Implications of New UNAIDS Estimates for Future Goals for HIV/AIDS Prevention, Treatment and Support

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The Joint United Nations Programme on HIV/AIDS has recently released new estimates of the magnitude of the global HIV epidemic and the resources required to confront it. These estimates incorporate the latest findings from HIV surveillance, national surveys, program statistics and special studies to update our understanding of the current status of the epidemic and the resources needed to reduce new infections and address the consequences of current infections.

New epidemiological estimates[1] indicate that there are currently around 33 (range 31 – 36) million people living with HIV and 2.5 (range 1.8 – 4.1) million new infections each year. With about 2.1 million deaths each year, the number of people infected with HIV is still rising.

New estimates of the resources required for a comprehensive response were also released in November 2007.[2] Resources needed from all sources to scale up prevention, treatment care, and support programs will grow from US$10 billion in 2007 to US$ 15-40 billion in 2010 and US$22–46 billion by 2015. The requirements vary according to the pace of scale-up to achieve universal access as shown in Box 1. The *Current Scale-Up* scenario assumes that the present pace of expanding coverage continues to 2015. Although this scenario envisions a substantial increase in the coverage of essential services most countries do not achieve universal access. The *Phased Scale-Up* scenario assumes that universal access is achieved by 2010 in the countries with the highest prevalence of HIV (hyper-endemic countries) and by 2015 in the remaining countries with prevalence over one percent in the adult population (generalized epidemic countries). Other countries expand coverage at the current pace. The *Universal Access by 2010* scenario assumes that universal access to prevention, care and support is achieved in all countries by 2010.

Scenario	2010	2015
Current pace of scale-up continued	US$ 15B	US$ 22B
Phased scale-up to universal access	US$ 25B	US$ 43B
Universal access achieved by 2010	US$ 40B	US$ 46B

Box 1. Resources required, in billions of US dollars, for prevention, treatment, care, social support and health system support

[1] UNAIDS, *AIDS Epidemic Update*, December 2007.
[2] UNAIDS, *Financial Resources Required to Achieve Universal Access to HIV Prevention, Treatment, Care and Support*, 26 September 2007, updated November 2007.

Universal access is the maximum feasible coverage of a service. Most countries have prepared Universal Access Plans that detail their goals for prevention, treatment and support for 2010 and beyond. For most interventions universal access has been defined in these plans as coverage between 80% and 100% of the population in need of the service.

Future Goals

Major international development efforts often have goals that define the benefits to be expected from successful efforts and provide the basis for planning and resource allocation. The Millennium Development Goals are a prime example. In the field of HIV/AIDS, WHO established in 2001 a goal of 3 million people on ART by 2005 and the US President's Emergency Plan for AIDS Relief (PEPFAR) established in 2003 goals of 2 million people on ART by 2008, 7 million infections averted by 2010 and 10 million people receiving care and support by 2010. In 2005 world leaders at the G-8 summit in Gleneagles and the UN General Assembly World Summit called for efforts to achieve universal access by 2010. With the release of the new UNAIDS estimates it is timely to ask "What do these new estimates mean for future goals?"

Infections averted

Currently there are about 2.5 million new infections each year. There appears to be a slight downward trend from a peak of about 3.5 million new infections in the late 1990s. The downward trend results from a combination of natural epidemic dynamics, spontaneous behavior change and successful prevention efforts. The future trend will depend, to some extent, on the strength of prevention programs. The annual number of new infections might rise back up to 3.5 million if current efforts were to cease or continue slowly downward, perhaps to 2 million a year, if currents efforts were continued. If prevention interventions are scaled-up to achieve universal access by 2015 then we could expect that the annual number of new infections would be reduced by 70% by 2015, averting about half of new infections during this period.[3]

This suggests that appropriate targets for global prevention efforts would be:

- *Reduce the annual number of new infections to no more than 700,000 by 2015, or*
- *Avert 5.8 million infections from 2008 to 2015*[4]

[3] Stover J, Bertozzi S, Guitierrez JP, Walker N, Stanecki KA, Greener R, Gouws E, Hankins C, Garnett G, Solomon JA, Boerma JT, De Lay P, Ghys P. The Global Impact of Scaling Up HIV Prevention Programs in Low- and Middle-Income Countries. *Science* 2006;**311**:1474-1476.

