). Reasons for this treatment gap include delayed return of testing results, delayed initiation of treatment, inadequate early infant diagnosis capacity and a paucity of testing opportunities for older children. In addition, rates of treatment failure in children are almost double those in adults. Improving treatment adherence and success in children is now receiving increased attention.

In 2014 a total of 167 000 children in South Africa were receiving antiretroviral therapy, nearly half of all children living with HIV in the country (1). Improving paediatric HIV treatment management has been a focus in Khayelitsha, a low-income community in Cape Town. One adherence support programme has developed family antiretroviral therapy adherence clubs that allow children and their caregivers to benefit from a community model of care that supports long-term retention.

Overall, retention in care and treatment outcomes of children attending family antiretroviral therapy adherence clubs were better than for children receiving care through traditional services. Children in adherence clubs had a higher proportion of viral suppression (95%) than children in mainstream care (77%). Some 71% of children in care stayed in the clubs, whereas a quarter switched to mainstream care due to missed club visits or high viral loads (25).

Family antiretroviral therapy adherence clubs also facilitated partial or full disclosure of HIV status to the children, an important element in the management of paediatric HIV. At least 79% of children aged seven years or older were partially or fully informed of their HIV status (25).

Simple behavioural and clinical services in another programme in Khayelitsha achieved high rates of re-suppression in children who had been failing antiretroviral therapy. In this programme, children on treatment who were experiencing treatment failure and their caregivers joined support groups, including individual discussions on adherence barriers, home visits and

genotyping to identify viral drug resistance. By second viral load follow-up, 72% of participants had re-suppressed, which increased to 84% of participants at the next follow-up (26).

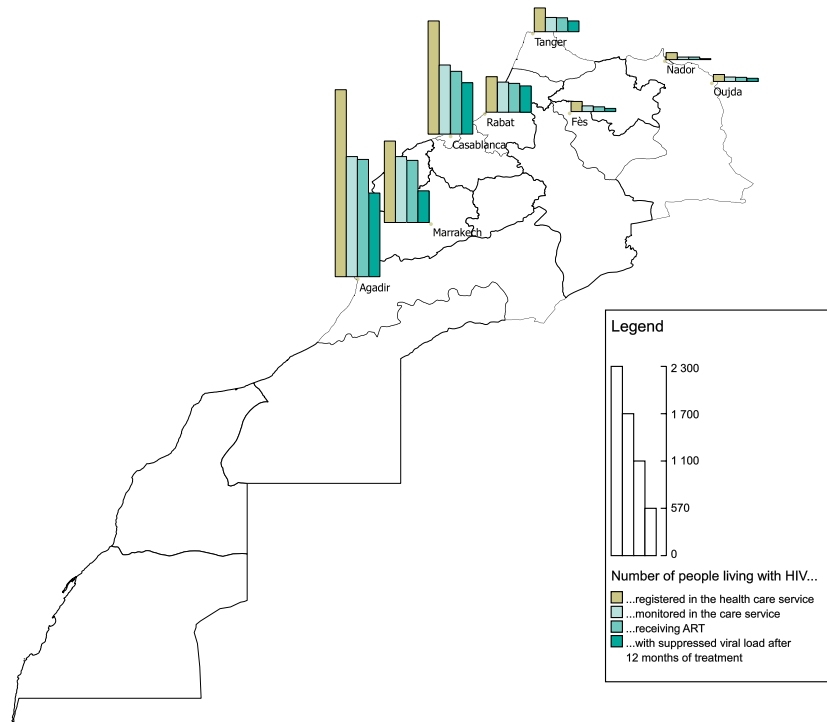
The evidence from paediatric adherence and antiretroviral therapy support programmes in Khayelitsha shows that structured adherence support, including routine viral load testing and adherence support counselling, can achieve high rates of re-suppression in children.

### The HIV treatment cascade

Graphical presentations of a region's, country's, city's or community's HIV continuum of care can link together key HIV response indicator data and reveal where people living with HIV may face barriers to the ultimate goal of viral suppression. These treatment cascades are powerful tools that can simultaneously track programme performance and help convince leaders on what needs to be done to close gaps and reach the 90–90–90 treatment targets.

Subnational HIV treatment cascades can reveal important differences in the provision of testing and treatment within countries and facilitate remedial action. In Morocco, cohort HIV treatment cascades among adults were developed in 2009–2013 for eight sites (Figure 10). In Rabat, over 80% of people diagnosed with HIV are receiving treatment, and 91% of people on HIV treatment are virally suppressed. Conversely, in the region of Nador, less than 40% of people

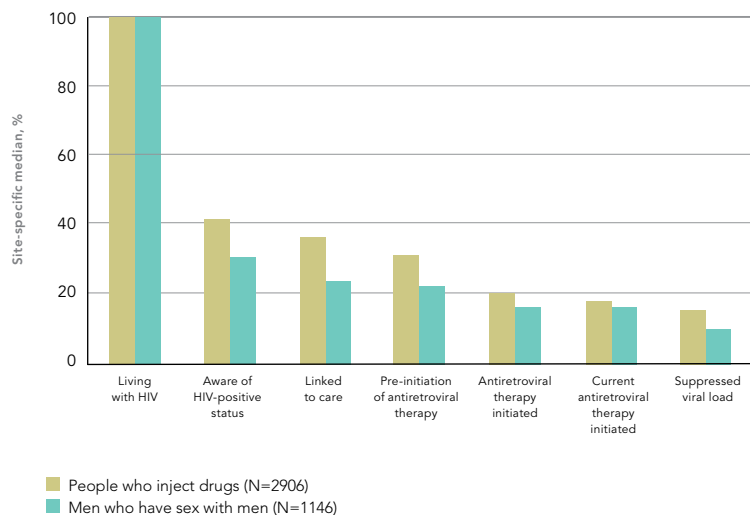
**Subnational HIV treatment cascades for Morocco, 2009–2013**



Source: Antiretroviral medicine patients registers and referral centers, Ministry of Health, Morocco.

Figure 11

**HIV treatment cascade for people who inject drugs and men who have sex with men aged 18 years and over, across 27 sites (26 cities) in India, 2012–2013**



Source: Mehta SH et al. HIV care continuum among men who have sex with men and persons who inject drugs in India: barriers to successful engagement. *Clin Infect Dis*. 2015.

diagnosed with HIV are on treatment, and a similarly low number of people on treatment have achieved viral suppression.

The wide discrepancy between the Rabat and Nador regions is due largely to limited human resources in Nador and the additional adherence challenges experienced in areas where the HIV epidemic is mostly among people who inject drugs. Rabat, by contrast, is a university centre with local clinical laboratory support and social support from local nongovernmental organizations.

Efforts are under way to reduce gaps in the cascade in Nador, such as the launch of a system to identify people living with HIV lost to follow-up and reintegrate them into the HIV care system.

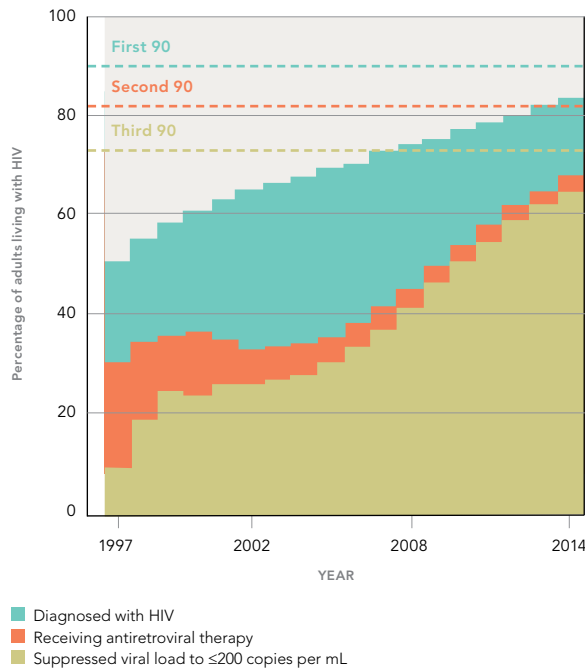
**Indian cascade for people who inject drugs and men who have sex with men**

Similar lessons can be learnt by developing HIV treatment cascades for specific key populations. Although data are sparse, several countries have reported on hard-to-reach populations such as men who have sex with men, people who inject drugs and female sex workers.

Surveys in India estimated the cascade for people who inject drugs and for men who have sex with men (Figure 11). The median proportion of people who inject drugs living with HIV who knew their status was 41%, while among men who have sex with men 30% of those living with HIV were aware of their status, revealing large gaps in reaching the “first 90.” In later stages of the HIV treatment cascade, drop-offs among people who inject drugs and men who have sex with men in India appear to be less prominent. Ultimately, a median of 15% of people

Figure 12

### Cascade of care in British Columbia, Canada, by fiscal year, 1997–2014



Source: British Columbia Centre for Excellence in HIV/AIDS Drug Treatment Program database (for antiretroviral use, viral load and CD4 count) and administrative data (ex. Medical Services Plan billings; hospitalization data from the Discharge Abstract Database).

who inject drugs and 10% of men who have sex with men had suppressed viral loads (27).

Concerted efforts are needed to reach most-affected populations, such as men who have sex with men, people who inject drugs and sex workers through tailored services to ensure the 90–90–90 treatment targets are reached for all populations.

### Cascade of care in British Columbia

Monitoring trends over time can improve efforts to focus services on those at greatest need. In British Columbia, Canada, treatment cascades for people living with HIV aged 18 years and over have been tracked over the past 17 years.

From 1997 to 2014, the proportion of adults diagnosed with HIV, the proportion of adults diagnosed with HIV who are on antiretroviral therapy and the proportion of adults on antiretroviral therapy with suppressed viral load have all significantly increased.

Based on 90–90–90 goals, the 2014 data show that 83% of adults living with HIV had been diagnosed, 81% of those diagnosed have ever received antiretroviral therapy and 96% of adults ever on antiretroviral therapy were virally suppressed.

Among all adults living with HIV in Vancouver, 65% were on treatment and virally suppressed.

### **Fast-Track lessons learned**

Recent achievement of the “15 by 15” target—15 million people on treatment by March 2015—provides a powerful steppingstone towards the attainment of 90–90–90. Reaching the 90–90–90 target will require focused and sustained political leadership, robust financing, health workforce innovations and optimally efficient service delivery. It will also require focused efforts to close treatment gaps for groups who are being left behind, including children, adolescents, young people and key populations.

Urgent steps are needed to align national policies with the latest scientific evidence and to fully leverage technology innovations. The earliest possible initiation of antiretroviral therapy confers powerful prevention and therapeutic benefits. Immediate initiation of treatment can also be easier for health systems to implement, reducing the number of patients lost between diagnosis and initiation of treatment. Accordingly, WHO now recommends a treat-all approach. Viral load testing must be rapidly brought to scale, including point-of-care viral load testing technologies and early infant diagnosis for children. For stable patients, appointments can be appropriately spaced so that capacity is freed up for new antiretroviral therapy initiators and other people on antiretroviral therapy needing clinical attention.

Communities play a critical role in bringing testing and treatment services closer to the people who need them, building demand for services and improving retention and adherence. Innovative community-centred models such as adherence clubs and community antiretroviral distribution should be brought to scale in high-prevalence settings and within key populations.

Finally, the whole HIV treatment cascade must be analysed and improved in countries, with emphasis on subnational differences and differences among key populations. Outcomes across the HIV treatment cascade need to be carefully tracked and documented, and the results used to improve programme performance and monitor progress towards 90–90–90 and the ultimate goal of all people living with HIV staying healthy and preventing transmission of the virus to other people. Achieving that across the world will be a major contribution towards ending the AIDS epidemic.

# Voluntary medical male circumcision

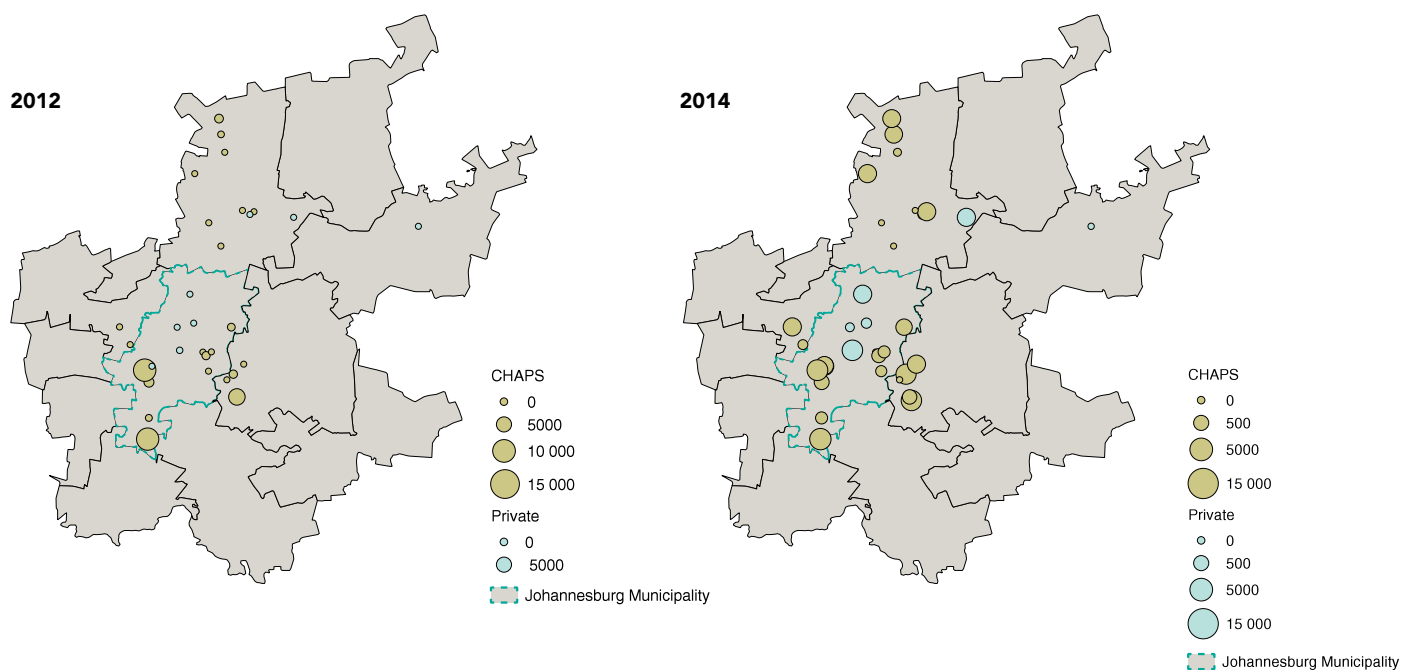
Voluntary medical male circumcision is a priority programme in areas with high HIV prevalence and low rates of male circumcision. It is a high-impact, one-time procedure that reduces HIV acquisition risk by approximately 60%.

The primary preventative effect of male circumcision is for female-to-male sexual transmission, but high coverage can create a protective effect for entire communities. In Uganda, circumcision coverage in non-Muslim men increased from 9% to 26%. Every 10% increase in circumcision coverage was associated with a 12% reduction in HIV incidence (1).

Figure 13

## CHAPS-supported voluntary medical male circumcision in Gauteng, South Africa, 2012 and 2014

Exponential scale-up of circumcision in southern Africa has been driven by innovation and partnership. In Gauteng, South Africa, the public health system is overstretched. Private clinics are being leveraged for scale-up. The two maps show the number of circumcisions in the province performed in 2012 and 2014 by public and private clinics being supported by the Centre for HIV and AIDS Prevention Studies (CHAPS). The contribution of the private sector has grown considerably to 30% of circumcisions in the province.



Source: Centre for HIV and AIDS Prevention Studies.

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## FAST-TRACK TARGET

- ▶ *Twenty-seven million additional men in high-prevalence settings are voluntarily medically circumcised as part of integrated sexual and reproductive health services for men.*
- 

## FAST FACTS

- ▶ *Voluntary medical male circumcision has a 60% protective effect against HIV acquisition.*
  - ▶ *By the end of 2014, more than 9 million men had been medically circumcised, including approximately 3 million during 2014.*
- 

## CHALLENGES AT A GLANCE

- ▶ **Financing:** despite significant scale-up, funding for circumcision is not keeping pace with need. Financial resource constraints pose a serious challenge to realizing the procedure's full potential.
  - ▶ **Sustainability:** as high-performing circumcision efforts move from scale-up to sustainability, they must be made more routine and integrated into mainstream public health systems.
  - ▶ **Maintaining momentum:** maturing programmes will need to adapt their approaches to maintain momentum, potentially including changes in the adult age ranges that are engaged and the provision of circumcision for infants.
- 

In 2011, 14 countries in eastern and southern Africa were prioritized for circumcision scale-up, with a target of 80% coverage of eligible males by the end of 2016. Reaching this initial five-year target will require roughly 20.8 million voluntary medical circumcisions.

As of December 2014, over 9 million medical circumcisions had been performed in the priority countries. Significant progress has been achieved, but coverage varies substantially between countries. Ethiopia and Kenya have exceeded their 80% coverage targets, and by July 2015, the United Republic of Tanzania had nearly reached its target. However, five countries—Lesotho, Malawi, Namibia, Rwanda and Zimbabwe—still have very low coverage, ranging from 6% to 26%.

### **Accelerating male circumcision through private sector engagement in Johannesburg**

Orange Farm—a township in Gauteng province on the outskirts of Johannesburg that was founded by laid-off farm workers in the late 1980s (2)—could be considered the birthplace of the use of voluntary medical male circumcision to prevent HIV transmission.

The township was the location of the first of three randomized control trials that proved the preventative effect of the procedure (3). Following the trial, the researchers established the Centre for HIV and AIDS Prevention Studies (CHAPS) in 2010 to contribute their experience to South Africa's roll-out of a national medical male circumcision programme.

Within two years, the programme had expanded from one public health facility in Gauteng province to 20. At the same time, the public health system was grappling with the rapid expansion of antiretroviral therapy and a dire shortage of health-care workers, placing it under immense strain and causing delays in the provision of services. A significant number of lower-income patients were moving to private providers for more convenient health care.

To ensure continued expansion of the circumcision programme, CHAPS and the National Department of Health turned to the private sector. Programme managers strategically selected private-sector clinics by reviewing the geography, demographics, infrastructure and service availability in Gauteng and other priority areas. They then conducted baseline assessments of candidate facilities in order to evaluate their service delivery and management conditions (4). After confirming that a strict set of conditions had been fulfilled, CHAPS trained the chosen private providers to deliver free voluntary medical male circumcision.

CHAPS reimburses private providers at a slightly lower rate than what the providers themselves would normally charge. Providing the circumcisions for free creates additional demand, however, and the higher volume generates economies of scale that ensure the service remains profitable for the clinics. In one clinic, the number of circumcisions performed daily increased from 20 to as many as 114 (5). In addition, 33% of new patients who come in for circumcision return for additional paid medical services or refer others to the clinic (4).

CHAPS has so far trained and partnered with 12 private practitioners (4). Between 2012 and 2015, a total of 247 355 medical male circumcisions were performed by CHAPS; private practitioners collectively performed 57 696 of this total. The percentage of circumcisions performed by the private partners increased from just 5% during the final two months of 2012 (when the programme began) to 16% in 2013, and then 29% in 2014 (4). Of these, 97% were performed in Gauteng (Figure 13).

The partnership has benefited from cross-pollination. CHAPS has contributed its innovative, World Health Organization-recommended MOVE approach for high-volume, high-quality circumcisions; the private clinics have contributed aggressive marketing and demand-creation strategies that include short message



service (SMS), billboards, radio and print advertising, and the use of branded vehicles to recruit and transport patients to service locations.

High-performing clinics have achieved impressive numbers: the first private practice included in the programme has performed over 15 000 medical male circumcisions since 2012. A newer, mobile-based practice and provider performed nearly 6500 procedures in rural areas in just one year (4).

Due to the great success of the private-provider model, CHAPS has supported the launch of a similar programme in Swaziland, and it also provided initial advice to partners of Namibia's HIV programme.

### **Reaching men in rural areas of the United Republic of Tanzania through mapping**

In 2010, the regions of the United Republic of Tanzania now known as Iringa and Njombe had some of the lowest circumcision prevalence (29%) and the highest HIV prevalence (approximately 16%) in the country (6). Circumcision was only offered within health facilities on scheduled days. Men in rural areas, where demand was high, could not access these services and it was quickly realized that a new approach was required to meet the 2015 targets for the region (7).

In 2012, mobile and campaign services were strategically implemented in rural areas with the aid of a geographic information system (GIS). Service coverage, HIV prevalence, demographic and facility data were geospatially mapped and overlaid, revealing underserved populations (7).

Open-source database software and Google Maps were used to update the maps regularly and link geocoded information, including project monitoring data, road conditions, infrastructure and facility resources. Outreach teams were able to identify low-performing sites quickly and focus on service provision in that area. Road condition information facilitated decision-making on when and where to deliver outreach services (7).

The proportion of circumcisions performed in rural versus urban areas radically changed after the outreach campaigns were initiated. In 2011, similar proportions of circumcisions had been performed in urban (52%) and rural (48%) areas; by 2012, the proportion of circumcisions in rural areas increased to 88%, reaching 93% in 2014. By 2014, 267 917 men had been circumcised in Iringa and Njombe, with 259 144 of them aged 10–34 years. This meant that 98% of the target for the two regions was met (7).

The success of the strategy demonstrates how GIS-aided geographical focusing can optimize service delivery and stimulate Fast-Track scale-up.

### **Circumcision provides a gateway to HIV testing and treatment in Maseru, Lesotho**

Since its start in 2012, Lesotho's voluntary medical male circumcision programme has rapidly expanded to a total of 18 hospitals and private clinics, as well as outreach sites at more than 100 health centres.

In light of historically low rates of linkage to care among newly diagnosed men in Lesotho and high HIV prevalence in Lesotho—an estimated 23.4% of adults aged 15–49 were living with the virus in 2014 (8)—the circumcision programme aims to ensure that clients are tested for HIV and initiate antiretroviral therapy if they are found HIV-positive.

Up to the end of 2014, nearly 85 000 men received voluntary medical male circumcision as part of comprehensive HIV prevention services, and about 56% of these clients were tested for HIV and received the results (9). Newly diagnosed clients were initially given a referral slip and asked to enrol in HIV care at the location of their choice. A review conducted in 2013, however, found that a high percentage of these individuals were lost to follow-up. To improve the situation, active linkages to care and treatment were introduced in October 2013 and, after a successful pilot, expanded in March 2014 (10).

The most sophisticated linkage system is used in the capital, Maseru, at private clinics run by Jhpiego, an international non-profit health organization affiliated with Johns Hopkins University. Circumcision clients who test HIV-positive are offered a CD4 test using a point-of-care machine that provides results during the same visit. They are then offered the option to enrol into care at the private clinic itself, or to be referred to free services at a public facility or a specialized antiretroviral therapy clinic run by the AIDS Healthcare Foundation (AHF). If the client requests to be referred to the AHF clinic, he is provided with transportation. Clinicians and counsellors from both clinics cross-check information and follow up to retain these patients and ensure continuity in HIV care and treatment (10).

