



# HEALTH

# HIV / AIDS

# VIEWPOINT PAPER

*Benefits and Costs of the HIV/AIDS Targets  
for the Post-2015 Development Agenda*

Joint United Nations Programme on AIDS (UNAIDS)

# Benefits and Costs of the HIV/AIDS Targets for the Post-2015 Development Agenda

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Post-2015 Consensus

Joint United Nations Programme on AIDS (UNAIDS)

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## What does it take to end the AIDS epidemic by 2030?

Extraordinary gains in the global AIDS response have been made over more than a decade. The number of new HIV infections has fallen by 38% from 2001 to 2013, and the number of AIDS-related deaths has declined by 35% since 2005. As the world explores a new development agenda for the 2015-2030 era, it is clear that we can end the AIDS epidemic as a public health threat by 2030.

This viewpoint underscores the importance of prioritizing ambitious prevention and treatment targets to end the AIDS epidemic as part of the post-2015 agenda. Investing now to bring effective prevention and treatment services to the people who need them represents one of the soundest decisions the world could make.

Modelling commissioned by UNAIDS demonstrates that continuation of 2013 coverage levels would result in a worsening of the epidemic by 2030. However, rapidly scaling up effective prevention and treatment services can end the AIDS epidemic as a public health threat by 2030. The response to HIV has already strengthened the health systems in some of the worst affected countries<sup>1,2</sup>. Ending the AIDS epidemic would enhance the health and security of future generations and inspire the broader fields of global health and development.

### **Key messages**

- *Meeting ambitious new AIDS targets would reduce new HIV infections and AIDS-related deaths by approximately 90% by 2030 compared to 2010 using existing tools.*
- *Failure to invest the necessary resources in the near term will reverse the dramatic gains made to date. Continuing service coverage at 2013 levels will cause new HIV infections and AIDS-related deaths to increase.*
- *Both HIV prevention and treatment interventions must be scaled up to end the AIDS epidemic. Programmatic scale-up needs to be coupled with enhanced investments in structural approaches to reduce discrimination and increase the reach, effectiveness and efficiency of services.*
- *The effectiveness of the response will depend on focusing on specific populations and locations where the epidemic is most severe to provide services of proven effectiveness addressing the most vulnerable and affected populations.*
- *Although there will be a need for increased funding, raising the amounts required to end the AIDS epidemic is feasible. Global solidarity will be needed to close the AIDS resource gap and end the AIDS epidemic by 2030 in countries with heavy HIV burden. Over time, middle income countries will need to finance their own national AIDS response.*

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<sup>1</sup> Eba PM. Published Online. September 18, 2014 [http://dx.doi.org/10.1016/S0140-6736\(14\)61412-4](http://dx.doi.org/10.1016/S0140-6736(14)61412-4)

<sup>2</sup> Boozary AS, Farmer PE, Jha AK. The Ebola Outbreak, Fragile Health Systems, and Quality as a Cure. JAMA. 2014;312(18):1859-1860. doi:10.1001/jama.2014.14387.

- *Ending AIDS by 2030 will require additional investments, with total resource needs reaching US\$ 35.6 billion by 2020 (of which 48% in upper middle income countries), modestly declining through 2030.*
- *Value for money needs to be increased, through price negotiations, a shift to community-based service delivery where appropriate, and reaching economies of scale*
- *A Fast Track strategy is required to rapidly scale up prevention and treatment services by 2020 to reduce the annual number of HIV infections and AIDS related deaths by 90% in 2030. A focus on the top 30 countries with the highest number of new infections will help to reach the global targets more efficiently.*
- *Investing now to scale up strategic HIV prevention and treatment services represents a sound global investment. By 2030, this investment has the potential to generate economic returns 15-times greater than amounts invested.*
- *Special provisions will be needed to ensure robust funding for HIV programmes for key populations in upper-middle income countries, for example, ensuring donor support if there are no other ways to guarantee the provision of the services and to avoid leaving the key populations behind.*

## **Ambitious new targets provide a roadmap towards ending the AIDS epidemic**

Recognizing both that the AIDS agenda remains unfinished and that accumulated scientific knowledge and programmatic experience demonstrate that currently available tools are effective in reducing incidence and mortality, UNAIDS has worked with a broad array of partners to identify new post-2015 AIDS targets to end the epidemic as a public health threat by 2030. UNAIDS requested the Futures Institute<sup>3</sup> to undertake modelling to estimate the required service coverage targets and the investments needed to reduce new HIV infections and AIDS-related deaths by 90% respectively, effectively ending the AIDS epidemic as a global health threat by 2030. The main findings have been published elsewhere.<sup>4,5</sup>

HIV treatment, which reduces onward HIV transmission<sup>6</sup>, will not by itself achieve the 90% reduction in new HIV infections and AIDS-related deaths. Rapid scale-up of additional HIV prevention efforts will be critical.

The new ambitious targets (Table 1) recognize that epidemiological circumstances vary among and within countries and regions, necessitating approaches that sometimes differ in programmatic priorities. While some evidence-based prevention strategies, such as condom programming and focused programmes for key populations, are appropriate for all settings, certain prevention targets apply only to settings with heavy HIV burden. For example, voluntary medical male circumcision, among the most cost-effective of prevention

<sup>3</sup> <http://www.futuresinstitute.org/>

<sup>4</sup> UNAIDS. The Gap Report. Geneva: August, 2014.

<sup>5</sup> UNAIDS. Fast Track : Ending the AIDS epidemic by 2030. Geneva: November, 2014.

<sup>6</sup> Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour MC, Kumarasamy N et al. Prevention of HIV-1 infection with early antiretroviral therapy. N Engl J Med 2011; 365: 493-505.

methods, is recommended in countries or regions with high HIV prevalence and low prevalence of male circumcision.<sup>7</sup> Within countries with important geographic variations in HIV prevalence, targets for high prevalence or hyper-endemic settings are applicable in the sub-national regions with the highest HIV prevalence levels.

### ***Recently validated prevention strategies***

Reflecting the expansion of the evidence base since the last global resource needs were estimated<sup>8,9,10</sup>, the new targets include a number of additional programmatic activities, including cash transfers for girls in hyper-endemic countries and pre-exposure prophylaxis (PrEP) for sero-discordant couples and adolescents in high prevalence settings, and for transgender people, and men who have sex with men and sex workers in all settings. While the World Health Organization already recommends PrEP for some of these populations and settings<sup>11</sup>, formal recommendations for application of PrEP in other populations is dependent on further data from trial and pilot experiences.

Cash transfers for girls in hyper-endemic countries have been added as a basic prevention programmatic activity to the global targets based on results from three randomized controlled trials in sub-Saharan Africa that found that different types of cash transfers (e.g. conditional transfers for health or educational outcomes) were associated with reductions in HIV/STI infections<sup>12,13,14</sup>.

Reaching the ambitious prevention targets will require a more intensive focus on the geographic settings and populations where new HIV infections are occurring. In particular, prevention access for key populations must dramatically increase if the goal of ending the AIDS epidemic by 2030 is to be achieved.

The targets provide for substantially increased coverage for longstanding prevention tools, including condom programming and prevention of mother-to-child transmission. The targets also include enhanced use of voluntary medical male circumcision. With respect to treatment, a three-part target that recognizes both the therapeutic and preventive benefits of antiretroviral therapy includes, by 2020: (a) 90% of all people living with HIV knowing

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<sup>7</sup> WHO/UNAIDS, Joint Strategic Action Framework to Accelerate the Scale-Up of Voluntary Medical Male Circumcision for HIV Prevention in Eastern and Southern Africa, 2011, Geneva: World Health Organization.

<sup>8</sup> Schwartländer B, Stover J, Hallett T, et al. Towards an improved investment approach for an effective response to HIV/AIDS. Volume 377, Issue 9782, 11–17 June 2011, Pages 2031–2041. doi:10.1016/S0140-6736(11)60702-2

<sup>9</sup> Supplement to: Schwartländer B, Stover J, Hallett T, et al, on behalf of the Investment Framework Study Group. Towards an improved investment approach for an effective response to HIV/AIDS. Lancet 2011; published online June 3. DOI:10.1016/S0140-6736(11)60702-2.

<sup>10</sup> Stover J, Hallett TB, Wu Z, Warren M, Gopalappa C, Pretorius C, Ghys PD, Montaner J, Schwartländer B on behalf of the New Prevention Technology Study Group. How can we get close to Zero? The potential contribution of biomedical prevention and the investment framework towards an effective response to HIV. PLoS One 2014, 9(11): e111956.

<sup>11</sup> World Health Organization (WHO). Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations. Geneva: July, 2014.

<sup>12</sup> Baird SJ, Garfein RS, McIntosh CT, Özler B. Effect of a cash transfer programme for schooling on prevalence of HIV and herpes simplex type 2 in Malawi: a cluster randomised trial. Lancet 2012; 379: 1320–29. Published Online February 15, 2012 DOI:10.1016/S0140-6736(11)61709-1.