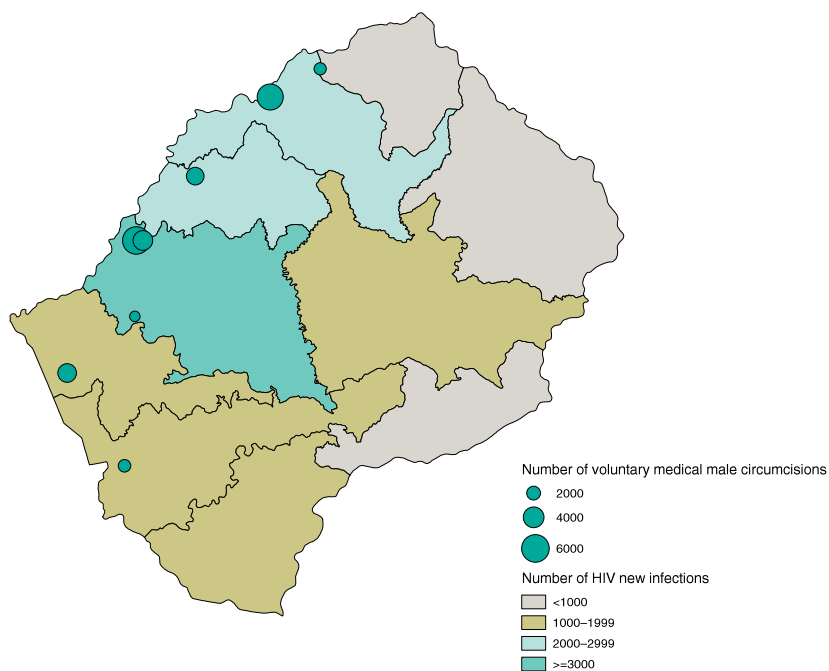
Among the 6540 men who were circumcised at the two clinics between October 2013 and August 2015, 83% were tested for HIV, resulting in 337 new diagnoses (6% of the men tested). Among those new diagnoses, 78% had a CD4 test and received the results—more than twice the percentage of patients at six district hospitals without point-of-care CD4 testing. This result reinforces how the percentage of patients lost to follow-up at various steps of the continuum of care cascade can be greatly reduced by providing rapid test results, active referrals and rapid treatment initiation (10).

The experience shows that voluntary medical male circumcision can be leveraged to dramatically increase HIV testing and treatment among previously undiagnosed men and male adolescents. Immediate initiation of all people diagnosed with HIV, in line with the World Health Organization's latest guidelines, should be considered to further avoid loss of these newly diagnosed men to follow-up.

Figure 14

### New HIV infections and voluntary medical male circumcision, Lesotho, 2014

In Lesotho, the roll-out of voluntary medical male circumcision is an opportunity to link men to HIV counselling and testing. This map shows the location of eight health facilities being supported by Jhpeigo to offer voluntary medical male circumcision within comprehensive HIV prevention, HIV testing and linkage to care, as well as the number of circumcision they performed from October 2013 to August 2015. These health facilities are located in areas with higher incidence of HIV.



Sources: Lesotho HIV and AIDS Estimates and Projections, 2014; Jhpeigo, 2013-15.

### Non-surgical devices boosting scale-up in Zimbabwe

Circumcising an additional 10 million men by 2020 will require more efficient methods of service delivery. Non-surgical procedures have the potential to accelerate scale-up by making the procedure quicker, easier to perform, more acceptable to the patient and more cost-effective.

In Zimbabwe, the PrePex device was introduced in April 2014 as an alternative method to surgery. PrePex works by compressing the foreskin between a ring and an elastic band, allowing it to be removed without incisions or sutures. The device addresses some patient concerns about circumcision, including fear of having a surgical operation or of losing wages due to an inability to work for several days after the operation. In a survey of 500 men who had undergone a PrePex circumcision, 465 (93%) said they would recommend PrePex to their peers (11).

More than 12 000 men in Zimbabwe have benefitted from a PrePex circumcision since its introduction, and its use is steadily increasing as additional clinics and mobile teams are trained. The service is being integrated into primary health-care facilities with nurses as the main providers, which will create additional efficiencies. Additional demand is being generated by a “Ring” awareness campaign conducted by Population Services International.

### **Fast-Track lessons learned**

Voluntary medical male circumcision is on the Fast-Track. Three million circumcisions were performed in priority countries in 2014 alone, nearly one third of the total since 2011. This increase shows that large, healthy populations can be effectively reached with HIV prevention services. High-performing national programmes have excelled at building public trust and expanding medical capacity in low-resource settings by partnering with the private sector. Moreover, voluntary medical male circumcision programmes can be leveraged to help increase HIV testing and treatment enrolment of men and boys in order to achieve the 90-90-90 treatment targets.

The challenges will be to increase coverage in lower-performing countries while maintaining the rate of scale-up in higher-performing countries. The demand is largely there, but financial resources from external donors have flatlined. Similar to antiretroviral therapy, programmes must transition from rapid scale-up to sustainability.

New non-surgical devices are now being rolled out as an alternative to surgical circumcision. These devices are simple, less resource-intensive, usable by non-physician providers, acceptable to clients and providers, and as safe as standard surgical male circumcision. Innovations such as these will help countries circumcise an additional 27 million men by 2020. In the long term, lessons also need to be learned from countries where male circumcision is part of societal traditions, such as in many countries in West and central Africa.

**THREE MILLION CIRCUMCISIONS  
WERE PERFORMED IN  
PRIORITY COUNTRIES IN 2014  
ALONE, NEARLY ONE THIRD OF  
THE TOTAL SINCE 2011.**

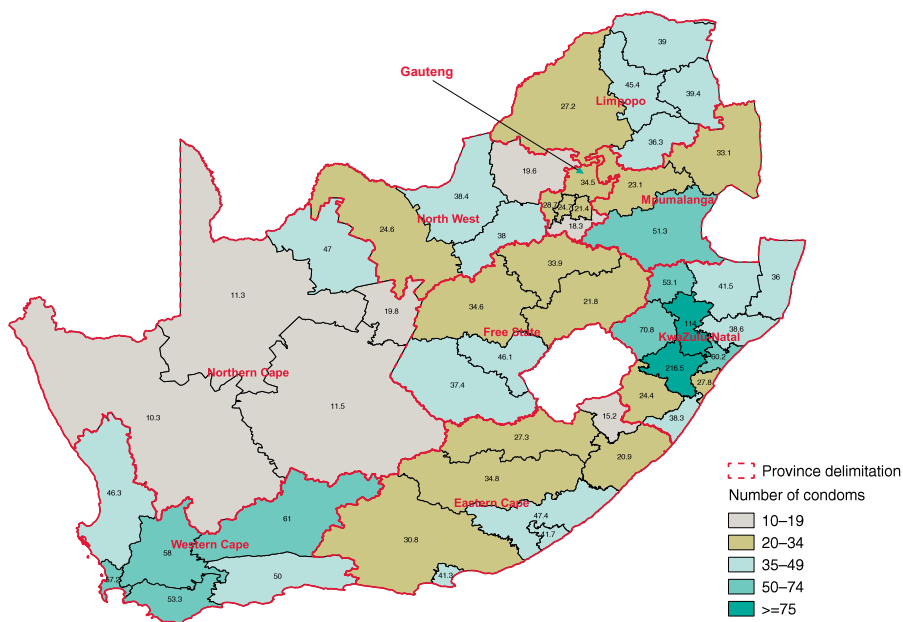
# Condoms

Condoms are proven and affordable methods of HIV prevention in both low-level and high-level epidemics. In Zimbabwe and South Africa, increased condom use has contributed to reductions in HIV incidence (1, 2). In India and Thailand, increased condom distribution to sex workers and their clients, along with other HIV prevention efforts, has been associated with reduced transmission of HIV and other sexually transmitted infections (3–5). Putting condoms on the Fast-Track would avert an additional 1.4 million new HIV infections by 2020 (6, 7).

Figure 15

## Average number of male condoms distributed annually per male adult aged 15 years or older in South Africa, by district, 2014–2015

The South African Government aims to annually distribute 1 billion male condoms (50 male condoms per adult male per year) and 25 million female condoms by 2016. A rebranding of the freely distributed “Choice” male condom and a distribution partnership with South African Breweries have contributed to progress towards the target. In KwaZulu-Natal, strong political and technical leadership, community-based distribution, and a focus on high-transmission areas helped Fast-Track condom distribution from 8.2 condoms per adult male in 2010 to a provincial average of 59.1 condoms per adult male in 2014, exceeding the national target along with Western Cape.



Source: National Department of Health, Republic of South Africa, 2015.

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## FAST-TRACK TARGETS

- ▶ *Ninety per cent of women and men, especially young people and those in high-prevalence settings, have access to HIV combination prevention and sexual and reproductive health services.*
  - ▶ *Twenty billion condoms available annually in low- and middle-income countries for people of all ages.*
- 

## FAST FACTS

- ▶ *Regular and correct use of condoms reduces the risk of HIV transmission by as much as 95% (8).*
  - ▶ *Condoms have averted an estimated 50 million new HIV infections since the onset of the HIV epidemic (6).*
  - ▶ *Condoms are an inexpensive HIV prevention tool and also prevent against other sexually transmitted infections and unintended pregnancies. One condom costs less than three cents to make (9).*
- 

## CHALLENGES AT A GLANCE

- ▶ **Condom fatigue:** condoms have been deprioritized and donors' support for condoms has flatlined (10, 11).
  - ▶ **Insufficient access to condoms:** there are gaps in condom access in key populations and key locations, even in countries with highly promoted and widely distributed free condom programmes (12).
  - ▶ **Insufficient access to lubricants:** less than 25% of men who have sex with men in 165 countries have easy access to free lubricant (13), and sex workers desire but lack access to lubricants. Most countries do not include lubricant in their national strategic plans (14).
- 

Over the past few years, however, “condom fatigue” has set in, especially in sub-Saharan Africa. Condoms have been deprioritized, and a “business-as-usual” approach prevails in many countries. Donor support for condoms has flatlined, with the United States President’s Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) spending less than 1% of their resources on condoms (10).

Within this difficult global situation, some programmes are sustaining their condom programmes and rolling out innovations in condom promotion. In

Zambia and Nicaragua, location-targeted strategies have increased condom use in places where individuals meet new sexual partners or engage in sex, and population-targeted approaches have improved condom use in diverse populations, including students and young travellers in Sweden, people who inject drugs in New York City, and truck drivers and their sexual partners in the United Republic of Tanzania (15–20).

Distribution of free condoms, widespread or targeted to key locations or populations, is repeatedly shown to be a key component of successful condom programmes. Social marketing of subsidized condoms has increased condom use in several sub-Saharan African countries, including urban Zimbabwe and Mozambique (21–23). In India, condom programmes focusing on key populations have been effective in increasing condom use and decreasing HIV infection through community engagement of sex workers, men who have sex with men and transgender people.

Public-sector distribution, social marketing and commercial sales can be combined into a total market approach that emphasizes the strength of each segment of the market and improves the overall efficiency and effectiveness of condom promotion.

### **South Africa builds the world's largest condom distribution programme**

Although South Africa has made significant strides in improving access to treatment and reducing mother-to-child transmission of HIV, continuing high incidence of HIV among adults is a serious concern. An estimated 330 000 [300 000–360 000] new infections occurred among adults aged 15 years and older in South Africa in 2014 (24).

A reported decline in knowledge levels about HIV and AIDS, an increase in risky sexual behaviour and insufficient levels of condom use continue to drive the HIV epidemic (25). Between 2008 and 2010, an average of only 13.4 male condoms were distributed per adult male per year in South Africa. In five of the nine provinces, fewer than 10 condoms were distributed per adult male per year. In KwaZulu-Natal, the province with the highest HIV prevalence, 8.2 condoms were distributed per adult male per year, in stark contrast with Western Cape, where almost 40 condoms were distributed per male per year. Of additional concern to the South African Government was a significant drop from 45.1% to 36.2% in condom use at last sex across the country and among various subpopulations between 2008 and 2012 (25).

In response, the South African Government set an ambitious goal in 2011 to annually distribute 1 billion male condoms (50 male condoms per adult male per year) and 25 million female condoms by 2016. It is also aiming to achieve 100% condom use among people aged 15–24 years.

The Government's free condoms have an empowering brand name—"Choice"—that urges South Africans to take a decision to protect themselves. Social marketing has helped to build awareness and increase the use of Government-branded condoms. A strong emphasis is placed on free distribution through public health facilities, identified outlets in hotspots and



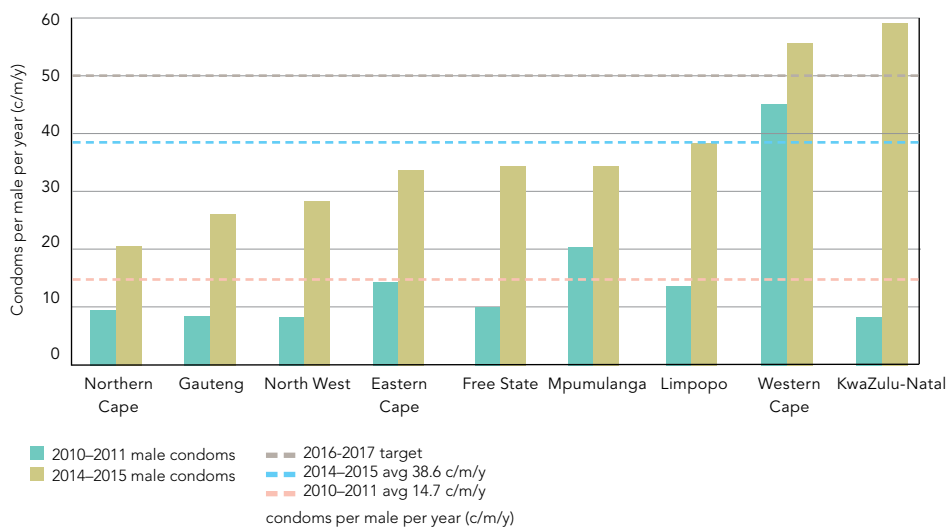
other public sites to ensure access to condoms. To appeal to younger people, the Choice brand was reinvigorated in 2015 with a new line of brightly coloured and flavoured condoms that are being freely distributed in colleges and universities.

Other innovations were introduced. Subnational condom coverage data (26) are used by district management teams in high-burden areas and low-performing districts to adapt their strategies and operational plans to plug gaps in condom distribution coverage and to align their efforts to achieve both the provincial and national targets (27).

The Project Promote partnership with South African Breweries has strengthened the condom supply chain and extended regular condom distribution. Each month South African Breweries' extensive distribution network delivers condoms to 11 800 shebeens (taverns) across the country (28).

Figure 16

**Condom promotion in South Africa: number of male condoms distributed per male per year, by district, 2010–2011 to 2014–2015**



Source: National Department of Health, Republic of South Africa, 2015.

In 2012, the Western Cape achieved its condom targets, having distributed 53.8 condoms per adult male. KwaZulu-Natal Fast-Tracked condom distribution from 8.2 condoms per adult male in 2010 to 58.9 condoms per adult male in 2014, exceeding the national target. In total, 11 of the 52 districts reached the national target in 2014.

KwaZulu-Natal's extraordinary progress has been aided by:

- ▶ Strong political and technical leadership at the provincial and district level and multisector oversight through regular review meetings of district AIDS councils and local AIDS councils led by mayors to monitor targets and come up with solutions.
- ▶ Close collaboration with communities through Operation Sukuma Sakhe (a provincial government anti-poverty initiative) working in wards to ensure communities participate in the response.
- ▶ Community-based distribution of condoms in shebeens, tertiary institutions and community facilities, and community caregivers distributing condoms to households during campaigns.
- ▶ Scale-up of prevention services, including distribution of condoms in high-transmission areas.

An important feature of South Africa's condom programme is that it is funded by domestic resources; most other countries in the region rely heavily on donor-funded and donor-procured condoms. The estimated cost of South Africa's ambitious condom programme for 2012–2016 is US\$ 160 million—only 1.5% of the total estimated budget of the South African national AIDS programme (29).

South Africa has emerged as a global leader in male and female condom distribution. Since 2010 there has been a 2.6-fold increase in the number of condoms distributed in South Africa, and the country now boasts the largest free condom distribution programme in the world, with over 712 million male condoms and 19 million female condoms distributed in 2014, and another 100 million condoms sold at subsidized prices through social marketing programmes and commercial sales. Gaps in condom distribution coverage across districts and provinces have been addressed by geographical targeting, especially in high HIV prevalence locations.

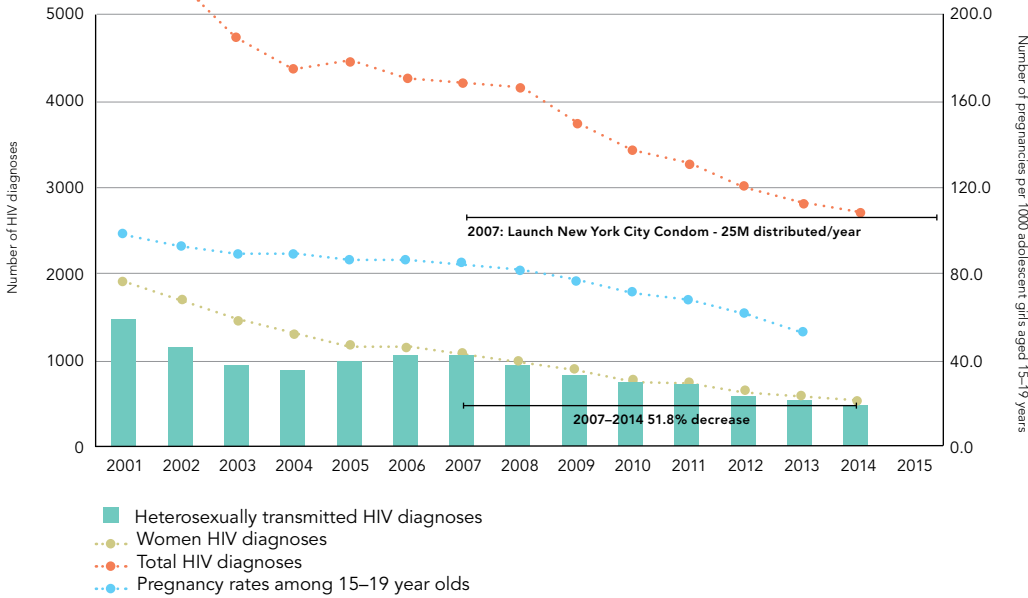
#### **NYC Condom reaching key populations with focused distribution, marketing and mobile phone app**

New York City was the first city in the world to have its own municipally branded condom, and it currently maintains the largest free condom programme in the United States of America. Even in this high-income, cosmopolitan city, free condom distribution is instrumental in preventing HIV, other sexually transmitted infections and unintended pregnancies among key populations. Free condom distribution is included as a cost-saving and cost-effective prevention strategy within the 2015 Blueprint for ending the epidemic in New York State by 2020.

New York City's free condom programme started in 1971, with free condoms distributed through the city's clinics for sexually transmitted infections. An increase of new HIV diagnoses due to heterosexual transmission was observed between 2004 and 2007, mostly among low-income African-American people and people of Hispanic descent. In 2007, the Health Department launched the NYC Condom. Since then, every National Condom Awareness Day (held

Figure 17

**New HIV diagnoses in New York City, 2001–2014**



Source: New York City Health Department.

on St Valentine’s Day) has included a change in the look of the NYC Condom packaging or the addition of a new layer of social marketing to the programme.

The Health Department supplies male condoms, female condoms and lubricant freely to any New York City organization or business that wishes to distribute them. In 2011, the Health Department created the NYC Condom Finder, a mobile phone application (app) that uses GPS to assist users to find condom outlets across the city; this app has been downloaded more than 43 000 times.

New York City’s Condom Availability Program (NYCAP) has over 3500 condom distribution partners and in 2014 distributed over 37.1 million male condoms and almost 1.2 million female condoms across the five boroughs. These partners focus distribution on neighbourhoods with the highest rates of HIV in the city, and to locations that serve people living with HIV and key populations, such as gay men and other men who have sex with men.

The programme works to increase the awareness, availability and accessibility of condoms to the residents of New York City by maintaining a strong community presence. In 2014, NYCAP participated in over 105 community events, provided 825 presentations in the Health Department’s clinics for sexually transmitted infections, and participated in all official and unofficial Gay Pride events in the city, reaching over 53 500 individuals.

Awareness of and access to NYC Condoms is high among key populations. Over 75% of individuals polled at Gay Pride events and an African American Day Parade had seen or heard of NYC Condoms and had obtained them (29).

At the Health Department's clinics for sexually transmitted infections, 86% of people surveyed were aware of NYC Condoms and 76% had obtained them (30). Condom use was also high, ranging from 69% to 81% among people who obtained NYC Condoms (30, 31).

Since the launch of the NYC Condom, more than 300 million NYC Condoms have been distributed. The trend in new diagnoses of heterosexually transmitted HIV infections has been reversed, with a reduction of 52% between 2007 and 2014 (Figure 17).

### **Fast-Track lessons learned**

Condoms are the bedrock of combination HIV prevention, and adequate investment by governments and donors to further scale up condom promotion is required to sustain responses to HIV, other sexually transmitted infections and unintended pregnancies.

Sufficient numbers of condoms and lubricant must be distributed, complemented by social marketing of subsidized condoms and commercial sales. Condom programming for key populations and in key locations, incorporated with community-based peer outreach services, is essential to reduce new HIV infections. Setting ambitious national targets, disaggregated at the subnational and subpopulation level, will facilitate targeted distribution and access to condoms.

Changing legal and policy frameworks will increase access to condoms and use for key populations. For example, sex workers will use condoms more confidently if they are not fearful of being arrested for carrying them.

Innovations in condom design, promotion and distribution through the use of new media and public-private partnerships can help reach younger populations, and adolescents can be reached through school-based programmes. Shifting the focus of marketing from disease protection to fun has popularized condoms in some settings.