<sup>13</sup> De Walque D, Dow WH, Nathan R, Abdul R, Abilahi F, Gong E, et al. Incentivising safe sex: a randomised trial of conditional cash transfers for HIV and sexually transmitted infection prevention in rural Tanzania. BMJ Open 2012; 2: e000747.

<sup>14</sup> Björkman-Nyqvist M, Corno L, de Walque D, Svensson J. Evaluating the impact of short term financial incentives on HIV and STI incidence among youth in Lesotho: A Randomised Trial. Sex Transm Infect 2013, 89 (Suppl 1): A 325.

their status, (b) 90% of all people with diagnosed HIV infection receiving sustained antiretroviral therapy, and (c) 90% of all people who receive antiretroviral therapy having durable viral suppression.

*Table 1. Programmatic coverage targets to end the AIDS epidemic by 2030*

Services	Coverage targets		Settings where services are applicable
	2020	2030	
<b>Condom promotion</b>	75%*	80%*	All
<b>Key populations</b>			
Sex worker programmes	85%	90%	All
Men who have sex with men programmes	85%	90%	All
Transgender programmes	85%	90%	All
People who inject drugs programmes including needles and syringes	85%	90%	All
People who inject drugs: Drug substitution	40%	60%	All
Prisoners	40%	60%	All
<b>Behavior change programs</b>			
Mass media/Communications/face-to-face interventions	80%	80%	HPE/H
Cash transfers for girls	30%	50%	H
<b>Prevention of mother-to-child transmission</b>	95%	95%	All
<b>Voluntary medical male circumcision</b>	80%	80%	HPE with low MC rates
<b>Post-exposure prophylaxis</b>	80%	80%	All
<b>Pre-exposure prophylaxis</b>			
Sex workers and MSM	10%	30%	All
Discordant couples	10%	30%	H
Adolescents	10%	30%	H
<b>Treatment care and support</b>			
Testing and counseling (as percentage of adult population or key population)	35%	20%	All KP + HPE/H
Pre-antiretroviral care	81%	90%	All
Antiretroviral therapy	81%	90%	All

HPE = High prevalence epidemics; H = Hyper epidemics; KP = Key populations

\* percent use, corresponding to the number of condoms available per man per year rising from current levels of approximately nine to 30-40

Reaching these ambitious service targets will demand strategic investments in social and programme enablers that reduce stigma and discrimination and enhance the reach, effectiveness and efficiency of programmes. These strategies include legal reform to eliminate punitive laws, interventions to promote gender equality, community mobilization to reduce stigma and increase demand (enhancing access to prevention services, testing and treatment and promoting adherence to treatment), and advocacy to support service expansion and human rights-based approaches. In addition, synergies with other development sectors (including health, education, and social protection) need to be leveraged to reduce HIV risk and vulnerability and enhance the impact of programmatic initiatives. The new targets envisage scaling down the use of HIV funding over time for development synergies, with other sectors assuming responsibility for such activities as opioid substitution therapy, health systems strengthening and blood safety.

## **Achieving ambitious new targets will end the AIDS epidemic by 2030**

Achieving the ambitious new targets would reduce new HIV infections to approximately 200,000 per year and AIDS-related deaths to approximately 300,000 per year in sub-Saharan Africa in 2030. In contrast, the continuation of 2013 levels of coverage would see 1.9 million people newly infected and 1.7 million people dying of AIDS-related causes in 2030. Outside of sub-Saharan Africa, 100,000 people would become infected with HIV in 2030 and 100,000 would die of AIDS-related causes were the ambitious new targets to be achieved, compared to 600,000 new infections and 400,000 million deaths with continuation of current coverage levels.

Significantly, the epidemic in sub-Saharan Africa and globally would be undergoing a permanent, long-term decline in 2030 if ambitious new targets were achieved, while it would be *expanding* and worsening by the year with continuation of current coverage level as in 2013. Time is of the essence in scaling up, as rapid scale-up leads to achievement of sharp gains by 2020.

Although scale-up of available treatments are projected by the model to reduce AIDS-related deaths by approximately 85% globally by 2030, UNAIDS estimates that the anticipated emergence of new tools, including long-acting antiretrovirals and point-of-care diagnostic tools, will improve treatment outcomes sufficiently to enable the world to achieve the targeted 90% reduction in deaths by 2030.