# Pre-exposure prophylaxis

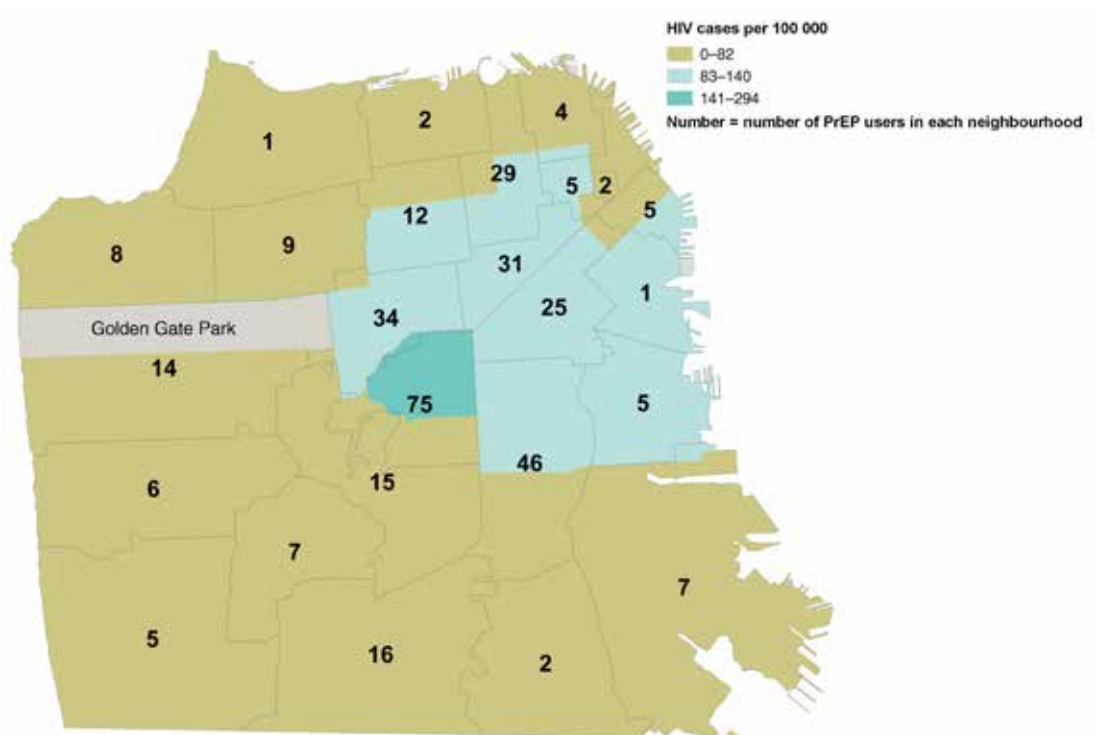
Pre-exposure prophylaxis (PrEP) can be an effective prevention tool for individuals at substantial risk of infection, including key populations, serodiscordant couples and sexually active adolescents in populations with a high incidence of HIV.

Daily oral PrEP containing the antiretroviral medicine tenofovir protects HIV-negative individuals from acquiring HIV. It empowers individuals to take control of their own HIV risk. PrEP can be chosen and discretely used by individuals

Figure 18

## Pre-exposure prophylaxis in San Francisco

In San Francisco, United States of America, PrEP is focused in areas where HIV prevalence among gay men and other men who have sex with men is higher and viral suppression rates are lower. The impact of PrEP—as part of a strong combination of HIV prevention and treatment in a population that is organized, free from stigma and well-informed—has been dramatic. In 2012, there were 426 new HIV infections reported in San Francisco; in 2013, the number dropped to 359, and then to 302 in 2014.



Source: Magnet, San Francisco AIDS Foundation.

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## FAST-TRACK TARGET

- ▶ *Three million people on PrEP annually, focused particularly on key populations and people at higher risk in high-prevalence settings.*

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## FAST FACTS

- ▶ *High adherence to PrEP can effectively prevent HIV infection (1–4).*
- ▶ *Demand for PrEP is rising among people at substantial risk of infection. A multi-country survey of people at higher risk of HIV infection found that 61% of respondents would “definitely” use PrEP if it was available (5).*
- ▶ *Availability of PrEP is currently extremely limited, with less than 1% of individuals at substantial risk of HIV infection having access to it.*

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## CHALLENGES AT A GLANCE

- ▶ **Access:** the medication is only slowly being approved by countries for HIV prevention, and the cost of the PrEP regimen accounts for approximately two thirds of a PrEP programme budget.
- ▶ **Awareness:** many people who could benefit from PrEP are unaware of this HIV prevention option.
- ▶ **Complimentary services:** PrEP needs to be delivered as part of a comprehensive, user-friendly package of HIV and sexual health services, including testing.
- ▶ **Adherence:** medicine must be taken daily to have maximum preventative effect.

at risk of HIV infection, which is especially important for those whose personal prevention options are limited. This includes men and women who lack condom-negotiating power, are subject to intimate partner violence or who desire conception or greater intimacy. The decision to use prevention is also more considered, as taking PrEP is removed from the moment of sex.

There is strong demand for PrEP within populations where knowledge of—and access to—PrEP is high. Sixty-one per cent of those surveyed in several countries in East and Central Asia, Latin America and Africa said they would “definitely” use PrEP, and as many as 92% of men who have sex with men surveyed in India said they would likely use PrEP (5). In the United States, 44–79% of HIV-negative gay men surveyed said they desired or would use PrEP (6-8).

The availability of PrEP is slowly growing. Australia, Brazil, France, Malaysia, South Africa, Thailand and the United Kingdom of Great Britain and Northern Ireland are moving towards the incorporation of PrEP into their national HIV programmes. The United States Public Health Service recommends PrEP as a prevention option for individuals who are at substantial risk of acquiring HIV through sexual transmission or injecting drug use (9). There also are a growing number of countries with pilot programmes that are demonstrating the feasibility and potential impact of this powerful prevention tool.

### **PrEP scale-up is helping San Francisco get to zero new HIV infections**

San Francisco, the second most densely populated city in the United States, has been a global leader in HIV prevention strategies for gay men and other men who have sex with men. The city’s empowered gay community has driven a consistent commitment to the HIV response. As a result, Fast-Track Targets have nearly been met: the San Francisco Department of Public Health estimates that 94% of people living with HIV know their status, 84–91% of those diagnosed are on antiretroviral therapy and 88% of those in care are virally suppressed (10)

San Francisco was among the early adopters of PrEP, officially rolling out the service shortly after United States regulatory approval in 2012. The impact of PrEP—as part of a strong combination of HIV prevention and treatment in a population that is organized, free from stigma and well-informed—has been dramatic. In 2012, there were 426 new HIV infections reported in San Francisco; in 2013, the number dropped to 359 and then to 302 in 2014 (11). PrEP roll-out was driven by social and market forces alone—a strategy that appears to attract people who will benefit the most.

Greater impact can be achieved through continued PrEP scale-up. Current PrEP use is only 29% of what would be required to reduce HIV infections by 70% from 2011 rates (12). Only one quarter of client demand is being satisfied, according to a survey of individuals at the San Francisco AIDS Foundation STI clinic, and information from other San Francisco clinics suggests that only one third of those eligible for PrEP are using it.

San Francisco is committed to supplying this demand through both public and private health-care facilities. The San Francisco Department of Public Health is mobilizing additional resources and coordinating partner efforts around



a “Getting to Zero” HIV response strategy that focuses on expanding PrEP, providing early diagnosis and immediate treatment of HIV and supporting greater retention of patients who already are in care. A website has been launched that provides short message service (SMS) reminders to new clients to help them adhere to their medication and links them to medical professionals or peers within an online social network in order to answer their questions. Patients are also being supported to select health insurance plans that cover a portion (or all) of the costs of PrEP.

By conveying a sense of urgency and shared responsibility among San Franciscans, engaging and empowering a broad diversity of stakeholders, developing robust metrics for success and reporting progress annually on World AIDS Day, San Francisco aims to be the first city in the world to achieve the “Getting to Zero” vision (12).

### **PrEP—combined with treatment and rights education—is protecting sex workers in Zimbabwe**

Zimbabwe’s HIV epidemic is among the world’s most severe. In a population of approximately 13 million people, adult HIV prevalence is estimated at 15% (13). Nearly half of sex workers are living with HIV (14), and approximately 12% of all new HIV infections occur among sex workers and their clients (15).

The Sister with a Voice programme was initiated in 2009 to bolster Zimbabwe’s HIV response among sex workers. Overseen by the Centre for Sexual Health and HIV/AIDS Research Zimbabwe, the programme provides a range of integrated HIV prevention and sexual and reproductive health services to more than 30 000 women (16). The programme’s 36 sites include health clinics and outreach services that are provided at informal settings such as truck stops.

Within the Sisters programme, the SAPPH-IRE<sup>1</sup> project is working at 14 locations. In this trial, women who test positive for HIV are offered immediate antiretroviral therapy initiation, and women who test negative for HIV infection are offered PrEP. Community-based adherence support is provided to both groups. Each woman in the programme selects a “sister,” another woman in the programme with whom she will attend monthly peer group sessions. HIV status is kept confidential unless personally disclosed, and the programme sisters support each other with medication adherence. SMS reminders are used to encourage women to attend both clinic and medication refill appointments.

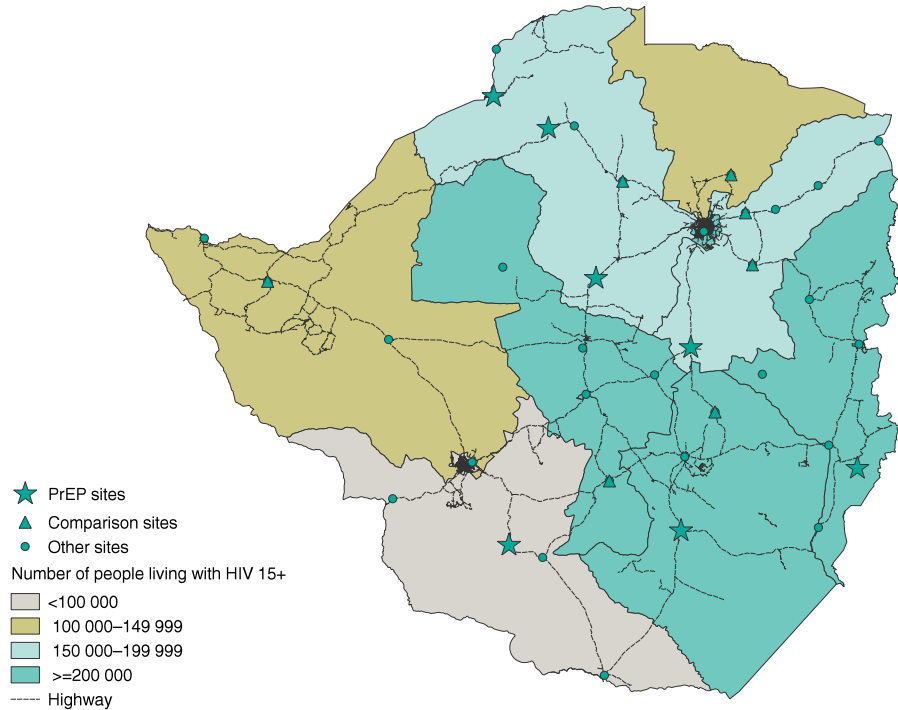
An important component of the Sisters programme is the legal advice provided to participants by peer educators (including some who have been trained as paralegals). Using materials developed by local human rights lawyers specifically for sex workers and the unique issues they face, the peer educators inform sex workers of their basic rights and how they can legally protect themselves against violations of those rights.

1. Sisters Antiretroviral Therapy Programme for Prevention of HIV—an Integrated Response.

Figure 19

### PrEP intervention and comparison sites for sex workers within the SAPHH-IRe project, Zimbabwe

The SAPHH-IRe project in Zimbabwe is offering PrEP to sex workers who test negative for HIV, and offering immediate antiretroviral therapy initiation to sex workers who test positive for HIV. The 14 PrEP sites and seven comparison sites are located primarily on major transportation routes associated with sex work and HIV transmission.



Source: Centre for Sexual Health and HIV/AIDS Research Zimbabwe.

### From treatment success to PrEP in Sao Paulo and Rio de Janeiro

Provision of PrEP to key populations in Brazil is being piloted within an HIV service delivery system that has a strong history of innovation and success. Brazil has a comprehensive HIV service platform that integrates HIV prevention and treatment into its universal health-care programme. It was the first country to provide free combination HIV treatment and, in 2013, it became the first middle-income country to adopt the immediate offer of treatment to people living with HIV regardless of CD4 count (17).

The PrEP Brazil Study is evaluating delivery of PrEP in Sao Paulo and Rio de Janeiro to collect evidence for future national PrEP strategies. The study's focus is on transgender women and men who have sex with men. National HIV prevalence among men who have sex with men is 10.5%, over 20 times higher than the general population (17), with HIV prevalence among men who have sex with men at 18% in Rio de Janeiro and 24% in Brasilia (18). This includes young men who have sex with men, a population that has accounted for an

increasing proportion of new HIV cases in Brazil: nearly 40% of all new cases reported among men who have sex with men in 2014 were among young men aged 20–29 years old (17). Transgender women in Brazil also are at a higher risk for HIV infection. In Southern Brazil, 25% of people seeking male-to-female sex reassignment surgery were living with HIV, with higher prevalence among those with a history of sex work (19).

A key component of the PrEP Brazil Study is its focus on innovative ways to increase treatment adherence (such as SMS reminders). The first study is fully enrolled, with results anticipated next year; the second study, with larger numbers and expanded key populations, began this year. Preliminary results are promising: uptake of PrEP was over 50%, with prior knowledge of the service and high-risk sexual behaviour both associated with uptake among the participants (20).

Growing awareness of (and demand for) PrEP is expected to facilitate wider roll-out. In a Brazilian online survey in 2011, only 22% of men who have sex with men had heard about PrEP (21). Another survey conducted in 2015 showed awareness had reached 60% among men who have sex with men in Sao Paulo and Rio de Janeiro, and nearly 95% said they would like to use PrEP to prevent HIV (20).

### **Dollar-a-day PrEP in Bangkok**

Thailand hosted one of the trial sites in the iPrEx study that first proved PrEP's efficacy. Since then, the country has participated in at least five other PrEP trials that have engaged men who have sex with men, transgender women and people who inject drugs.

Prevalence of HIV among men who have sex with men in Thailand has been rising for a decade. As of 2014, 9.2% of Thai men who have sex with men were living with HIV. Prevalence and risk factors are higher in urban settings: over 40% of older, urban men who have sex with men are living with HIV (22), and incidence among young urban men who have sex with men has nearly doubled since 2003. Only half of urban men who have sex with men report consistent condom use (22). The transgender population is also at elevated HIV risk, with HIV prevalence within five cities estimated at 13%.

The Thai Red Cross AIDS Research Centre in Bangkok is exploring the feasibility of self-pay PrEP with both public and private partners. Launched in December 2014, the PrEP-30 project worked closely with Thailand's leading social media HIV outreach initiative, Adam's Love, to raise awareness and recruit participants into the pilot (23). As of September 2015, 106 individuals at higher risk of HIV infection had started PrEP at a cost of 30 Thai baht (US\$ 1) per day. The median monthly household income in Thailand is US\$ 585.

This user-fee model may be a sustainable model for scale-up. Participant payments cover the majority of costs: medication, service and laboratory tests, while the Thai government subsidizes part of the HIV testing costs (24). A generic version of the medication, manufactured by the Thailand's Government Pharmaceutical Organization, helps to keep prices low. The willingness of people

to continue to pay out of pocket and remain adherent to PrEP will be monitored closely during the pilot.

### **Tailoring PrEP and immediate treatment to sex worker needs in Johannesburg and Pretoria**

Gauteng, which includes the cities of Johannesburg and Pretoria, is South Africa's smallest province by land area, but also its most populous, with more than 12 million residents (25).

Within this densely populated urban environment, the Wits Reproductive Health and HIV Institute's TAPS Demonstration Project (26) is evaluating whether it is feasible, acceptable, safe and cost-effective for a combination HIV prevention and care programme to roll out PrEP for female sex workers who test negative for HIV and to offer immediate initiation of HIV treatment to sex workers who test HIV-positive.

The pilot builds on years of strengthening community links and providing services to sex workers. Female sex workers have been engaged in the development and implementation of the service package. During focus group discussions held in Johannesburg and Pretoria, sex workers discussed their experiences with HIV service provision and access, including their idea of optimal HIV prevention and treatment. Their attitudes toward PrEP, immediate HIV treatment and frequent HIV testing also were considered.

Although the TAPS Demonstration Project is still in its early days, a preliminary analysis of the focus group discussions shows that PrEP is a welcome addition to a limited array of HIV prevention options. Stigma and violence were identified as barriers that need to be addressed and education and adherence support from clinic and community sources are needed. Nonetheless, the prevailing view was that these challenges can be overcome. As of October 2015, only one participant had withdrawn from the demonstration project, and no patients had been lost to follow-up. Anecdotal reports from participants indicate that the friendly environment within the clinics and supportive attitude of staff help maintain high retention rates.

### **Continuing on the Fast-Track**

PrEP has emerged as a powerful prevention tool for people at high ongoing risk of HIV exposure. Roll-out of PrEP for female sex workers, gay men and other men who have sex with men is beginning to gather pace, but for adolescents and young men and women in high-prevalence settings, it is still early days. Two pilot studies for adolescents started in 2014 in Cape Town through the Desmond Tutu HIV Foundation:

- ▶ Pluspills is examining the feasibility, acceptability and use of PrEP in 150 adolescent girls and boys aged 15–19 years.
- ▶ UChoose is examining female preferences for PrEP delivery through the use of different contraceptive options (oral, injectables and vaginal rings) in 150 adolescent girls aged 16–17 years.

PEPFAR's DREAMS initiative also includes a PrEP component for young women and adolescent girls. All of these initiatives are at the forefront of efforts to empower young people to make their own decisions and establish an AIDS-free generation.

With an estimated cost of less than 5% of an HIV programme's total budget, PrEP is a key component of a Fast-Tracked response. It should be considered within the context of combination HIV prevention, with strategies tailored to the needs of specific key populations in specific environments. Strong adherence is required to maximize its protective effect and to prevent the emergence of drug resistance. HIV programmes incorporating PrEP must therefore include patient support from both health-care workers and peers, as well as periodic HIV testing and counselling.

Demand for PrEP is increasing, and awareness-raising will increase it further. However, stigma and criminalization will continue to hamper HIV prevention services, including PrEP, if they are left unaddressed.

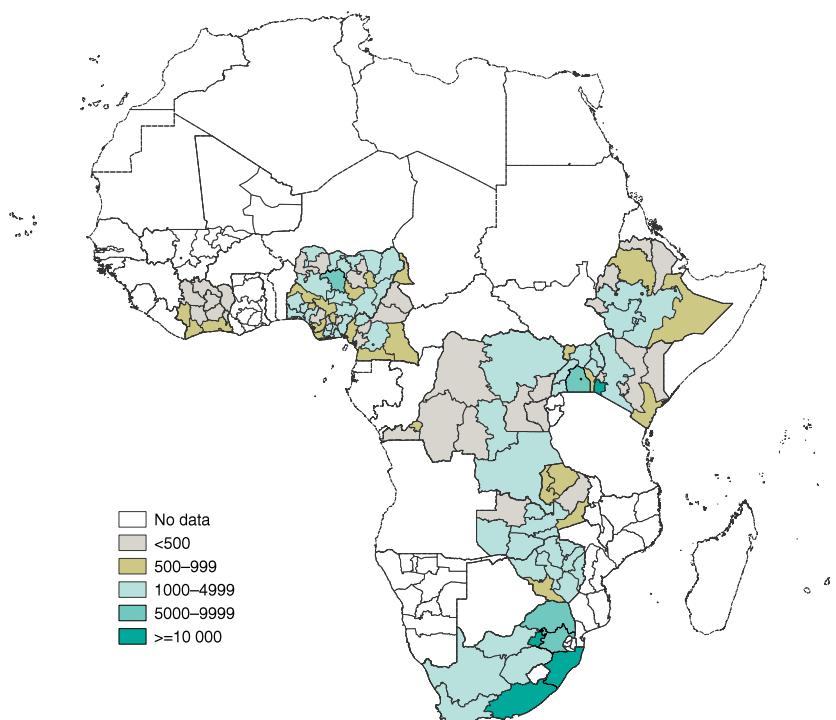
# Adolescent girls and young women

Adolescent girls and young women aged 15–24 years are at increased risk of HIV. This risk is driven by demographic and behavioural patterns and underlying drivers of vulnerability, including harmful gender norms and inequalities, poverty, food insecurity and violence. A Fast-Track approach analyses and addresses these drivers and provides young women and girls with programmes and services that help them to protect themselves. It also requires engaging men, both to challenge harmful norms and to enrol them in HIV prevention and treatment services.

Figure 20

## New HIV infections among adolescent girls and young women (aged 15–24), sub-Saharan Africa, 2014

An estimated 80% of the women aged 15–24 living with HIV are in sub-Saharan Africa, and 74% of new HIV infections among adolescents in the region are girls. This increased risk is driven by demographic and behavioural patterns and underlying drivers of vulnerability, including harmful gender norms and inequalities, poverty, food insecurity and violence.



Source: UNAIDS estimates, 2014.

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## FAST-TRACK TARGET

- ▶ *Ninety per cent of young women and girls have access to HIV combination prevention and sexual and reproductive health services, and live free from violence.*

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## FAST FACTS

- ▶ *More than 5000 young women and girls acquire HIV every week, the vast majority of them in southern Africa. Adolescent girls and young women in southern Africa acquire HIV five to seven years earlier than their male peers (1).*
- ▶ *Globally, only three in every 10 adolescent girls and young women aged 15–24 years have comprehensive and correct knowledge of HIV.*
- ▶ *In high-prevalence settings, women who suffer intimate partner violence are at increased risk of acquiring HIV (2).*
- ▶ *AIDS-related illnesses remain the leading cause of death among African women of reproductive age (3).*

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## CHALLENGES AT A GLANCE

- ▶ **Lack of local analysis** of risk and drivers of vulnerability.
- ▶ **Insufficient coverage** of programmes aiming to reduce new HIV infections among young women and girls.
- ▶ **Inequalities and violence:** pervasive gender inequalities put women and girls at higher risk of acquiring HIV.
- ▶ **Poverty and food insecurity:** in many countries, poverty pushes girls towards age-disparate and intergenerational sexual relationships, which puts them at higher risk of acquiring HIV.
- ▶ **Lack of access to education:** keeping girls in school is linked to lower rates of HIV infection and unintended pregnancy, but many girls drop out of school early, jeopardizing their health and future prospects.

Violence against women and girls, especially intimate partner violence, has been shown to increase risk of HIV infection. A study in South Africa found that women who were exposed to intimate partner violence were 50% more likely to acquire HIV (4). Another study in South Africa found that the association of intimate partner violence and HIV was stronger in the presence of controlling behaviour and high HIV prevalence (5). Exposure to childhood sexual violence increases girls' risk of unwanted pregnancy, alcohol use and acquiring HIV and other sexually transmitted infections (6).

Prevalence of recent intimate partner violence has been found to be higher among adolescent girls and young women than it is among older women, and child marriage is a risk factor for intimate partner violence: girls under 18 who marry are more likely to experience violence within marriage than girls who marry later (7, 8).