## **Ending the AIDS epidemic by 2030 will require additional resources**

Ending the AIDS epidemic by 2030 will require additional investments, with total resource needs reaching US\$ 35.6 billion by 2020, modestly declining through 2030 (ref 7 Fast Track report). HIV treatment, including HIV testing and counselling, will require the largest share (41%) of direct costs globally in 2015-2030, although the treatment share of total spending varies among regions and epidemic types, with high-burden epidemics requiring that a greater proportion of AIDS spending focus on HIV treatment and care. Similarly, funding for different prevention services also vary by region and epidemic type. Prevention funding needs also change over time, as costs for certain services, such as voluntary medical male circumcision and prevention of mother-to-child transmission are expected to decline over time once saturation coverage is achieved. Almost half of the needed resources (48%) in 2020 will be in upper middle-income countries.

There will be a need to increase value for money. In some cases, more output for the same money could be obtained as a result of price reduction, economies of scale or expanding (and shifting to) community based service delivery when appropriate.

A more strategic population focus necessarily implies greater success in targeting resources towards the locations where these populations can most effectively be reached. Using a rights-based approach that engages key populations as essential partners in the response, countries should bring services as close to the community as possible in order to accelerate scale-up.

## **Returns on Investment**

Although finite resources and the existence of competing priorities will inevitably pose challenges to mobilizing the increased resources required, evidence compellingly demonstrates that the world simply cannot afford not to make the investments needed to end the AIDS epidemic.

Traditional analyses use ‘cost of illness’ methods to estimate benefits that focus on worker productivity gains and the avoidance of medical costs. Newer approaches, known as “full income”, suggest much higher potential benefits; these were applied to estimate the return on investment of the fast track approach to end the AIDS epidemic by 2030, as done for other comparable post-2015 global health programs/needs<sup>15</sup>, adding benefits accounting for additional years of healthy life. When combining elements of full income, productivity growth and savings on medical care spending, preliminary estimates indicate that the total benefits are fifteen times larger than the costs to implement the ambitious new targets by 2030.

## **Global solidarity and shared responsibility in mobilizing resources needed to end the AIDS epidemic by 2030**

Principles of global solidarity and shared responsibility will need to prevail if the world is to close the AIDS resource gap and end the AIDS epidemic by 2030. All low- and middle-income countries will need to bring domestic funding into line with national wealth and HIV burden. Low-income countries, especially those with heavy HIV burden, will need substantial international support to ensure rapid scale-up to end the epidemic. Lower middle-income countries will need to move towards greater self-financing of the response, although those with heavy HIV burden will continue to require considerable donor support. Upper middle-income countries should transition to self-financing of the response, with country compacts clarifying the transition from donor dependency to self-financing<sup>16</sup>.

As ending the AIDS epidemic is an outcome that will benefit the entire world, international donors have an important responsibility to remain engaged. Increased funding from the donor community will be needed over the next several years to facilitate scale-up in low-income countries and in lower middle-income countries with heavy HIV burden. Elsewhere, donors could reduce funding for upper middle-income countries in a planned transition period governed by mutually agreed plans that take account of the needs of key populations.

All stakeholders will need to redouble efforts to maximize value for money, focusing resources where they will have the greatest impact and taking steps to enhance the efficiency of services through optimized procurement and efficiency-promoting service delivery models.

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15 Jamison, Summers et. al. 2013. Global Health 2035: a world converging within a generation ([www.thelancet.com](http://www.thelancet.com) Vol. 382, 7 Dec 2013, 1898-1954; Section 2: The returns to investing in health, 1912-16).

16 Resch S, Ryckman T, Hecht R. Funding AIDS programmes in the era of shared responsibility: an analysis of domestic spending in 12 low-income and middle-income countries. [www.thelancet.com/lancetgh](http://www.thelancet.com/lancetgh). Vol. 3 January 2015

While considerable amounts of additional resources are required, it should be achievable to raise these resources, especially given the high rates of economic growth in many of the most heavily affected countries.

Mobilizing the additional resources required to end AIDS will have a lasting effect on our world, making it safer, healthier, more prosperous and more productive for future generations.

This paper was written by Peter Ghys, Director a.i., Strategic Information and Evaluation, UNAIDS and by José-Antonio Izazola-Licea, Division Chief, Evaluation and Economics, UNAIDS. The project brings together 60 teams of economists with NGOs, international agencies and businesses to identify the targets with the greatest benefit-to-cost ratio for the UN's post-2015 development goals.

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