In southern Africa, age-disparate, intergenerational sexual relationships and transactional sex combine with low awareness of HIV places young women at extremely high risk of HIV (9).

Figure 21

**Intimate partner violence among women aged 15–24 years, Zimbabwe, 2010–11**

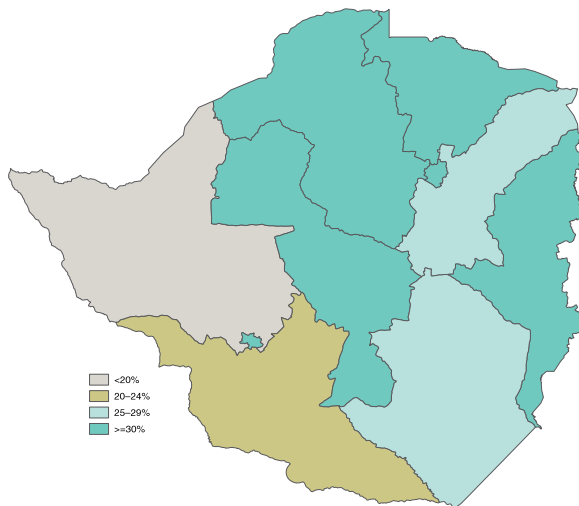
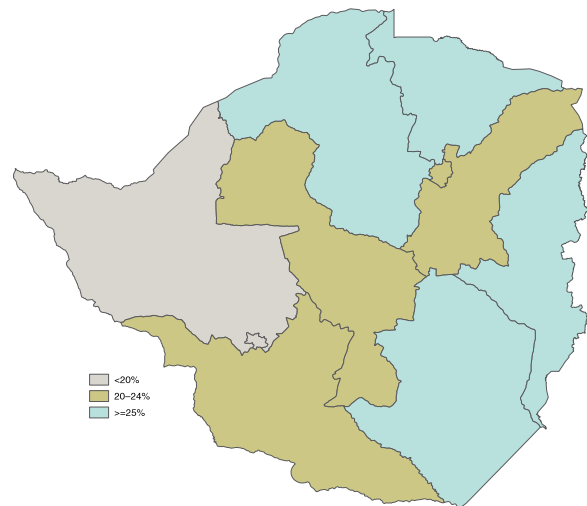


Figure 22

**Intimate partner violence among women aged 25–49 years, Zimbabwe, 2010–11**



Violence against women, especially intimate partner violence, has been shown to increase the risk of HIV infection. Subnational data on recent intimate partner violence reflects variations within countries. In most regions in Zimbabwe, for instance, prevalence of recent intimate partner violence was higher among young women aged 15–24 years than among women aged 25–49 years.

Source: Zimbabwe Demographic and Health Survey, 2010–2011.



Recognition has grown in recent years that HIV services must be combined with education, economic empowerment and social protection of young women and girls to reduce new infections. Young women and girls must be empowered to make decisions about their own health, including having access to sexual and reproductive health services. They must be able to choose when to have sex (and with whom), to negotiate condom use with a sexual partner, to decide whether to marry (and at what age and to whom), and to elect when and how many children to have (if any).

Programmes that address the HIV and sexual and reproductive health service needs of young women and adolescent girls—as well as the structural determinants that pose obstacles for their access (such as lack of access to education, gender-based violence and inequalities)—have been proven to work to reduce the risk of HIV infections and other negative health outcomes. In South Africa, for example, receipt of a government child support grant or a foster child grant has been associated with reduced incidence of transactional sex (10).

Patterns of risk and vulnerability differ both within and across countries, and between urban and rural areas; they also vary by age group, marital status and cultural norms. Systematic efforts to analyse and address local risk and tailor service packages to the local situation remain scarce. Greater efforts are needed to ensure that more coherent programming targeting young women and girls is brought to scale, including female-controlled HIV prevention methods, access to education, school feeding and other forms of empowerment.

### **DREAMS of a better future for young women and girls in Lesotho**

Nearly half of all new HIV infections among adolescent girls and young women globally in 2014 occurred in 10 countries in eastern and southern Africa: Kenya, Lesotho, Malawi, Mozambique, South Africa, Swaziland, Uganda, the United Republic of Tanzania, Zambia and Zimbabwe.

An ambitious effort is underway to empower young women and girls in these countries and reduce their vulnerability to HIV—a programme known as DREAMS: determined, resilient, empowered, AIDS-free, mentored and safe women.

With support from the United States President's Emergency Plan for AIDS Relief (PEPFAR), the Bill & Melinda Gates Foundation and Girl Effect, DREAMS provides HIV services to young women and girls and addresses structural drivers that increase their HIV risk, including poverty, gender inequality, sexual violence and a lack of education (11).

In each country, DREAMS is being integrated into local systems and geographically targeted to avoid duplicating existing services, to increase efficiencies and to maximize impact. Advisory committees—which include government officials, civil society organizations and representatives of adolescent girls and young women—have been established at the national and subnational level. These committees address relevant policy issues, coordinate with other initiatives that focus on this population, and provide data and feedback to support implementation.

Lesotho is a case in point. In February 2015, an initial stakeholder meeting took steps to ensure that DREAMS does not establish services in parallel to existing programmes. Stakeholders also agreed to prioritize young women and girls who are most at risk of acquiring HIV.

Data from Lesotho's AIDS programme, the Ministry of Education, the Ministry of Social Development and the Bureau of Statistics were used to establish the target population and prioritize the districts in greatest need. This process focused on the following data in each district of the country: HIV prevalence, new HIV infections by gender and age, unmet need for antiretroviral therapy, rates of rural-to-urban migration, in- and out-of-school population sizes, local availability of schools and universities, and the number of orphans and vulnerable children.

Maseru and Berea were identified as priority districts. They had the highest HIV prevalence and number of new infections among girls aged 15–19 and young women aged 20–24, and both had a significant unmet need for antiretroviral therapy. Maseru and Berea also are residential and industrial areas with mobile populations who make lengthy commutes between their homes and jobs (12).

DREAMS aims to achieve a 25% reduction in incidence among adolescent girls and young women within priority areas across eastern and southern Africa before the end of the 2016, and a 40% reduction before the end of the following year (12).

### **Reducing risk in Botswana by keeping girls in school**

Education empowers adolescent girls and young women, and the longer a girl stays in school, the lower her risk of acquiring HIV (13). Some of the most compelling evidence of the protective effect of education has come out of Botswana, where a change in education policy in 1996 increased the length of time adolescents attend secondary school by nearly one year.

Length of education is closely related to socioeconomic status and psychological traits. It can therefore be difficult to measure the impact of education alone on HIV risk. By comparing entire grade levels of girls in Botswana from before and after change, however, it was possible to measure the specific impact that a longer duration of education had on HIV risk (14).

Demographic data and HIV biomarkers of young respondents within the 2004 and 2008 Botswana AIDS Impact Surveys were compared. The cohort in the earlier survey attended secondary school before the policy change, while those in the later survey attended secondary school after the education reform was implemented.

The results were striking: each additional year of secondary education reduced cumulative risk of acquiring HIV by 8.1 percentage points relative to the 25.5%

prevalence of HIV at baseline for both women and men. For women, the contrast was even sharper, with an 11.6% reduction. Not only did secondary school education prove effective in reducing the risk of acquiring HIV, it also was found to be cost-effective compared to other programmes being implemented in Botswana (14).

### **Preventing violence against women through activism in Kampala, Uganda**

In epidemics with HIV prevalence above 5%, a strong association has been found between violence and HIV. To address this, more than 25 organizations are using the *SASA! Activist kit for preventing violence against women and HIV* (15). Regardless of whether the setting is religious, rural, refugee or urban, the SASA! programme has been proven to inspire community mobilization to prevent violence against women and reduce HIV-related risk behaviours. It achieves this by reducing the social acceptability of violence and changing the attitudes and behaviour of both men and women.

The SASA! programme has been used in Kampala, Uganda, where violence against women is widespread: an estimated 52% of women aged 15–49 years reported experiencing physical or sexual partner violence in their lifetime, and 8.4% [7.6–9.4%] of women were living with HIV in 2014 (16, 17). The programmes focuses on shifting harmful gender norms by supporting community members to discuss issues of gender inequality, violence and HIV. Participants include ordinary members of the community who have been trained to implement the programme, health-care workers, police and local community leaders.

Men who had taken part in the Kampala SASA! programme were 50% more likely to have an HIV test than men who hadn't taken part. They also were more likely to communicate more effectively with their partners and participate more frequently in domestic duties (18).

Male participants also were more likely to have discussions about condom use, and they had double the rate of condom use compared to men in the control arm of the study. Furthermore, women who participated in SASA! were more likely to report being able to refuse sex and to make decisions jointly with their partners.

### **Fast-Track lessons learned**

Despite significant declines in new infections and progress in curbing the epidemic over the last 15 years, young women and girls in high-prevalence settings continue to be at higher risk of HIV, and the number of new infection in this group remains high. Insufficient programming for HIV prevention services that specifically focus on young women and girls persists, although recent efforts—including those spearheaded by countries taking part in DREAMS—are promising. Several countries have used this opportunity to examine their strategies around both HIV and young women and girls, and this has helped

them to take their own steps to strengthen social protection and service provision for young women and girls.

At the same time, long-standing structural factors and challenges that have negative effects on the health of both women and men—such as harmful gender norms, inequalities and violence—remain pervasive and deep-seated in many countries. Fast-Tracking the AIDS response for adolescent girls and young women will require extraordinary effort to overcome these factors so that young women and girls at risk of HIV can protect themselves, realize their rights and advance their political, physical and economic autonomy. Intractable as these problems may seem, there are ongoing efforts that are proven to work, not only to end the AIDS epidemic, but also to reduce violence and advance gender equality. Women's engagement in these efforts is key, not only as beneficiaries, but also as partners and leaders.

**RECOGNITION HAS GROWN  
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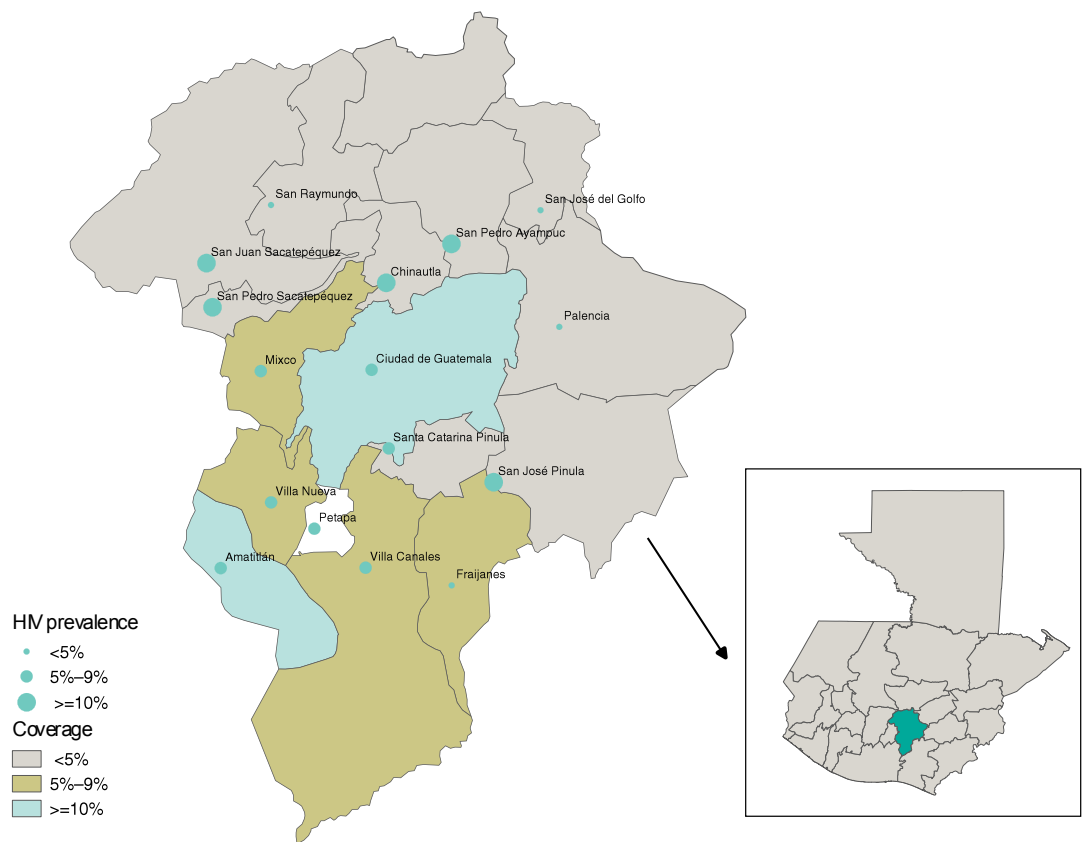
# Gay men and other men who have sex with men

Gay men and other men who have sex with men have been recognized as a key population at increased risk of HIV since the earliest days of the HIV response. Although many countries have seen steady overall declines in annual new infections, the available data paint a different picture for men who have sex with men. HIV epidemics among this population continue to expand in most low-, middle- and upper-income countries, and HIV prevention and treatment services are fragmented and lack adequate coverage (1).

Figure 23

## HIV prevalence and coverage of services for gay men and other men who have sex with men, Guatemala City, Guatemala, 2014–2015

In the greater metropolitan area of Guatemala City, where an estimated 9300 gay and other men who have sex with men live, coverage of HIV services provided by the community organization Colectivo Amigos contra el SIDA (CAS) in 2014 and 2015 was highest in the city centre and Amatitlán. Service coverage is lower in other high-prevalence areas of the city, suggesting priorities for service expansion.



Source: CAS.

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## FAST-TRACK TARGET

- ▶ *Ninety per cent of men who have sex with men have access to HIV combination prevention services.*
- 

## FAST FACTS

- ▶ *HIV epidemics among gay men and other men who have sex with men continue to expand in most low-, middle- and upper-income countries (1).*
  - ▶ *Globally, only four in 10 men who have sex with men are being reached with HIV services (2).*
  - ▶ *Same-sex acts between consenting adults are a criminal offence in 78 countries. Five impose the death penalty (3).*
- 

## CHALLENGES AT A GLANCE

- ▶ **Criminalization:** in many countries, same-sex acts are against the law, making it difficult for gay and other men who have sex with men to access HIV-related services.
  - ▶ **Static service delivery:** HIV responses have been slow to react to the rapid rise of smartphone and web-based services that are used to arrange casual sexual encounters by gay men and other men who have sex with men.
  - ▶ **Discrimination:** fear of abuse or discrimination by health-care workers reduces HIV testing and increases the number of HIV treatment patients lost to follow-up.
  - ▶ **Lack of services:** insufficient political and financial commitment has left programme for gay men and other men who have sex with men underfunded and at insufficient scale.
  - ▶ **Overlapping vulnerability:** the use of drugs—especially stimulants—by gay men and other men who have sex with men increases sexual risk behaviour (4, 5).
-

Multiple social and individual factors coalesce to put these men at higher risk. Like other key populations, they often are marginalized, stigmatized and subject to punitive laws. A 2014 survey found 78 countries where same-sex acts between consenting adults are a criminal offence, including five where they carry the death penalty (3). Punitive laws, counterproductive policies, human rights abuses and violence fuel vulnerability. Even in countries where basic rights are guaranteed, HIV infections among gay men and other men who have sex with men remain persistently high (6).

Young gay men and other men who have sex with men are at particular risk. Across all countries reporting to UNAIDS, condom use with last partner is about equal between young men (<25) and older men, but HIV testing and status awareness over the previous 12 months is lower among younger men (36% compared to 43%) (7).

In the Internet era, smartphone apps and web-based social networks are replacing gay saunas, other entertainment establishments and public venues as the method of choice for meeting sexual partners. As a result, condom and lubricant programming through traditional venues no longer has the same reach. This means that the coverage of HIV prevention programming for this key population is not only insufficient, it has actually declined: according to reports from 20 countries worldwide, coverage has dropped from 59% in 2009 to 40% in 2013 (7).

National and local government commitments to reach gay men and other men who have sex with men are inconsistent, leading to HIV programmes for them that often are under-resourced. Services are seldom tailored to the needs of this key population, and they are typically organized in isolation from the rest of the health-care system (8). In prisons and other closed settings, the existence of male-to-male sexual intercourse is often denied, as is access to condoms and lubricant. Within the health system, failure to address discriminatory attitudes and abuse by health-care workers increases the risk of losing patients within the continuum of HIV testing, treatment and care.

### **Leveraging social media and dating apps to boost HIV prevention in Guatemala City**

HIV prevention efforts directed at gay men and other men who have sex with men in Guatemala have shown alarming signs of decline. In 2007, 75% of men who have sex with men reported they had been reached by prevention programmes, and 64% had tested for HIV in the previous year (9). In 2012–2013, however, a similar survey found that only 65% among men who have sex with men in Guatemala City were reached by prevention programmes, and only 45% said they had tested within the previous 12 months (10).

The Collective Friends Against AIDS (Colectivo Amigos contra el Sida, or CAS), a community-based organization that focuses on gay men and other men who have sex with men, has modernized Guatemala's strategy to reach this population with comprehensive HIV prevention, testing services and linkages to care.



Since July 2014, outreach activities have been promoted on popular social networking websites and gay dating apps, such as Grindr and Manhunt; they are then carried out in popular meeting places like parks, pedestrian walkways, saunas and nightclubs. HIV testing was promoted by peer educators who offered to accompany clients to specific HIV and sexually transmitted infection service locations.

Since October 2014, testing in Guatemala City has largely been conducted at a facility that provides services according to a more flexible schedule and at a more appropriate location (near one of the main cruising and dating sites). This clinic receives an average of 49 visits per working day. All new HIV cases diagnosed through the programme are linked to an HIV care facility within an average of three days, and follow-up efforts are aided by short message service (SMS) (11).

The results have been encouraging. From July 2014 to August 2015, 7224 gay men and other men who have sex with men in Guatemala City participated in activities to promote condom use and other interventions to prevent HIV transmission; nearly half were tested for HIV, and 41% attended a medical consultation for diagnosis and treatment of sexually transmitted infections (12). Compared to a similar effort in 2013 that covered the whole country, the number of people reached with HIV prevention services was 61% greater, and the number of people tested increased by 32%. In 2014, HIV diagnoses performed by CAS represented half of the total received by gay men and other men who have sex with men throughout the entire country (11).

The highest coverage has been in the district of Amatitlán and Guatemala City Centre; in other areas of the city where HIV prevalence among men who have sex with men is higher than 10%, service coverage is alarmingly low (Figure 23). This indicates that there is still much work to be done in this Central American city.

### **Reaching men through China's largest gay dating app**

For gay men and other men who have sex with men, smartphone apps have revolutionized social interactions. The world's largest dating app for men who have sex with men is China's Blued, which has attracted 15 million users in its first two years (13).

Blued has been hailed by lesbian, gay, bisexual and transgender activists in China for helping users develop a positive self-image and fight stigma and discrimination. The app also promotes HIV prevention in a country where HIV prevalence among men who have sex with men is estimated to be 7.3% and rising, compared to just 0.06% among the general population (14).

A red ribbon icon within the user interface of the app links users to information about the importance of correct and consistent condom and lubricant use, as well as the rights of men who have sex with men. Blued is also actively addressing the fear of discrimination that deters many men who have sex with men from

getting an HIV test. The app engages users to answer questions that are intended to increase their knowledge of HIV treatment, prevention tools and care options, and it points them to locations where they can access HIV testing and counselling.

Blued engaged in HIV-related outreach with over 12 500 people in 2014, 25% of whom subsequently sought HIV testing through a linked testing centre. Ultimately, 82 men learned they were living with HIV (15).

The app has attracted the praise of the Chinese government and interest from venture capitalists who are keen to invest in Blued's overseas expansion (16).

### **Diagnosing men who have sex with men in Curitiba, Brazil, with mobile and e-testing services**

Brazil has been a consistent early adopter of progressive HIV prevention and treatment policies; this has helped stabilize HIV prevalence in the general population at 0.4% (17). In recent years, however, it has been a challenge to mount a sufficient response to the HIV epidemic among gay men and other men who have sex with men.

Curitiba, a city in southern Brazil with approximately 1.75 million inhabitants, has recorded 10 081 cases of HIV and 3310 AIDS deaths since 2002, with men accounting for approximately two thirds of the cases (18). The city has launched a new campaign under the slogan "The time is now: testing makes us stronger" to make stigma-free HIV testing for men who have sex with men more accessible and more closely linked to HIV treatment initiation and the continuum of care.

At the heart of this campaign is the Curitiba Governmental Orientation and Counselling Centre, which has had notable success in reaching men who have sex with men by establishing a welcoming environment. The centre performs approximately 700 rapid tests per month for HIV, syphilis and hepatitis B and C. Eighty per cent of its clients are men. Among a sample of 1145 men who have sex with men who were tested at the Clinic, 117 (or about 10%) were diagnosed with HIV, which is consistent with the national prevalence of HIV among men who have sex with men (18, 17).

Mobile and community-based counselling and testing services run by a nongovernmental organization are offered in other locations with the help of health-care workers from the Centre. This collaboration facilitates access to antiretroviral therapy and continuity of care for those who test positive for HIV.

There is also an e-testing platform available at [www.ahoraeagora.org](http://www.ahoraeagora.org) that provides visitors with an interactive map of the 109 testing centres in the city. The website also has an HIV-risk calculator, an order form for an oral-fluid-based HIV test kit that is mailed to the user and a free 24-hour HIV counselling hotline (14–16). The site helps reach one of the programme's most challenging populations: young men who have sex with men who do not identify themselves as gay. These individuals tend to be disconnected from traditional HIV prevention channels.

Looking beyond these innovative efforts, there is still much unfinished business in Curitiba. Putting the city’s HIV response firmly on the Fast-Track will require stronger efforts to address the social and economic exclusion that members of key populations continue to face. More data are needed to better estimate the size of key populations, and with support from the Ministry of Health, Curitiba is improving HIV epidemic and behavioural surveillance, including developing specific strategies for men who have sex with men (18). Better integration of HIV services into the existing primary care structure and improved collaboration with other cities also are required.

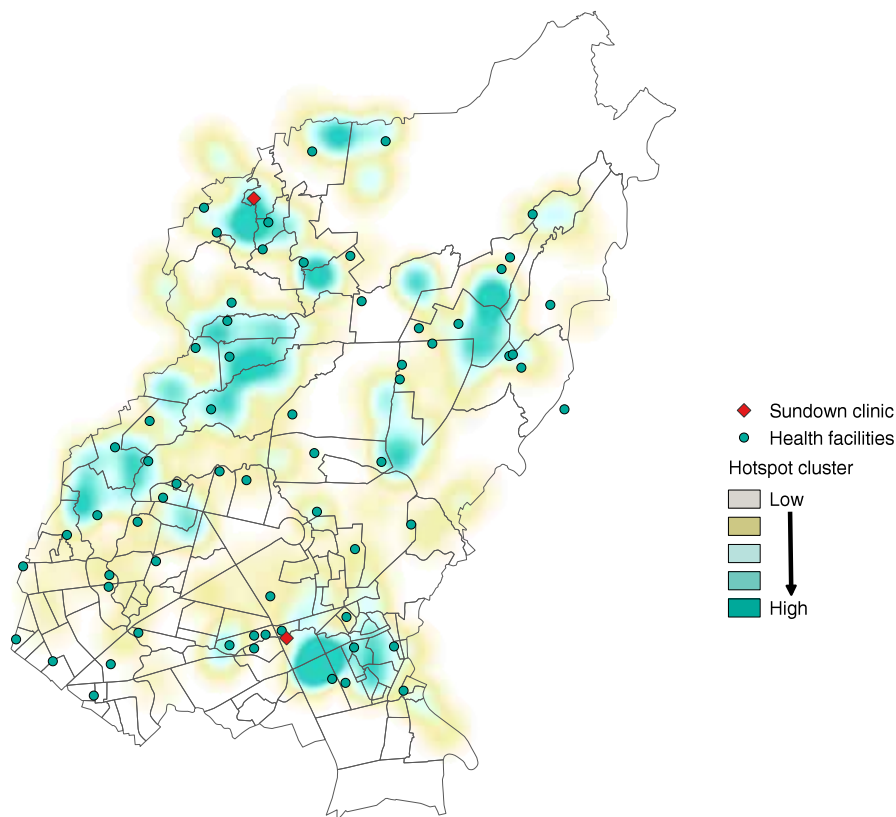
### Sundown Clinics make HIV testing easy for gay men in Metro Manila

Decades of traditional HIV testing and treatment services have failed to achieve high levels of coverage among gay men and other men who have sex with men. Fast-Tracking requires a new approach. In the Philippines, Metro Manila is home to one of the fastest-growing HIV epidemics in Asia and the Pacific, and young men who have sex with men account for almost 90% of new HIV infections.

Figure 24

#### Population sizes of gay men and other men who have sex with men in Quezon City, Metro Manila, Philippines, 2014

Quezon City public health officials, working closely with the community, conducted mapping exercises to establish the areas where gay and other men who have sex with men gather. This heat map shows eight primary clusters and the locations of the city’s health clinics. Markers also denote the locations of Sundown Clinics within two of the clusters.



Source: Quezon City Health Department.

The stigma attached to being gay makes it difficult for them seek HIV services through regular health-care channels.

To address this issue, Sundown Clinics are working to respond to the particular needs of this key population. To do this, the clinics have hours of operation that reflect the times when the key populations they serve are most able to access services (22, 7). For example, Klinika Bernardo in Quezon City, Metro Manila, opens its doors from 8am to 11am, and from 3pm to 11pm. The Clinic caters to a clientele of predominantly gay men, other men who have sex with men and transgender people. Meanwhile, the Social Hygiene Clinic primarily sees a clientele of female sex workers from 8am to 3pm. The clinic's staff of four, who are supported by a small team of peer outreach workers, also are well trained in providing stigma-free HIV services to men who have sex with men (7).

Within two months of opening in 2012, Klinika Bernardo conducted almost 250 sessions of HIV counselling and testing; by the end of 2014, it had conducted more than 2500 tests, with just over 200 clients diagnosed with HIV. The clinic's peer outreach network has received support from the Quezon City mayor's office, and it is now serving Quezon City's gay nightlife hotspots with mobile rapid testing services (23). It also reaches out to church groups, religious leaders and officials from local police and government to help them understand how social acceptance of key populations is critical to achieving the city's public health goals. The clinic also plans to take part in community population size estimations and mapping, and to work with local media to ensure better reporting on HIV and other issues impacting men who have sex with men, transgender people, people who inject drugs, and children and young people living with HIV.

Klinika Bernardo has proven so successful that a second clinic opened in 2015.

### **Civil society successfully reaching men who have sex with men in Beirut**

Against a backdrop of regional conflict, an escalating Syrian refugee crisis, economic hardship, an overburdened health system and discriminatory cultural attitudes, Lebanon's HIV response for men who have sex with men is producing exceptional results.

Recent surveys conducted in Beirut found that 67% of men who have sex with men who are living with HIV know their status (24). This is thanks to extensive efforts by a strong and robust civil society that is working in close partnership with the national AIDS programme.

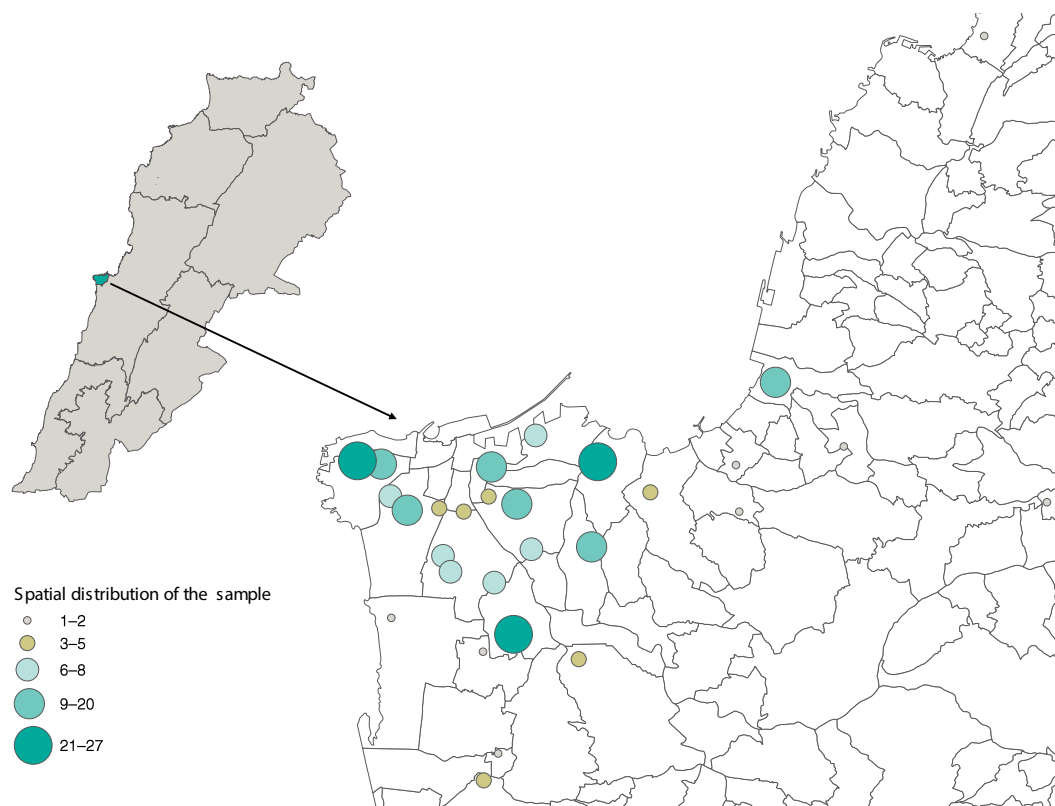
Marsa (The Dockyard) exemplifies the diversity of programmes for men who have sex with men. Founded in 2010, the centre offers comprehensive and holistic sexual and reproductive health services to all, with a special focus on marginalized populations (25).

As well as providing voluntary counselling and testing, Marsa also supplies subsidized medical consultations, specialized psychosocial support and dietetic counselling for people living with HIV (26). Its referral system gives young people access to medical professionals at subsidized prices while maintaining their

Figure 25

### Locations of men who have sex with men surveyed, Beirut, 2015

Beirut is the centre of social life for men who have sex with men living in Lebanon. A respondent-driven sampling survey of men who have sex with men was conducted in 2015. The map shows the neighbourhoods where the 292 subjects lived. The study found that 67% knew their HIV status, and 84% of men living with HIV reported they were receiving antiretroviral therapy. HIV prevalence among men who have sex with men in the city is estimated at 13%.



Source: Heimer R, Khoshnood K, Crawford F, Shebl F, Barbour R, Khouri D and J Mokhbat. Size Estimation, Risk Behavior Assessment, and Disease Prevalence in Populations at Project CROSSROADS: High Risk for HIV Infection in Lebanon. Report to MENAHRA, 15 June 2015.

privacy in a supportive and non-judgmental environment. The Lebanese Ministry of Public Health and the National AIDS Control Programme support Marsa by managing the supply chain and logistics for HIV rapid test kits and training their staff to provide HIV testing services. Between 2011 and 2015, Marsa provided more than 2500 unique clients access to health services and over 4000 HIV tests were performed. From those HIV tests 74 men who have sex with men were newly diagnosed HIV positive (27).

Another pioneering programme run by the nongovernmental organization SIDC (Soins Infirmiers et Developpement Communautaire) and HELEM (Lebanese Protection for Lesbians, Gays, Bisexuals and Transgenders) is receiving support from the International AIDS Alliance as part of its MENACT regional programme.

SIDC uses peer outreach to share vital HIV and health information with men who have sex with men and other key populations. HELEM focuses on awareness-raising and sexual health for the lesbian, gay, bisexual and transgender community. It advocates with policy-makers and health practitioners at the national, regional and international levels for repeal of homophobic laws, the decriminalization of homosexuality and the advancement of human rights and personal freedoms in Lebanon. Its main breakthrough was the passing of an act declaring that consensual sex among men who have sex with men should not fall under the penal code's criminalization of "sexual acts against nature" (28).

### **Safe spaces for men who have sex with men in Nigeria**

In countries where homosexuality is illegal, gay men and other men who have sex with men are forced to hide their sexuality and sexual relations out of a real fear for their lives.

In Nigeria, same-sex sexual practices are criminalized and punishable by up to 14 years of imprisonment. HIV programmes focusing on gay men and other men who have sex with men are extremely limited in this West African country.

In the capital, Abuja, and the states of Lagos, Rivers and Cross Rivers, the Integrated MSM HIV Prevention Programme (IMHIPP) is providing safe places for men who have sex with men to stay healthy and just be themselves. IMHIPP's services include HIV prevention, care and support to men who have sex with men, their female sexual partners and their dependents. Since the programme began in 2009, it has reached over 12 000 men who have sex with men in Lagos alone (29). An impact evaluation survey conducted in 2013 revealed that 73% of men who have sex with men reached through IMHIPP services from November 2012 to April 2013 reported correct and consistent use of condoms, compared to 43% in 2009 (30).

Within the IMHIPP community centres, men can freely embrace each other, express their sexuality and access information on HIV and other sexually transmitted infections, as well as on relationships, sexuality, human rights and social activities. The centres also host support groups for men who have sex with men living with HIV to improve access to counselling and palliative care (31).

The programme is a strong example of collaboration between development partners and local human rights and HIV organizations that addresses the health and human rights of a highly marginalized and criminalized population.<sup>1</sup>

1 Other partners who are participating in the collaboration include the United States Agency for International Development, the Heartland Alliance for Human Needs and Human Rights (a nongovernmental organization from the United States of America) and several Nigerian nongovernmental organizations: the Initiative for Equal Rights, Pure Professionals for Human Rights Advocacy, the Initiative for Improved Male Health and the International Center for the Advocacy of Health Rights.

## **Fast-Track lessons learned**

What works to reach gay men and other men who have sex with men with HIV services has been well established. China and Guatemala City are showing that the smartphone apps men use to socialize can be leveraged to link them to HIV prevention, testing and treatment services. Quezon City and Curitiba are demonstrating how to tailor these services to their clients' specific needs. These innovations need to be combined with technologies that have recently become available—such as pre-exposure prophylaxis—to strengthen HIV prevention among men who are at higher risk of infection.

Beirut is demonstrating the critical role that civil society can play in reaching key populations. Men who have sex with men, however, continue to be underrepresented in local, regional and national AIDS response planning processes (32). This must change to ensure the environment in which services are delivered is more consistently appropriate.

Finally, brave human rights and HIV organizations in Nigeria are showing that gay men can be reached and assisted, even in highly stigmatized and criminalized environments. Ultimately, however, these punitive environments are unacceptable. It is vital to end criminalization of consensual sex between men and to train health-care workers to provide stigma-free services, and to ultimately ensure these men can live their lives in dignity and free from stigma.

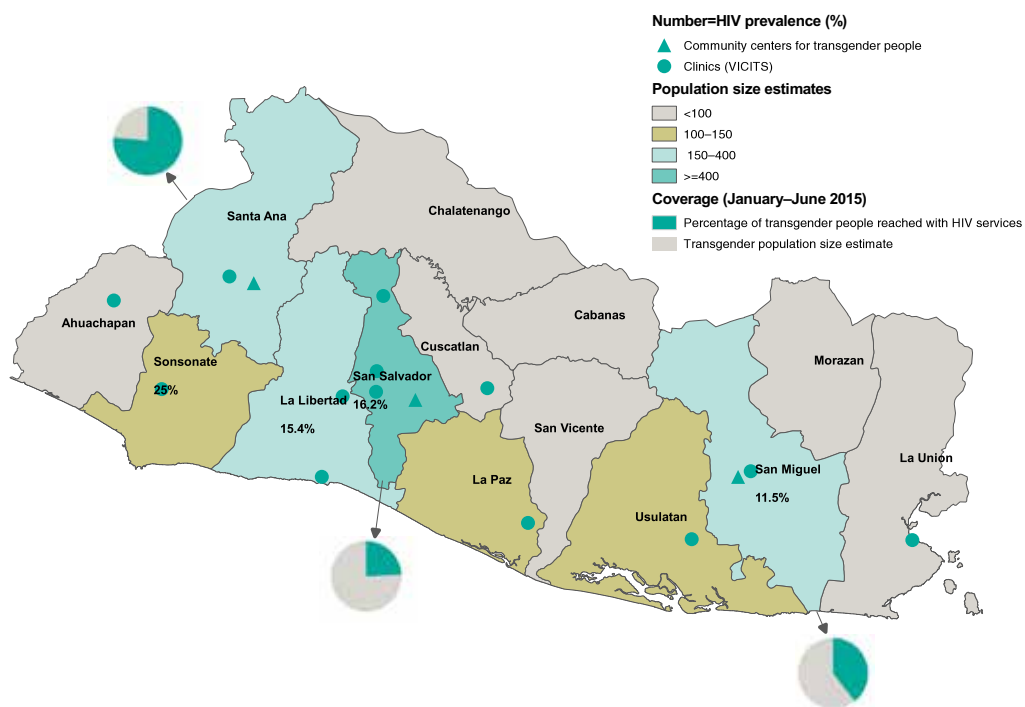
# Transgender people

Transgender people are among the most marginalized populations in nearly every region of the world. In many countries, they are denied recognition of their gender, which in turn deprives them of the identity documents they need to access education, employment and gender-appropriate health care.

Figure 26

## Transgender people and HIV in El Salvador: HIV prevalence, population size estimates and prevention service coverage, 2014

Approximately one quarter of El Salvador's transgender people live in the capital, San Salvador. In 2014, comprehensive prevention community centres were established in San Salvador, San Miguel and Santa Ana (the three most populous cities in the country) to provide a package of HIV prevention and health-care services tailored to the specific needs of this highly marginalized population. The centres make referrals to Ministry of Health-run sexually transmitted infection clinics, known as VICITS, where staff are trained to provide appropriate and stigma-free services to transgender people and other key populations.



Sources: Ministry of Health, El Salvador; Plan International Inc.–El Salvador.



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## FAST-TRACK TARGET

- ▶ *Ninety per cent of transgender people have access to combination HIV prevention services by 2020.*

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## FAST FACTS

- ▶ *Transgender women are 49 times more likely to acquire HIV than other adults of reproductive age (1).*
- ▶ *In 15 countries with available data, an estimated 19% of transgender women are living with HIV (1).*
- ▶ *More than one quarter of transgender women who engage in sex work are living with HIV (2).*

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## CHALLENGES AT A GLANCE

- ▶ **Transphobia:** transphobic attitudes among health-care workers, law enforcement officers, education systems and the general public discourage transgender people from seeking health and social services.
  - ▶ **Violence:** transgender people throughout the world live under threat of physical and sexual violence and hate crimes.
  - ▶ **Social isolation:** a large percentage of transgender women face discrimination in their immediate social environment. They often are excluded from social activities, rejected by their families and expelled from their homes.
  - ▶ **Legal and policy barriers:** lack of recognition of transgender rights creates obstacles to accessing health services, education and employment.
  - ▶ **Stigma and discrimination:** discrimination in the education system and work places limits employment opportunities for transgender women and contributes to a high proportion engaging in sex work.
  - ▶ **Poor service coverage:** too few transgender women are being reached by existing HIV services.
  - ▶ **Migration:** transgender women often migrate from their home towns or villages to seek less threatening places to live (usually cities). This creates vulnerability and service continuity challenges.
-

Family and social rejection are common, as are violence, harassment and discrimination. This is particularly the case in the health system, where transgender people may be denied care or mistreated by health-care workers. Depression, drug and alcohol use, suicide and self-harm are all more common among transgender people than the general population, while young transgender people are particularly vulnerable to economic instability and homelessness.

Transphobia is widespread and often leads to institutional and interpersonal violence towards transgender women. An international community-based project to monitor murders of transgender and gender-variant people collected 1731 reported cases of killings in 62 countries between 1 January 2008 and 31 December 2014. Many more cases are believed to go unreported due to lack of monitoring in many regions (3).

Cross-dressing is criminalized in many countries, leaving transgender people vulnerable to arrest (4, 5). Furthermore, lack of recognition of gender identity in binding international human rights instruments undermines the efforts of these communities to advocate for their rights.

Transgender people also are at higher risk of HIV infection and they are severely underserved within national AIDS responses. Transgender women are 49 times more likely to acquire HIV than other adults of reproductive age, but transgender people living with HIV are less likely to access or adhere to treatment (6). A high proportion of young transgender women engage in sex work due to a lack of employment options (7), and this puts them at much higher risk of acquiring HIV: a 2008 systematic review and meta-analysis estimated crude HIV prevalence among transgender women who engage in sex work to be 27.3%, almost twice that of transgender people who did not (8). Studies also suggest that the risk of acquiring HIV for transgender sex workers is on average nine times higher than it is for female sex workers and three times higher than for male sex workers.

The challenges to Fast-Tracking HIV responses within transgender populations remain huge. Community-led and dedicated services for transgender people are required to cut through the high levels of stigma and discrimination faced by transgender people and move towards the goal of AIDS-free transgender communities.

### **San Salvador linking transgender people to tailored health and human rights services**

El Salvador is estimated to have more than 2000 transgender people, more than one quarter of whom live in the capital city, San Salvador (9). They are among the country's most stigmatized groups, routinely subject to human rights violations, including hate crimes (10, 11). Nearly half of the transgender women in San Salvador report that their main income comes from selling sex, and HIV prevalence among transgender women in the city is estimated at 16.2% (compared to less than 1% among the general population) (9).

In 2014, El Salvador's Ministry of Health joined forces with an international nongovernmental organization, Plan International, to reduce the rate of HIV infections among transgender people and other key populations. Following

consultation with experienced transgender civil society organizations—such as ASPIDH Arcoiris, COMCAVIS Trans, ASTRANS and Colectivo Alejandria—three comprehensive prevention community centres were established.

Run by peers who were recruited through civil society organizations, the centres provide a package of basic HIV prevention and health-care services tailored to the specific needs of transgender clients. The services include general medical and mental health services, HIV counselling and referral for testing, and behaviour change communication on correct and consistent condom and lubricant use.

Mobile teams composed of two civil society peer educators, a laboratory technician and a counsellor work in collaboration with the centres to offer HIV testing and counselling in areas that are frequented by transgender people. Rapid test kits are used to provide immediate diagnosis and make referrals to health-care facilities as required. Using a strategy adapted from the private sector, the teams focus on a specific geographic area and try to reach all points, businesses and people within it. The goal is to increase the coverage of programmes, especially in populations that have limited access to health services.

The centre and mobile units make referrals to Ministry of Health-run sexually transmitted infection clinics (known as VICITS) that have staff who are trained to provide appropriate and stigma-free services to transgender people and other key populations. VICITS also provide a combination HIV prevention package, integrated HIV and sexually transmitted infection diagnosis and treatment, and so-called second-generation surveillance of key behavioural and biological indicators for key populations and people living with HIV.<sup>1</sup> Of the 13 VICITS centres in El Salvador, three are located in San Salvador.

A total of 143 transgender people—about one quarter of San Salvador's transgender population—were reached with a basic HIV prevention package during the first six months of 2015 (12).

Since they opened, the VICITS centres have further strengthened the efforts of transgender women in San Salvador to claim recognition as a group distinct from men who have sex with men, one with its own unique strengths, vulnerabilities, risks and needs. As well as HIV services, the centres also provide information and support on topics such as violence and other human rights violations, and gender-affirming procedures, including hormone therapy.

Strong partnerships have enabled the establishment of this robust service-delivery model, including commitments and inputs by the national AIDS programme, the Ministry of Health, the Ministry of Interior, the Ministry of Education, the Department of Social Inclusion, Plan International and a number of transgender community organizations. The community-led methodology of the programme is key to achieving earlier HIV diagnosis and treatment and it also collects data that will help improve future services for transgender people in the country. Broader structural interventions strengthen the knowledge, self-esteem and leadership

1. The VICITS strategy was established through technical assistance from the United States President's Emergency Plan for AIDS Relief (PEPFAR) and is supported through the Central American Regional Office of the United States Centers for Disease Control and Prevention (CDC).

of local transgender communities, enhance their ability to claim their rights and address stigma and discrimination (13).

### **Reaching four out of five transgender women in Andhra Pradesh, India**

From 2003 to 2014, the Avahan India AIDS Initiative was among the world's most ambitious community-based efforts to reduce HIV infections among key populations. Funded by the Bill & Melinda Gates Foundation, it pioneered a number of approaches with transgender women, men who have sex with men and female sex workers in six Indian states that at the time contained 83% of India's people living with HIV (14).

In Andhra Pradesh, Avahan's community-led efforts successfully overcame both structural and environmental barriers to reach transgender women with a standardized package of evidence-informed HIV prevention services. These included community-led outreach, clinical services to treat sexually transmitted infections other than HIV, facilitation of community mobilization and programme ownership by communities, advocacy for an enabling environment and distribution of condoms, lubricants and other HIV prevention commodities.

The impact of Avahan's work was evaluated in 2013. Between 2006 and 2009, the programme reached more than four out of five [83%] transgender women and men who have sex with men in Andhra Pradesh (15). This high level of coverage was achieved despite deep stigma and superstitions within society. Addressing transgender women was particularly challenging, because they belong to hierarchical, closed-clan communities—which makes it more difficult to reach them directly—and they are in danger of arrest due to the criminalization of sex between men (a provision that also is used against transgender people) (16).

Avahan recognized that peers have a deep understanding of the issues facing their communities, and that they can establish a higher level of trust than outsiders. Relying on peer-led outreach also enabled Avahan to ensure that services took into account the reluctance of transgender women and men who have sex with men to interact with each other, and it tailored clinic services accordingly so that they met the unique needs and lifestyles of the respective groups. Avahan also trained medical staff on how to interact with client groups in a non-stigmatizing manner and ensured that mobile clinics were open at times when transgender women were most likely to use them (such as in the early morning and late at night). Avahan's advocacy efforts included tackling violence, harassment and discrimination, all of which discourage transgender women from accessing services.

The evaluation found no significant reduction in the incidence of HIV or other sexually transmitted infections between 2006 to 2008. Avahan, however, did show how it is possible to reach transgender women, even in settings where they are extremely hidden. Through community-led programmes, it is possible to change behaviour, foster community mobilization around shared concerns and sensitize key stakeholders about the need to address discrimination and harassment among both the wider community and public institutions.

Avahan also is a successful example of a large, donor-funded programme transitioning to national ownership and sustainability. From the beginning, the programme broadly emulated the Government of India's own structure for service delivery, and its focus, goals and priorities were largely aligned with those of the Government when transition planning began in 2006. This alignment was further reinforced within the Government's third national AIDS response plan, when the plan's domestic budget was significantly increased to take into consideration the absorption of Avahan. Avahan's programme costs were fully aligned with the Government's cost guidelines at least six months before transition, and the national and state AIDS programmes were supported to strengthen their capacities in data-driven management and field supervision, community mobilization, guideline development, effective management and costing. Since the transition, state governments contract nongovernmental organizations or community-based organizations to deliver services to key populations under the guidance of the state-level technical support units (17).

### **Opening the door to better health for transgender women in Mexico City**

Almost one in five people living with HIV in Mexico are in the capital, Mexico City, and transgender women are among the populations hardest hit by the epidemic (18). Stigma and discrimination are part of everyday life for transgender people in the city, which greatly hinders their access to essential services, including HIV prevention, treatment and care. Drug use, sex work and unsupervised hormone therapy all put transgender women at higher risk of harm, including violence, exploitation and infectious diseases.

A recent survey of 858 transgender women in the city found that 64% were living with HIV. Mental health problems and substance abuse also were very high compared to the general population and four in five [79%] reported experiencing stigma and discrimination—including isolation, verbal violence and physical violence—from police, family, friends and classmates (19).

The mounting health crisis among transgender people convinced the Mexico City AIDS programme to launch the country's first dedicated health centre for transgender people in 2009. Located at Clínica Condesa in the Colonia Hipódromo Condesa, the centre provides free-of-charge services, including hormone replacement therapy, nutritional counselling, dental services and testing, counselling and treatment for HIV and other sexually transmitted infections (20). As of December 2014, a total of 1187 clients (85% transgender women and 13% transgender men) had received services at the centre (21). Thirty-eight per cent of clients were living with HIV (86% of them received antiretroviral therapy from the centre), while 30% had hepatitis B and 2.5% had hepatitis C (21).

As well as providing vital health-care services for transgender women in the city, Clínica Condesa has created a safe space where they can receive comprehensive care, including treatment for injuries sustained during physical attacks or as a result of using substances to feminize their bodies.

There are, however, still significant challenges to be met in order to address this population's needs and reduce new HIV infections. To build on the work of

Clínica Condesa, the Mexico City AIDS programme plans to establish a second transgender-focused HIV centre in the East of the city, where poverty levels in this community appear to be higher.

### **Claiming the health and social service rights of transgender sex workers in Uruguay**

Sex work by women in Uruguay has been recognized as work since 1995 and, in 2002, the Sex Work Law defined its legal conditions (22). It was not until 2009, however, that the law was extended to cover male and transgender sex workers. Even then, the high cost of social security contributions and a cumbersome registration procedure for the country's social security system made it difficult for transgender sex workers to fully exercise their rights under the law. Without registration, transgender sex workers were denied access to pensions and coverage by the National Health Fund.

Since 2010, the Transgender Association of Uruguay has been advocating for the rights of transgender sex workers, working closely with other sexual diversity and human rights activist organizations and the UNAIDS country office. The first step was to gather data on efforts by transgender people to secure state pensions (23). The project also collated a database of transgender people who had been unable to formalize their work. Social exclusion and marginalization were commonly reported by the transgender sex workers who contributed to the databases.

These challenges were then raised repeatedly by the association in meetings with congressmen and the country's social security body, Banco de Previsión Social. This advocacy bore fruit: a proposal was tabled for a new regulation that would establish new social security contribution options for those who practiced non-conventional work.

The project initially struggled to gain the interest of transgender sex workers, although education about their rights and the benefits of being covered by the country's social security system improved participation. After completing the training, a group of transgender activists led discussions with key decision-makers. The process made transgender sex workers more visible and empowered them to advocate for change.

This work has since influenced a further expansion of social protection for transgender populations. The Uruguay Social Card (Tarjeta Uruguay Social), introduced in 2012, is provided to individuals and households with extreme socioeconomic vulnerability. Support includes a monthly grant provided as a debit card that can be used in a network of shops. Since transgender people have extremely limited opportunities for education, health and work, the Ministry of Social Development provides transgender people access to the card regardless of their economic status. As of 2015, 985 transgender people had Uruguay Social Cards. The Uruguay Works programme has complemented the social card by including transgender youth within an employment quota system for populations that have been excluded from work opportunities (24).

Data from Uruguay Social Card registration are being used by public health programme managers. In the absence of transgender population size estimates,

geographical data collected during social card registration is used. These data show, for example, that nearly half (43%) of the approximately 1000 transgender people who have registered are living in Montevideo. When triangulated with health service coverage data, this can identify service coverage gaps (24).

### **Fast-Track lessons learned**

A Fast-Track AIDS response for transgender women relies on the meaningful participation of community-led organizations and transgender networks. Transgender people understand the health needs of their own communities and they know how to reach their peers, provide them with information and link them to services that are client-focused, rights-based and stigma-free.

Even with increased engagement and investment, transgender communities cannot succeed without legal recognition of their gender identities and enforceable protection of their basic human and civil rights. Tackling the pervasive stigma and discrimination that hound transgender communities is a critical Fast-Track action that will create waves of social impact that extend far beyond efforts to end the AIDS epidemic.

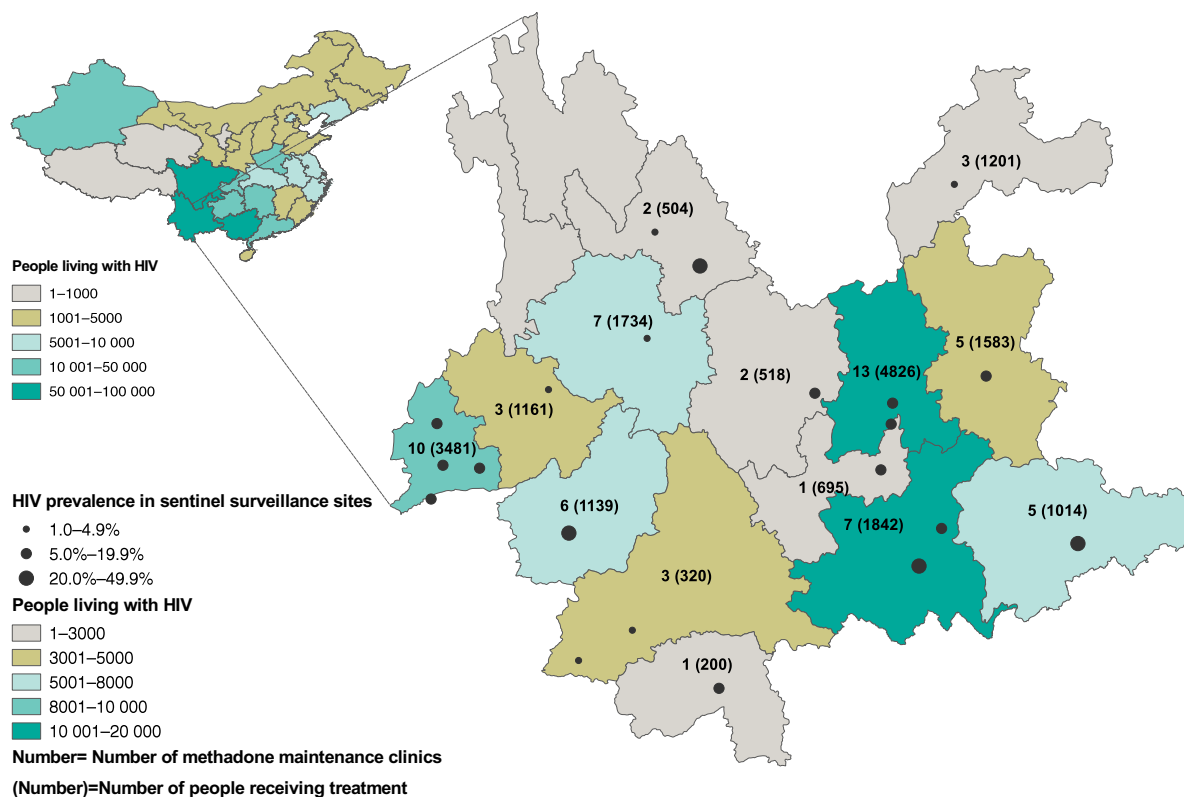
# People who inject drugs

Worldwide there are an estimated 12.2 million [8.5–21.5 million] people who inject drugs, and injecting drug use has been documented in at least 158 countries (1, 2). People who inject drugs are at higher risk of HIV infection, but efforts to reach them with HIV prevention programmes are hampered by a potent combination of punitive legal environments, violence, stigma, discrimination and fear.

Figure 27

## HIV prevalence and locations of methadone maintenance clinics in Yunnan province, China, 2014

Yunnan is among the Chinese provinces most affected by HIV, including high HIV prevalence among people who inject drugs. By analysing HIV case reports, the province has placed methadone maintenance clinics in counties with the highest HIV prevalence. Yunnan's methadone programme now reaches more than 13 500 people each month.



Sources: Chinese National Health and Family Planning Commission, 2015; National Center for AIDS/STD Control and Prevention, Yunnan Center for Disease Control and Prevention, 2014.



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## FAST-TRACK TARGET

- ▶ *Ninety per cent of people who inject drugs have access to HIV combination prevention services.*

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## FAST FACTS

- ▶ *Almost a third of new HIV infections outside sub-Saharan Africa occur among people who inject drugs (3).*
- ▶ *The four countries with the largest numbers of HIV infections among people who inject drugs are China, Pakistan, the Russian Federation and the United States of America (1).*
- ▶ *There has been an estimated 10% decline in new infections among people who inject drugs in recent years, far short of global targets (3).*

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## CHALLENGES AT A GLANCE

- ▶ **Criminalization:** treating drug use and drug dependence by incarceration is counterproductive to efforts to improve individual and public health outcomes.
- ▶ **Arbitrary detention:** detention without trial is a corollary of criminalization and a severe human rights violation.
- ▶ **Widespread societal stigma:** people who inject drugs struggle not only with health challenges related to their drug use but also with societal stigma that discourages uptake of health services.
- ▶ **Poor understanding of harm reduction services:** too many countries treat possession or distribution of injecting equipment as evidence of drug use or drug use facilitation and view methadone as an addictive synthetic opioid alternative rather than a medication.
- ▶ **Slow or no scale-up of harm reduction programmes:** many existing laws prohibit implementation of harm reduction services, reject opioid substitution therapy or impede access to sterile needles and syringes.

There is overwhelming evidence to show that harm reduction measures such as opioid substitution therapy and distribution of sterile injecting equipment greatly reduce HIV transmission among people who inject drugs. The provision of these services is inadequate in most countries (4), however, and where such services are available the criminalization of drug use may impede access.

Fast-Tracking the HIV response among people who inject drugs requires political courage and additional investment. In a small but growing number of cities, regions and even entire countries, drug dependence is no longer considered a crime but a condition created by a complex combination of societal, behavioural and health factors. Harm reduction programmes are being scaled up, bending the trajectory of the HIV epidemic among this woefully underserved population.

### **Pilot to Fast-Track in China**

China's experience exemplifies the gains to be made by a Fast-Track approach. After a successful pilot in 2006, China rapidly expanded methadone maintenance therapy in areas with significant heroin use. China's free voluntary methadone programme is now the largest in the world, serving more than 410 000 people who use opioids—about 21% of people who inject drugs in China (5). Methadone clinics were first established in administrative areas with 500 or more registered people who use drugs. Over time, the threshold was lowered to areas with 300 or more registered people who use drugs (6). From 2011 to 2014, China also increased access to clean needles and syringes, with distribution rising from 180 to 204 needles per person who injects drugs per year (7).

The impact of the programme has been dramatic. People who inject drugs accounted for less than 8% of people newly diagnosed with HIV in 2013, compared with 43.9% in 2003 before the methadone programme began. Moreover, sentinel surveillance data indicate that the national average of HIV prevalence among people who use drugs dropped by half, from 7.5% in 2005 to 3.6% in 2013 (5).

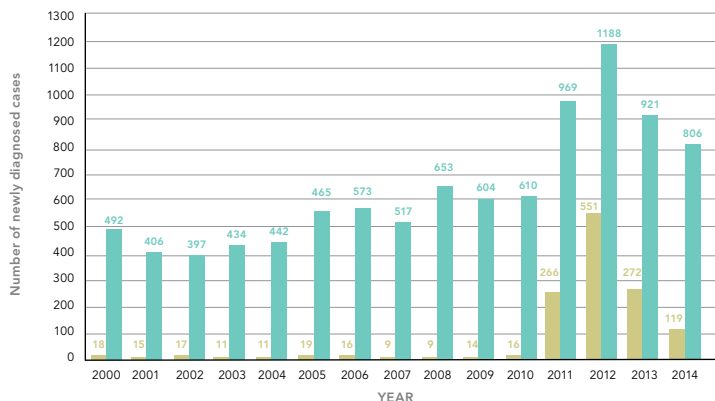
China shows no signs of slowing down. The scale-up of methadone programmes is occurring alongside a distribution programme for sterile injecting equipment in 15 provinces, autonomous regions and municipalities. In 2013 there were 898 programme sites, more than 60 000 people who use drugs participated in the programme and more than 12 million sterile needles and syringes were distributed (8).

### **Peer-driven seek-test-treat-retain approach in Athens**

Throughout the 2000s, the number of people newly diagnosed with HIV in Greece never rose above 653 in any given year and fewer than 20 people who inject drugs were newly diagnosed with HIV in any given year. In 2011 an alarming increase occurred: in that one year, 266 people who inject drugs were newly diagnosed with HIV—a 16-fold increase compared with the previous year—and the total number of new diagnoses of HIV rose to 969 (9). New diagnoses among people who inject drugs more than doubled, to a peak of 551 in 2012 (Figure 28).

Figure 28

### Reported cases of HIV in Greece, 2000–2014



■ Cases of HIV-1 infection reported in people who inject drugs  
■ Total number of cases of HIV-1 infection reported in Greece

Source: ARISTOTLE programme.

In response to this dramatic spike in HIV cases, the University of Athens and the Organisation Against Drugs designed and implemented the ARISTOTLE programme, a seek–test–treat–retain approach to decrease HIV transmission among people who inject drugs in the Athens metropolitan area (10).

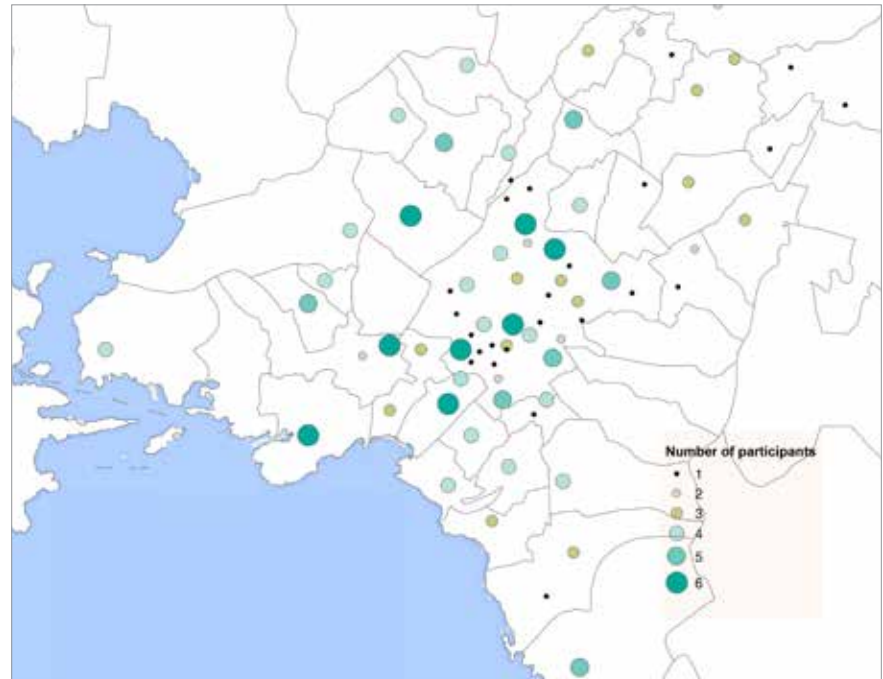
The initiative used five rounds of respondent-driven sampling to engage members of this hard-to-reach population. “Seed participants” were paid for their own participation and for recruiting other people who inject drugs from their social networks. Approximately 1400 people who inject drugs were reached in each round, finding a total of 3320 individuals (Figure 29) (10).

More than 90% of the city’s people who use drugs were reached between August 2012 and December 2013. Each of these people provided a blood sample that was tested for HIV and other medical conditions. Each person completed a questionnaire on a wide range of factors, including sexual behaviour, drug and alcohol use and treatment, and previous HIV testing experience. The data yielded, for the first time, a comprehensive picture of people who inject drugs in Athens, including epidemiological data, sociodemographic social network characteristics, the extent to which they had access to drug treatment, harm reduction and HIV testing services, and the level of service uptake. A total of 499 participants tested positive for HIV during their first testing visit, a crude prevalence rate of 15.1% [13.9–16.4%] (10). Participants who tested positive for HIV were referred to one of two nongovernmental organizations collaborating with the ARISTOTLE programme for counselling and treatment follow-up. Services included the provision of sterile injecting equipment, drug dependence treatment and linkage to antiretroviral therapy.

Figure 29

### People who use drugs reached by ARISTOTLE programme, Athens, Greece, 2012–2013

In response to a dramatic spike in HIV cases, the University of Athens and the Organisation Against Drugs designed and implemented the ARISTOTLE programme, a seek–test–treat–retain approach. More than 90% of the city's injecting people who use drugs were reached between August 2012 to December 2013.



Source: ARISTOTLE programme.

The initiative was highly successful in meeting its primary aims of screening people who inject drugs for HIV, providing a prevention, treatment and care package, and reducing the incidence of HIV within this population. There was a 70–80% decline in new infections during the course of the programme, from August 2012 to December 2013 (5). Reported risk behaviours also reduced, with greater adoption of safer injection practices regardless of HIV test result and safer sexual practices among people living with HIV. Adherence to drug dependence treatment also increased during the ARISTOTLE programme. The proportion of participants who reported being on opioid substitution therapy increased from 10% to 20% over the five rounds (10).

In 2014 the number of new diagnoses of HIV among people who inject drugs continued to decline but was still higher than that reported in the years before 2011. Preliminary data indicate that approximately 75% of the people reached by the programme who tested positive for HIV were eventually linked to HIV care.

### Harm reduction programme builds positive relationship with police in Kyrgyzstan

HIV transmission in Kyrgyzstan is associated primarily with sharing needles and injecting drugs. Progressive policies and programmes have been established to

address the situation. Personal drug use was decriminalized in 2008, a needle-syringe programme and opioid substitution therapy have been in place since 1998, and antiretroviral therapy is available in prisons (11).

Despite these policies, friction between local police and nongovernmental organizations providing harm reduction and other HIV services was disrupting service delivery. In response, the Ministry of Internal Affairs established a programme that included revision of the national police academy's training curriculum to include training on the benefits of harm reduction, in-service training seminars on HIV and harm reduction, and establishment of special liaison teams in five regions to improve cooperation between local police and AIDS service nongovernmental organizations.

More than 500 law enforcement and penal officers have been trained. In 2010, more than 300 police officers were surveyed to assess the effectiveness of the programme. About a third had participated in the training. Trained individuals had better HIV transmission knowledge and better legal and policy knowledge. They were also more likely to report familiarity and interactions with public health organizations and more likely to agree that police should refer people who are at risk to service programmes (12).

The Bridging the Gaps programme and AIDS Foundation East-West are facilitating collaboration among the public health system, the police and civil society to provide people who use drugs with essential health and harm reduction services. The project supports local civil society organizations to develop comprehensive high-quality HIV and harm reduction services and to advocate for policy reform and an enabling environment for service delivery. An e-learning platform on HIV, tuberculosis and drug use improves the knowledge and skills of service providers;<sup>1</sup> the website has answered more than 2000 user questions. Two support centres for females who use drugs have provided harm reduction to 762 women. Nearly 7000 people who inject drugs and over 600 people in prison have received health, legal and social services, and more than 1200 people have been tested for HIV (13).

### **Malaysia's Cure and Care centres improve adherence to drug dependence treatment**

Efforts to reduce HIV infections in East and south-east Asia have been challenged by the confinement of people who use (or are suspected of using) drugs in compulsory drug detention and rehabilitation centres. In 2011, almost 240 000 people were held in over 1000 such centres in six countries, according to a survey conducted by the United Nations Office on Drugs and Crime (UNODC).<sup>2</sup>

Access to HIV prevention and treatment services is often absent in these centres, despite the fact that a high proportion of the detainees are either living with HIV or are at very much higher risk of infection (14). The centres have been the subject of intense advocacy by human rights organizations, civil society organizations in the region and the United Nations. In March 2012, 12 United

1 The platform can be found at <http://www.hivplatform.kg>.

2 According to information derived from responses by governments in East and South-East Asia in response to a questionnaire from UNODC in August 2012.

Nations agencies issued a joint statement on compulsory drug detention and rehabilitation centres, calling for their closure and replacement with voluntary, evidence-informed and rights-based health and social services in the community (15).

There are signs of political will in the region to move away from compulsory centres and expand access to voluntary rights-based drug dependence treatment. Malaysia has transformed 10 compulsory detention centres into Cure and Care centres, which provide voluntary, comprehensive and client-centred drug dependence treatment and support services, including methadone maintenance therapy (14). Health services include voluntary HIV counselling and testing, antiretroviral therapy, and testing and treatment for tuberculosis and hepatitis B and C (16). In addition to core clinical services, some Cure and Care centres provide after-care housing assistance, vocational training and religious or spiritual programmes. Interviews with patients suggest that this social support and the voluntary nature of the services facilitate adherence to drug dependence treatment (17).

Comparisons between compulsory centres and Cure and Care centres make a strong case for accelerating the transition to voluntary drug dependence treatment. The Malaysian AIDS Council has reported that a comparative study between compulsory drug detention and rehabilitation centres and Cure and Care centres found that 50% of people in detention centres relapse within a month of release, and all relapse within a year, whereas less than 40% of people treated in Cure and Care centres relapse within a year (18). In addition, Malaysia's National Anti-drugs Agency reported that the annual cost of detaining one person in a rehabilitation centre is more than four times higher than the annual cost of treating one voluntary patient at a Cure and Care centre (19).

### **Fast-Track lessons learned**

It is already clear what needs to be done to reduce HIV vulnerability among people who inject drugs. The key to Fast-Track is not only to make harm reduction services available but also to remove the barriers that prevent people who use drugs from accessing these services. Athens has shown that social networks of people who use drugs can be leveraged to provide services to a hard-to-reach population. Kyrgyzstan has shown the importance of the sensitization of law enforcement officers. Malaysia has shown that voluntary drug dependence treatment is more effective and more efficient than detaining people who use drugs. China is demonstrating to the world that it is time to move beyond the pilot study phase and take evidence-informed programmes to scale and truly meet the needs of this highly marginalized and stigmatized population.

Vital steps will be the decriminalization of drug use and the defence of the human rights of people who use drugs.



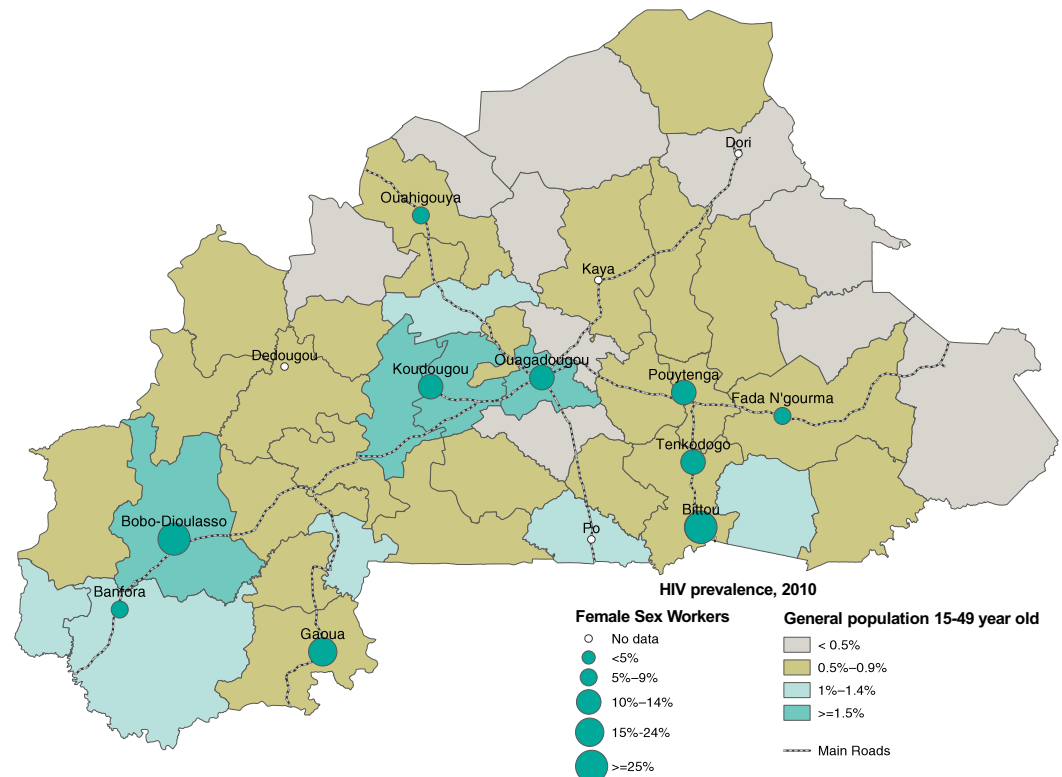
# Sex workers

Sex work is work, regardless of the reasons for engaging in it. Sex workers should have the same rights to safe working environments as all other workers,<sup>1</sup> and this includes protection against violence, discrimination and unjust prosecution.

Figure 30

## HIV prevalence among the general population and among female sex workers, Burkina Faso, 2010

In Burkina Faso, sex workers are at higher risk of HIV infection. HIV prevalence among sex workers in the capital, Ouagadougou, is 13.5% [9.6–18.7%]; in the country's second-largest city, Bobo-Dioulasso, the HIV prevalence exceeds 15%. The two cities host Yerelon HIV programmes that provide sex workers with a range of free, peer-assisted health care, including sexual, reproductive and mental health services, HIV prevention education, HIV testing, treatment of HIV and other sexually transmitted infections, and as many condoms as they require. To measure the effectiveness of the Yerelon programme, 321 female sex workers aged 18–25 years were enrolled in a prospective, interventional cohort study in Ouagadougou. During the 409 person-years of follow-up, there were zero new infections among the study participants.



Sources: Institut National de la Statistique et de la Démographie (INSD), Burkina Faso; Conseil National de Lutte Contre le SIDA et les IST, (CNLS-IST), Burkina Faso.

1. The UNAIDS *Guidance note on HIV and sex work* defines sex workers as female, male and transgender adults, over the age of 18, who receive money or goods in exchange for sexual services, either regularly or occasionally, and who may or may not self-identify as sex workers.



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## FAST-TRACK TARGET

- ▶ *Ninety per cent of sex workers have access to HIV combination prevention services by 2020.*
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## FAST FACTS

- ▶ *Female sex workers are 13.5 times more likely to be living with HIV than women in the general population (1).*
  - ▶ *Female sex workers in Africa bear a heavy burden from the HIV epidemic. One model suggests that 92% of all sex workers dying from AIDS-related causes resided in sub-Saharan Africa (2).*
  - ▶ *According to UNAIDS data, more than half of all sex workers worldwide newly infected with HIV live in sub-Saharan Africa. Asia and the Pacific, Latin America and the Caribbean each account for about one fifth of the sex workers newly infected.*
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## CHALLENGES AT A GLANCE

- ▶ **Lack of political and financial commitment:** sex worker programmes often lack political support, resulting in low and inconsistent funding, and inadequate scope and coverage of services.
  - ▶ **Societal and legal barriers:** criminalization, stigma and discrimination limit the availability, access to and uptake of HIV, health and social services for sex workers. Policies that enable condoms to be used as evidence of sex work deter sex workers from carrying them.
  - ▶ **Violence:** sex workers are vulnerable to physical and sexual violence that limits their ability, for example, to negotiate condom use.
  - ▶ **Insufficient strategic information:** qualitative and quantitative data on local sex worker populations and programmes is often not available to inform the development and implementation of HIV services that respond to the needs of sex workers.
  - ▶ **Adapting to change:** the range of ways for sex workers and their clients to connect is increasing as the trade adopts the use of mobile technology and social media, requiring HIV and sexual and reproductive services for sex workers to evolve as well.
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Sex workers should have the means to protect themselves from HIV. Although condoms and lubricant are a well-established prevention tool for sex workers, availability is low in most countries and sex workers remain at higher risk for acquiring HIV in all regions. Extensive experience has demonstrated that condoms and lubricant must not only be readily available in sufficient quantities, but that sex workers must also be empowered to insist on their consistent use (3, 4). High levels of intimidation, violence and discrimination from clients, third parties, police officers and the larger community must be addressed.

Most sex workers are women. However, growing evidence indicates a sustained or increasing burden of HIV infection among male sex workers in many countries and regions. Male sex workers are at higher risk of acquiring HIV because HIV is efficiently transmitted in unprotected anal intercourse and because they have many sexual partners, large and complex sexual networks and compounded intersecting types of stigma. Like female sex workers, efforts to reach male sex workers with HIV services have been stymied by the criminalization of sex work and HIV non-disclosure. Countries that criminalize same-sex practices create an additional barrier (5).

Changing the legal and policy environment can empower sex workers to access HIV and other health services, and to report violence and abuse. For example, considering the possession of condoms as evidence of sex work is hampering HIV prevention in many places. Modelling conducted across diverse settings has estimated that addressing specific key societal factors such as violence, police harassment, safer work environments and decriminalization could reduce the number of female sex workers newly infected with HIV by 33–46% during the next decade (5). Reducing stigma and discrimination at the societal level may also enable the health-care system to reach sex workers with sexual and reproductive health services, including the prevention and treatment of HIV and other sexually transmitted infections.

### **Achieving zero new HIV infections among young sex workers in Ouagadougou**

Following a steady decline in the number of people newly infected with HIV, Burkina Faso has in recent years experienced a worrying resurgence in its epidemic. Over a decade, the estimated number of people newly infected with HIV increased by more than 50%, from 2800 [2100–3800] in 2004 to 4300 [3100–5900] in 2014 (6). The HIV epidemic is mostly concentrated among key populations in major cities and towns, including the capital city Ouagadougou and the second largest city, Bobo-Dioulasso.

In 2009, budget cuts led to a reduction exceeding 65% of HIV prevention services in Ouagadougou (7), one of Africa's most rapidly growing cities and home to an estimated 35% of Burkina Faso's people living with HIV. Under these severe resource constraints, local programme managers, researchers and community groups managed a remarkable result within a pilot project of comprehensive HIV services for sex workers.

Sex workers in Ouagadougou are young, on average 25 years old, and 32% have little or no education. Half (50%) have at least one child. Most (72%) have

between two and five clients per day and a monthly income between US\$ 70 and US\$ 200. The HIV prevalence among sex workers in Ouagadougou is 13.5% (9.6–18.7%). Only 6% belong to a community-based organization (8).

Amid these challenges, a highly effective HIV prevention programme for sex workers has been established in Ouagadougou. Modelled on the Yerelon (meaning “know yourself” in Dioula) sex worker programme established in Bobo-Dioulasso since the early 2000s, initial efforts in Ouagadougou focused on 321 young women aged 18–25 years who were engaged in either full-time street-based sex work or part-time sex work alongside jobs within bars and markets (9).

The women were provided with a range of free sexual, reproductive and mental health services, including general health and HIV care, HIV testing, treatment of sexually transmitted infections and as many condoms as they required. Peer-led education sessions covered condom demonstrations, sexual and reproductive health issues and risk behaviour. Between September 2009 and September 2011, the participants reported 88 462 sexual encounters (9) and there were zero new HIV infections among them. Complete prevention of new infections was related to very high levels of reported consistent condom use with casual (98%) and regular clients (91%) and a reduction in the number of regular partners and clients (10).

Following the study, continued community support, volunteers, local partnerships and external seed funding have enabled the programme to be continued and 3000 to 4000 sex workers have accessed services through the programmes in Bobo-Dioulasso and Ouagadougou since 2011. During the first six months of 2015 alone, 1105 sex workers visited the two clinics, 363 have started antiretroviral therapy and 4478 sex workers were reached with community outreach and peer-education services (11). Among the sex workers enrolled in the study cohorts (547 in Bobo and 321 in Ouagadougou), there were no new HIV infections during the 2011–2014 follow-up period (9).

The evidence from Ouagadougou and Bobo-Dioulasso shows that HIV prevention services combined with sexual and reproductive health care tailored to the needs of sex workers can reduce HIV incidence within this key population to zero. Providing a full continuum of care was crucial to obtaining high levels of consistent condom use among the sex workers. The strong partnership among the sex worker community, researchers, health workers and community workers and providing non-clinical support such as nutritional support and schooling for the sex workers’ children have been important features of this effort.

Plans have been drafted to scale up the Yerelon programme and replicate it in other locations where there is a high HIV burden among sex workers. Political and financial commitment to Fast-Track this approach could have a tremendous impact on sex workers across Burkina Faso and the region, bringing western Africa closer to the goal of zero new HIV infections.

## Kenya using strategic information to bring sex worker programmes to scale

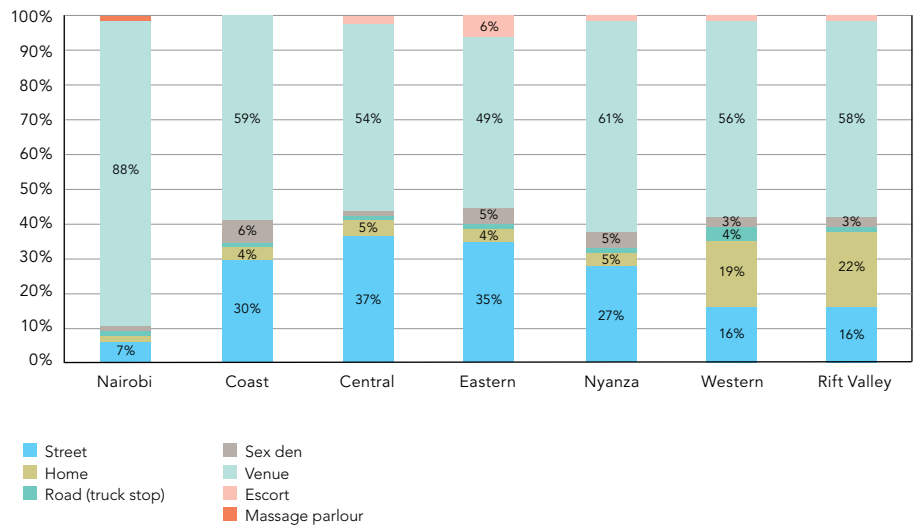
Reaching more female sex workers and reducing the number of sex workers infected with HIV is one of the central planks of the Prevention Revolution declared in Kenya in 2014. An estimated 29.3% of the more than 130 000 sex workers in this country in eastern Africa are living with HIV (12, 13).

Understanding the diverse forms of sex work and where to target HIV services for sex workers is critical to carrying out a 2014–2019 national strategy to put Kenya on track to reaching zero new HIV infections by 2030. Mapping was conducted across the country to inform the expansion of services. Interviews with female sex workers, clients and other key informants identified 10 670 locations where sex workers interact with clients within cities and other urban areas. The locations included a range of venues, such as bars, massage parlours, street sides, homes and truck stops. Nearly one quarter of the population were in the capital city, Nairobi, followed by the Coast and Nyanza provinces. The mapping also identified different types of sex workers in Kenya including venue-based, street-based and home-based (Figure 31) (14).

The mapping was used by the key population working group of Kenya's National AIDS and STI Control Programme, which includes key population representatives, to inform the development and implementation of sex worker programmes that are focusing client-centred, community-supported services to different types of sex workers in the locations of greatest need. In 2012, a

Figure 31

### Distribution of female sex workers in Kenya by type of sex work



Sources: Odek WO, Githuka GN, Avery L, Njoroge PK, Kasonde L, Gorgens M et al. Estimating the size of the female sex worker population in Kenya to Inform HIV prevention programming. PLoS ONE. 2014;9: e89180.

national key population programme monitoring system was established that monitors more than 40 output and outcome indicators, capturing biomedical, behavioural and structural indicators from 82 key population programmes across Kenya. Recent data from the system show that the number of condoms distributed to sex workers has increased from an average of 16 per month in 2013 to 37 per month in March 2015. The proportion of cases of violence against sex workers that has been addressed has nearly doubled, increasing from 38% in July 2013 to 72% in March 2015 (15). The number of sex workers attending clinics and being screened for sexually transmitted infections also increased. Most dramatic has been the reduction in the incidence of sexually transmitted infections, from 27% among those screened in 2013 to just 3% in 2015 (15).

### **Sex worker-led collection of strategic information and advocacy drives scale-up in Namibia**

For many years, tailored HIV programming for sex workers in Namibia was hindered by a lack of strategic data and a restrictive policy environment. Sex worker participation in programme planning and decision-making was also poor. During the past several years, however, substantial progress has been made in Namibia to build the evidence base on sex work and HIV, strengthen political commitment and increase resource allocation.

Between 2011 and 2013, sex worker-led participatory assessments were conducted in five towns identified as key locations for sex work in Namibia. A decentralized, bottom-up approach was used. Sex workers led and documented 29 focus-group sessions with 212 sex workers on such issues as their safety at work, their health, their interaction with people in the wider community and their access to health services. These sessions revealed widespread physical and sexual violence, including from law enforcement officers. Sex workers also reported stigma and discrimination when accessing health services (16, 17).

The findings were presented at a national meeting co-organized by sex workers (18), which helped convince the Government of Namibia and partners to improve and scale up sex worker-focused programming with the support of the Global Fund to Fight AIDS, Tuberculosis and Malaria and the United States President's Emergency Fund for AIDS Relief (PEPFAR) (19). Stronger inclusion of sex worker programmes in Namibia's national HIV strategy are a direct result of sex worker-led qualitative research and the participation of sex workers in policy processes (20).

Since then, HIV services for sex workers have been expanded, including peer education, condom and lubricant promotion and distribution, mobile HIV counselling and treatment, treatment of sexually transmitted infections and referral services. The number of condoms distributed to sex workers more than doubled between 2012 and 2014, from 325 000 to 725 000. The number of sex workers who accessed HIV testing increased sixfold in 2014, with 14 000 sex workers tested compared to 2200 in 2013. Those found to be living with HIV were linked to care and treatment. Additional emphasis has been placed on sensitizing local police to reduce harassment and violence towards sex workers (21, 22). In 2015, the capacity and representation of sex worker organizations has been strengthened. A sex worker network has been established, and a sex worker

organization is included within Namibia's Country Coordinating Mechanism for Global Fund resources.

Namibia's progress in scaling up HIV services for sex workers demonstrates how grass-roots advocacy can inform and influence policy change and increase investment in the HIV response.

### **Empowerment through engagement in Karnataka, India**

Karnataka, located in south-western India, is the eighth-largest state in the country and a major science and technology hub (23, 24). There are estimated to be more than 100 000 female sex workers in Karnataka, mostly street- or home-based, with HIV prevalence as high as 25% in some districts (25–28). Sex worker community leaders in Karnataka are playing an influential role in bringing HIV services to these women.

Social and community services have been steadily incorporated into ongoing female sex worker programmes during the past decade. Sex workers, including those living with HIV, were trained to represent their communities at district AIDS committee meetings. In this capacity, sex workers worked alongside district development department heads and chiefs of police to strengthen HIV prevention and care activities. At the same time, community-based and sex worker-owned organizations were created, and elected representatives from these groups oversaw the management of HIV prevention programmes.

Sex workers also helped to develop and lead sensitization and educational workshops on the role of sex work in local HIV epidemics and the societal barriers preventing sex workers from accessing services. These two-day workshops were mandatory for government and police department heads (29).

As a result, female sex worker membership in community-based organizations notably increased, and more than 46 000 female sex workers were enrolled to receive government-sponsored social entitlements. Female sex workers were also supported to redress more than 90% of 4600 incidents of violence and harassment reported between 2007 and 2009 (29).

Community engagement has been a powerful force to empower sex workers and reduce societal barriers to HIV services. There have also been changes in behaviour and sexual health. Female sex workers with stronger participation in community mobilization activities were more likely to have been tested for HIV and to have used a condom with clients and regular partners than female

sex workers who had lower participation (30). They were also less likely to test positive for gonorrhoea or chlamydia (30).

### **Fast-Track lessons learned**

Zero new infections among sex workers can be achieved. Providing a full continuum of HIV prevention, treatment and care service in a stigma-free environment complemented by community outreach and peer support is crucial to obtaining very high levels of service adherence and consistent condom use among sex workers. However, insufficient investment in comprehensive HIV and health services for sex workers constrains the HIV response globally, especially in sub-Saharan Africa.

The individual and community empowerment of sex workers is critical for providing effective services. Sex workers' direct input into collecting more and better data and developing and delivering programmes can inform where and how to Fast-Track HIV services in order to enhance their effectiveness and ensure that they are rights-based. Continuous programme performance monitoring and regular review by service providers and community members is critical to inform optimization of service delivery and scale up.

Mobile technology is changing the sex trade, and HIV responses must also adapt. Just as sex workers can discretely use smartphones to contact a wide network of clients, HIV programmes must use mobile technology to reach sex workers who do not meet clients on street corners or in brothels (31).

Male sex workers are also at higher risk of HIV. Evidence-informed and human rights-affirming services dedicated specifically to male sex workers are needed to improve health outcomes for these men and the people within their sexual networks (32).

Scaling up health and HIV services for sex workers will ultimately fail to achieve the scale required to end the AIDS epidemic unless societal and community factors—such as criminalization, violence, stigma and discrimination—are squarely addressed alongside with sex worker community empowerment and mobilization. Structural interventions are crucial to enacting more supportive laws and policies, giving sex worker communities more opportunities to support and mobilize themselves, and reducing inequalities related to gender, race and unemployment.

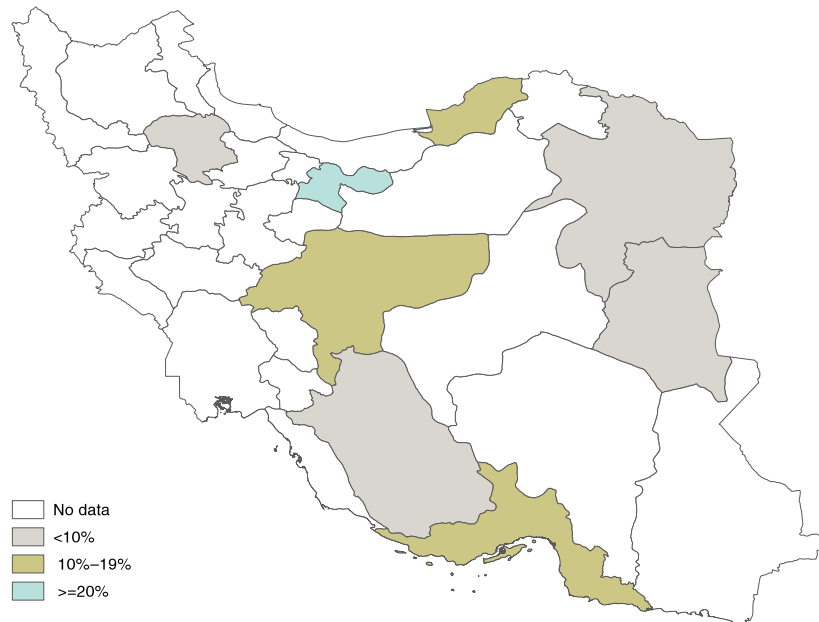
# Prisoners

Every year, 30 million people (1) spend time in prisons or other closed settings,<sup>1</sup> with more than 10.2 million incarcerated at any given time (2), including 700 000 women (3) and more than 14 million held because of arbitrary and excessive use of pre-trial detention (4).

Figure 32

## HIV prevalence among people who inject drugs in prisons and other closed settings, Islamic Republic of Iran, 2001–2008

During the first decade of the Islamic Republic of Iran's HIV surveillance, surveys among people who inject drugs while detained in jail or incarcerated in prison were common. Prevalence was generally high, with some of the lower prevalence sites attributable to inclusion of people who used drugs but did not inject them. Iran's response to these data was the creation of triangular clinics, offering harm reduction services in the prison system.



Sources: Azarkar Z, Sharifzadeh G. Evaluation of the prevalence of hepatitis B, hepatitis C, and HIV in inmates with drug-related convictions in Birjand, Iran in 2008. *Hepat Mon.* 2010;10(1): 26–30. | Davoodian P, Dadvand H et al. Prevalence of selected sexually and blood-borne infections in Injecting drug abuser inmates of Bandar, Abbas and Roodan correction facilities, Iran, 2002. *Braz J Infect Dis.* 2009;13(5): 356–358. | Ilami O, Sarkari B et al. HIV seroprevalence among high-risk groups in Kohgiluyeh and Boyer-Ahmad Province, Southwest of Iran, a behavioral surveillance survey. *AIDS Behav.* 2012;16(1): 86–90. | Jahani MR, Kheirandish P et al. HIV seroconversion among injection drug users in detention, Tehran, Iran. *AIDS.* 2009;23(10): 538–540. | Moradi AR, Emdadi A et al. Prevalence of Human Immunodeficiency Virus infection among injection drug users released from jail. *Addict Health.* 2012;4(3–4): 151–155. | Rahimi-Movaghar A, Amin-Esmaili M et al. HIV prevalence amongst injecting drug users in Iran: a systematic review of studies conducted during the decade 1998–2007. *Int J Drug Policy.* 2012;23(4): 271–278.

1. The term “prisons and other closed settings” refers to all places of detention within a country, and the terms “prisoners” and “detainees” refers to all those detained in those places, including adults and juveniles, during the investigation of a crime, while awaiting trial, after conviction, before sentencing and after sentencing.



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## FAST-TRACK TARGET

- ▶ *Ninety per cent of prisoners have access to HIV combination prevention services.*
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## FAST FACTS

- ▶ *At any given time, about 10.2 million people are being held in prison settings globally (2).*
  - ▶ *Key populations at increased risk of acquiring HIV—such as people who inject drugs, men who have sex with men, transgender people and sex workers—are overrepresented in the prison population because their sexual orientation, gender expression, occupation or behaviour is criminalized (5).*
  - ▶ *Making opioid substitution therapy and needles and syringes available in prisons can reduce needle sharing by up to 75% (6).*
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## CHALLENGES AT A GLANCE

- ▶ **Overcrowding:** a total of 113 countries have prison occupancy exceeding 100%, including 22 with occupancy exceeding 200% (7). Overcrowding exacerbates breakdowns in service infrastructure, the risk of violence and abuse, tuberculosis (TB) risks and poor nutrition.
  - ▶ **Violence and unsafe behaviour:** widespread and underreported violence, including sexual violence, and unsafe practices such as sharing injecting equipment, lead to the transmission of HIV and hepatitis C within prisons.
  - ▶ **Lack of access to basic health services:** lack of commitment and budgets, poor coordination between the justice and health sectors and misplaced security concerns curtail access of people in prisons and other closed settings to health services, violating their right to health.
  - ▶ **Human rights violations, stigma and discrimination:** people in prisons face a multitude of human rights violations, with the most vulnerable people—gay and other men who have sex with men, transgender people and young people—most severely affected and having the highest disease prevalence rates.
-

Prisons have higher prevalence of HIV infection, hepatitis B and C and TB, as well as elevated risks for contracting such diseases and reduced access to health services. The HIV prevalence in prisons and other closed settings is 2–10 times, and in rare cases up to 50 times, higher than in the general population (8). TB incidence rates are an average 23 times higher than in the general population (9), and TB drug resistance rates and TB-related death rates are higher (10). The prevalence of hepatitis C is far higher among people held in prison, especially among those with a history of injecting drug use (11).

Prisoners predominantly comprise men aged 19–35 years old (12), a segment of the population that is at higher risk of HIV infection before entering prison. People living with HIV and other key populations at higher risk of HIV, such as people who inject drugs, men who have sex with men, transgender people and sex workers, are overrepresented in the prison population. An estimated 56–90% of people who inject drugs will be incarcerated at some stage, and people who use or inject drugs may comprise up to 50% of the population in closed settings (2). Estimates indicate that one third of prisoners have used a drug at least once while incarcerated (13).

These high incarceration rates stem from inappropriate, ineffective or excessive national laws and criminal justice policies, such as overly broad criminalization of HIV transmission, drug use, same-sex sexual relations, cross-dressing and sex work (14). Reforming such punitive laws leads to public health benefits in addition to upholding human rights. Decriminalizing personal use quantities of illicit drugs has been linked to a reduction in HIV prevalence in prisons in the Netherlands, Portugal and Switzerland (15).

All modes of HIV transmission occurring in the general, free population also occur in prisons: the sharing of unsafe injecting equipment among people who inject drugs (16); consensual or coerced unsafe sexual practices, including rape (16); unsafe skin piercing and tattooing practices; sharing shaving razors; blood brotherhood rituals (17); and improperly sterilizing or reusing medical or dental instruments (18). Similar to in the community, HIV may also be transmitted in prisons from mothers living with HIV to their infants during pregnancy or delivery (18). Lack of access to condoms and sterile injecting equipment, overcrowding and high levels of violence and abuse exacerbate the risk of acquiring HIV.

Sexual violence and unsafe sexual practices are common in prisons. The actual prevalence of sexual activity is likely to be much higher than reported, mainly because of denial, fear of stigma and homophobia, and the criminalization of sex between men in many countries (12). About 25% of prisoners suffer violence each year, around 4–5% experience sexual violence and 1–2% are raped (19, 20). Violence is more common in overcrowded prison facilities (21).

Virtually all prisoners return to their communities, many within a few months to a year. Health in prisons and other closed settings is thus closely connected to the health of the wider society, especially in relation to communicable diseases.

Health care in prison settings is typically limited and usually fails to reach the level and quality available in the community. These shortcomings stem from

budgetary constraints along with legal and policy barriers and limited political will to invest in prisoners' health (22). Treatment retention and adherence are often jeopardized when people living with HIV are arrested and/or incarcerated. In addition, services are often disrupted during institutional transfer and after release from prison (23). Failure to provide people in prisons and other closed settings with the necessary health care amounts to inhumane and degrading treatment in violation of their human rights.<sup>2</sup>

Opioid substitution therapy, a proven HIV prevention approach for prisoners who inject drugs, was available in prisons in only 43 countries in 2014. Globally, only eight countries in 2014 implemented needle and syringe programmes in prisons, all in Europe and central Asia. Worryingly, few countries or territories supply condoms to incarcerated people, despite the low cost and the relative ease of implementing condom distribution programmes (24).

People in prisons and other closed settings do not forego their human rights while in detention, including their right to the highest attainable standard of health. Strong evidence indicates that a comprehensive package of 15 services, when applied holistically, has the greatest impact on upholding the highest attainable standard of health for people in prisons and other closed settings: (1) information, education and communication; (2) voluntary HIV testing and counselling; (3) HIV treatment, care and support; (4) prevention, diagnosis and treatment of TB; (5) prevention of mother-to-child transmission of HIV; (6) condom programmes; (7) prevention and treatment of sexually transmitted infections; (8) prevention of sexual violence; (9) drug dependence treatment; (10) needle and syringe programmes; (11) vaccination, diagnosis and treatment of viral hepatitis; (12) post-exposure prophylaxis; (13) prevention of transmission through medical or dental services; (14) prevention of transmission through tattooing, piercing and other forms of skin penetration; and (15) protecting personnel from occupational hazards (25). Recent World Health Organization guidelines also recommend pre-exposure prophylaxis for people at substantial risk, which is likely to include prisoners in many countries.

### **Triangular clinics in prisons in the Islamic Republic of Iran providing HIV services, harm reduction and treatment of sexually transmitted infections**

The HIV epidemic in the Islamic Republic of Iran is mainly concentrated among people who inject drugs, and the government has expressed concern that an uncontrolled epidemic among this key population may spill over into the general population (26). Since the vast majority (94%) of people who inject drugs will likely be incarcerated at some point in their lifetime, prisons present both a high-risk environment for HIV transmission and an opportunity to shape attitudes towards harm reduction and encourage less risky behaviour (27). On average, 3% of prisoners in the Islamic Republic of Iran are living with HIV, and according to 2009 data from 27 Iranian prisons, 8% of prisoners have a history of injecting drug use (28, 29).

2. See *M.S. v. Russia*, 10 July 2014, ECtHR, Application no. 8589/08; *Reshetnyak v. Russia*, 8 January 2013, ECtHR, Application no. 56027/10; *Logvinenko v. Ukraine*, 14.10.10, ECtHR, Application no. 13448/07; *Plata v. Brown*, C-01-1351 THE (N.D. Cal.) 23 July 2015, California, United States.

In the early 2000s, the Islamic Republic of Iran pioneered the introduction of triangular clinics, which integrate services for harm reduction, treatment of sexually transmitted infections and HIV care and support. In both the community and in prisons in the Islamic Republic of Iran, triangular clinics are now at the heart of the harm reduction programme.

In 2002–2003, only one prison provided methadone maintenance therapy for opioid-dependent prisoners, covering just 100 prisoners. By 2009, 142 prisons across all 30 provinces offered this vital harm reduction service, with more than 25 000 prisoners being treated (28). One such prison is Rajaei Shahr, located in Karaj, about 70 km north-west of Tehran, the capital. With 3200 inmates, Rajaei Shahr is one of the most crowded and challenging prison environments in the Islamic Republic of Iran.

The triangular clinic at the prison provides HIV counselling and testing, as well as diagnosis of TB, hepatitis and sexually transmitted infections. It offers harm reduction for injecting drug use, including methadone maintenance therapy and needle and syringe exchange, as well as condom distribution and education about HIV and sexually transmitted infections.

A recent analysis of the prison's triangular clinic services found that access to these services positively changed knowledge and attitudes and modestly reduced high-risk practices (27). However, the evaluation indicated that, although triangular clinics are a good starting-point for harm reduction in prisons, sustained efforts are needed to change long-standing habits and attitudes among this population.

### **Reaching men who have sex with men in prisons in Ukraine**

Among Ukraine's prison population, homophobia drives maltreatment of men who have sex with men. They are assigned to do the lowest-status and dirtiest jobs in the prison and discriminated against by both fellow inmates and prison staff. Under such harsh circumstances, they are especially vulnerable to acquiring HIV. The Penitentiary Initiative, which has been providing HIV treatment, care and support for inmates living with HIV in Ukraine since 2001, recognized that men who have sex with men were not being reached. In 2008, the Initiative partnered with the Nikolaev Association for Gays, Lesbians and Bisexuals to develop an outreach model to reach incarcerated men who have sex with men with services and to change the homophobic and stigmatizing attitudes of prison staff members (30, 31).

The outreach model was implemented in four prisons in the Nikolaev region, Lugansk and Cherkassy and in five prisons of the Donetsk, Kharkiv, Herson, regions of Ukraine. Outreach teams look for allies within prisons to collaborate with, such as a head of prison psychological services who invited outcast prisoners to his office to meet project psychologists and establish support groups for men who have sex with men and people living with HIV. Prison staff members are also sensitized through seminars on men who have sex with men (31).

The programme brought both practical and psychological support to the men who have sex with men in the prison. They were supplied not only with HIV prevention kits containing condoms and lubricant, but also with supplementary food rations and personal hygiene supplies, as well as rubber gloves and cleaning materials for those forced to do the dirtiest jobs. The outreach workers were able to overcome both the mistrust between counsellors and prisoners and the pervasive stigma and homophobia; they also established peer support groups for men who have sex with men. These support groups of between 14 and 17 men, which are facilitated by a psychologist, enable inmates to participate in health education programmes, learn more about their rights, boost their self-esteem and overcome emotional stress. Upon release from prison, inmates are linked to social support and outreach programmes offered by the Nikolaev Association for Gays, Lesbians and Bisexuals, as well as referral to health services that are friendly to men who have sex with men (31).

The project has also drawn wider attention to the issue of HIV among men who have sex with men in prisons and helped to overcome their exclusion from prison social life. The success of the Penitentiary Initiative in the four prisons encouraged the organization to develop materials on HIV among men who have sex with men, which are offered as a basic package of HIV services in other Ukrainian prisons.

#### **Peer outreach brings HIV services to prisoners in Ghana**

A combination of peer education and outreach, providing simple personal hygiene supplies and advocacy dialogue with prison staff, has transformed HIV prevention and testing in Ghana's prisons.

Implemented by the Planned Parenthood Association of Ghana, a nongovernmental organization that has been working on HIV prevention within the prison system since 2001, the project was implemented in 35 of the 43 prisons in Ghana from 2010 to 2014 through funding from the Global Fund to Fight AIDS, Tuberculosis and Malaria. In 2015 it was expanded to cover all 43 prisons (32).

Training and supporting peer educators is a key part of the approach. Inmates who are literate, have good communication skills, can maintain confidentiality and have a strong spirit of volunteerism are selected as peer educators. The peer educators undergo five days of training in HIV prevention, including training on stigma and discrimination, sexually transmitted infections, sexual and gender-based violence and facilitation skills. They receive training manuals and communication materials, as well as branded T-shirts and bags, which act as cues to generate discussion about HIV with their peers (32).

The peer educators run film sessions and drama performances on HIV-related issues and distribute educational materials. Confidential HIV testing and counselling are provided during quarterly outreach sessions, with referrals to antiretroviral therapy, care and support services in government health facilities close to the prison (32).

Dialogue with prison officers to ensure that the peer educators work in a conducive and enabling environment has been critical to the programme's success. In 2014, the programme reached 218 597 prisoners with HIV prevention programmes, almost twice the number reached in 2013. The programme also reached 248 prison officers with advocacy sessions (in addition to the 314 reached in the previous year). Nearly 30 000 prisoners received counselling and testing for HIV in 2014, and 228 tested positive and were referred for treatment.

In addition to being expanded to all 43 prisons in 2015, this intervention has been integrated with TB programmes. The Planned Parenthood Association of Ghana collaborated with the National Tuberculosis Control Programme of the Ghana Health Services to add a TB component to its HIV prevention work.

### **Republic of Moldova's comprehensive package of services reduces incidence of communicable diseases**

The Republic of Moldova is one of the few countries in the world in which nearly all the 15 services that constitute the comprehensive packages of services of the United Nations Office on Drugs and Crime (UNODC) are available in some prisons (33).

Condoms, HIV counselling and testing and antiretroviral therapy are available in 17 prisons. Needle and syringe and condom distribution programmes were initiated in 1999, and in 2014, the average number distributed annually reached 90 000 syringes and 35 000 condoms. Most are distributed through indirect methods, such as peer outreach, which improves confidentiality. Volunteers selected among the prisoners are trained to provide peer-to-peer services and remunerated with monthly food packages (33, 34). Needle and syringe sites and volunteers also distribute alcohol swabs, antiseptic and anti-inflammatory items and information and education materials. Opioid substitution therapy has been provided since 2005. Civil society organizations carry out HIV counselling and testing in partnership with the prison health service of the Department for Penitentiary Institutions of the Ministry of Justice (35).

HIV prevalence in prisons declined from 4.2% in 2007 to 1.6% in 2013. Coverage of antiretroviral therapy increased from 2% in 2005 to 62% in 2013. Deaths among people living with HIV in prisons fell by nearly two thirds, from 23% in 2007 to 9% in 2013. The prevalence of hepatitis C decreased from 21% in 2007 (35) to 4.6% in 2015 (36). The incidence of TB among inmates declined fourfold: from 550 cases in 2006 to 127 cases in 2013. In 2001, 10% (1100) of all inmates had TB. The prevalence dropped to 2% (152 inmates) in 2013 and 1.3% (101 inmates) in 2015.

### **Fast-Track lessons learned**

These successful models of comprehensive HIV and harm reduction in prisons show that prisoners will access services when they are provided appropriately. Evidence shows that prisoners will take up HIV counselling and testing if it is made easily available, is voluntary and test results are kept confidential, whereas mandatory testing is not only unethical but also costly and can have negative

health effects on prisoners found to be living with HIV, especially if they are segregated from other prisoners as a result of their HIV status (37).

Research has shown that making condoms available in prison reduces HIV transmission and does not lead to increased sexual activity (38–40). To address the HIV risk associated with illicit drug use in prisons, opioid substitution therapy has been shown to substantially reduce injecting drug use (by 55–75%) and needle sharing (by 47–75%) (41). Needle and syringe programmes have been proven feasible in prison settings and effective in reducing both unsafe needle sharing and HIV transmission without increasing injecting drug use (42, 43).

Studies have found that adherence to HIV treatment is at least as high in prisons as it is in the wider community. In fact, prisons can be an entry point to HIV care for marginalized populations (44). However, adherence requires confidentiality and positive relationships between prison staff and inmates (37).

If strategies are in place to ensure continuity of care for prisoners returning to the community, comprehensive HIV service provision in prisons can have long-term effects on the health of former prisoners (37). Providing naloxone to prevent deaths from overdose after release is another important continuity of care programme that can save lives (45).

Bringing the HIV response—prevention, care and treatment—to closed settings is a cost-effective way of offering HIV services. It is also a human right. Prison inmates have the same rights to health care as the wider community. This can be a hard sell politically, creating challenges in securing adequate funding for HIV prevention, treatment and care. Nevertheless, with the right services and proper referral to care on release, closed settings can present an invaluable opportunity to offer effective high-quality HIV services to populations at increased risk of acquiring HIV and contribute towards ending the AIDS epidemic as a public health threat.

# Conclusion

The first World AIDS Day was observed in 1988 to help mobilize the world against the rapid spread of a deadly virus that had neither an effective treatment nor a cure. Twenty-seven years later, the largest-ever global disease response has not only achieved unprecedented results—it has brought ending AIDS as a public health threat within our reach.

The path to reach this goal is not an easy one. Maintaining the current level of HIV services would allow the virus to regain the initiative; instead, a smarter, accelerated Fast-Track must be taken. As the programmes described in this report demonstrate, Fast-Track is not a slick slogan; it is a methodical and practical way of working that delivers results.

## **Location–population approach**

The first step of Fast-Track is to use a location–population approach to focus resources on evidence-informed, high-impact programmes in the geographical areas and among the populations in greatest need.

This approach has been firmly established through decades of experience. Evidence-informed, high-impact programmes include condoms, voluntary medical male circumcision and pre-exposure prophylaxis. They are powerful tools for the prevention of the sexual transmission of HIV. Sterile injecting equipment and opioid substitution therapy greatly reduce new infections among people who inject drugs. HIV testing is the entry point for care and treatment, and innovations like saliva-based test kits are making diagnosing HIV both quicker and easier. Antiretroviral therapy is essential to ensuring healthy lives for people living with HIV and for greatly reducing the chance of transmitting the virus to others.

The populations in greatest need of HIV treatment are all children, adolescents and adults living with HIV. The World Health Organization's latest HIV treatment guidelines are straightforward: treat everyone upon diagnosis, regardless of their clinical stage or CD4 count. The populations in greatest need of HIV prevention are those at higher risk exposure: key populations who are too often left behind, including adolescent girls and young women in high-prevalence settings, gay men and other men who have sex with men, transgender people, people who inject drugs, prisoners and sex workers.

The locations in greatest need are where the HIV epidemic is highly concentrated and where services are lacking. Part 2 of this report presents maps of data from the first and second subnational administrative level for 29 of the 35 Fast-Track priority countries, which together account for 90% of the total burden of new HIV infections globally. These maps reveal the rates of new infections, numbers of key populations and gaps in the coverage of testing and antiretroviral therapy.



These data are being used by programme managers to address gaps and maximize the use of available resources.

A location-population approach includes the rapid adoption of innovations that make services simpler, easier and more effective. Eastern and southern Africa's scale-up of voluntary medical male circumcision is a case in point, with over 9 million medical circumcisions performed in the priority countries in just a few years. The development of new non-surgical circumcision procedures and increased engagement of the private sector can drive even greater success in the future. Swift embrace of pre-exposure prophylaxis will reap similar rewards, as will the continued shifting of tasks to the community level, including community-based HIV counselling, testing and self-testing. Expanding viral load tests and the continued refinement of antiretroviral medicines will keep more people living with HIV healthy and help prevent new HIV infections. For example, the United States of America's Federal Drug Administration recently approved oral pellets of a paediatric antiretroviral formulation that can be mixed into a child's food. The treatment is heat-stable and more palatable than medicines that are currently available, making it particularly suitable for treating very young children (1).

A location-population approach also includes addressing the underlying dynamics that create vulnerabilities and block service uptake among key populations. Young women and girls must be able to live free of the threat of violence, and they must be empowered to make decisions about their own health and future. Health-care systems must guarantee the right to health of all people, regardless of their personal behaviour. Sex workers, gay men and other men who have sex with men, and people who inject drugs must be able to consult a doctor or receive the care of a nurse without fear of stigma or the threat of arrest. Legal and policy reform is required to address social stigma, discrimination and criminalization of same-sex sexual relations, sex work and recreational drug use, as well as the overly broad criminalization of the non-disclosure of HIV status and the exposure to (or transmission of) HIV.

### **Quickening the pace**

The second step of Fast-Track is to quicken the pace.

In dozens of countries, investment cases and other efficiency analyses of the HIV response have drawn up blueprints for success. The pace of change, however, has been slow. National and local leaders need to seize the moment and make tough choices to adopt the recommendations of their investment cases, relocating resources away from areas and services where there is little to be achieved and investing additional resources in priority areas and populations to achieve long-term gains.

The front-loading of investment is required to achieve the momentum needed to end the AIDS epidemic. In an optimized response, greater expenditure in the short term reaps rewards over the long term: fewer HIV infections today mean lower treatment costs tomorrow. Lower rates of illness and death translate into macroeconomic gains—and the benefits of social transformation extend far beyond measurements that can be made using health and economic indicators.

### **Moving forward at the global, national and local levels**

The UNAIDS 2016–2021 Strategy sets a global agenda to take advantage of a narrow window of opportunity. The content of the strategy is informed by lessons learned by early adopters of Fast-Track at the national and local levels, including front-loading investments, focusing on the locations, populations and programmes that will deliver the greatest impact, catalysing innovation for people who need it most and ensuring the meaningful involvement of people living with HIV and populations at higher risk of HIV infection.

The UNAIDS Strategy defines what needs to be done, setting 10 targets that must be met by 2020. These targets call for high coverage of the most important services for the people at greatest need. The Fast-Track examples in this report prove that these targets can be achieved through a location- and population-focused approach. Expanding this approach through renewed commitment and perseverance will help us end the AIDS epidemic.

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