[4] 5.8 million is the cumulative difference between a slow decline from 2.5 million 2007 to 2 million in 2015 and a more rapid decline to 700,000 by 2015. If infections averted are estimated from the peak of 3.5 million a year, then the total would be 16 million.

Antiretroviral treatment

At the end of 2006 about 2 million people in the developing world were receiving ART. But the need is much greater and is still growing rapidly. The UNAIDS paper on future resource needs[2] projects that the number of people on ART could grow to 4.7 – 9.7 million people by 2010 and to 8.0 – 14.0 million people by 2015, depending on the pace of scale-up. To achieve universal access by 2015 would require 5.5 million on ART by 2010 (50% coverage) and 11.6 million by 2015, while a faster scale-up that achieves universal access by 2010 would require ART provision to 9.7 million in 2010 and 14 million in 2015.

To achieve universal access to ART in low- and middle-income countries will require:

- *9.7 million on ART by 2010 and 14 million by 2015 for rapid scale-up to achieve universal access by 2010, or*
- *5.5 million on ART by 2010 and 12 million by 2015 for a slower scale-up to achieve universal access by 2015.*

Care and Support

The number of people needing non-ART medical care and support in the future will depend, to some extent, on the rate of scale-up of ART. The need for treatment for opportunistic infections and other ailments will be reduced in the short-term as expanding ART improves the health of those with HIV. A rapid scale up of ART to universal access by 2010 will reduce the number of people in need of non-ART treatment from nearly one million today to 600,000 by 2010 before climbing again to one million by 2015 as the number of people failing on ART increases. With a slower scale-up of ART to universal access by 2015 the number of people needing non-ART care will rise to about 1.4 million by 2010 before dropping to 900,000 by 2015.

Orphans

Past increases in AIDS deaths among adults have resulted in a large number of orphans. Rapid scale-up of prevention and ART programs will prevent many AIDS deaths and reduce the future number of orphans. Although some orphans are well cared for by relatives others are living on the street or in households that are too poor to provide adequate support. A study by UNICEF estimated that about half of orphans in sub-Saharan Africa are living in households in need of outside assistance.[5] New estimates of the number of orphans are being prepared by UNAIDS and UNICEF and will be released next year. Those estimates will incorporate the latest findings from national surveys such as Demographic and Health Surveys (DHS) and Multiple Independent Cluster Surveys

[5] Stover J, Bollinger L, Walker N, Monasch R. Resource needs to support orphans and vulnerable children in sub-Saharan Africa. *Health Policy and Planning* 2007;**22:**21-27.

(MICS) as well as new information on AIDS orphans outside of sub-Saharan Africa. The current assessment of resource needs estimated that almost 19 million orphans will need support by 2015 with between 7 and 19 million being supported in 2010 depending on the pace of scale-up. Support might be provided in a variety of ways including direct support for essential services such as food, clothing, education, health care and psychosocial support as well as direct cash transfers to poor families that are taking care of orphans.

The number of orphans and households receiving some form of external support needs to rise to nearly 20 million by 2015.

Implications for the next Phase of PEPFAR

The 2-7-10 targets for the first phase of PEPFAR were based on assessments of what could be achieved in the initial 14 focus countries. Goals for PEPFAR re-authorization might be developed using a similar approach, but PEPFAR programs now support a much larger number of countries. Therefore, it might be more appropriate to establish new targets based on global impact. Certainly any country-specific targets should be developed with the participation of national governments and should be coordinated with the goals of national strategic plans.

The current 2-7-10 targets for the first phase of PEPFAR are not based on PEPFAR funding alone but are the sum of national targets for countries in which PEPFAR makes a major contribution. To continue that approach the PEPFAR targets could be established based on global targets for the period 2009-2013.

If PEPFAR aims to contribute to global targets in cooperation with national governments and other international donors, then appropriate targets would be 13 million on ART in 2013, 3.3 million infections averted from 2009-2013, and 900,000 receiving non-ART care and 19 million orphans receiving support in 2013.

Note that these targets differ from the current 2-7-10 targets in several ways. The ART target is considerably higher because it now represents a global target for all low and middle income countries rather than just the initial 14 focus countries. The target is also higher because it refers to 2013 rather than 2008. The target for infections averted is lower even though it now refers to more countries. This is due largely to three factors: (1) new evidence from national surveys and better surveillance systems indicates that infection levels are lower now than we thought they were in 2002, (2) that same evidence indicates that the number of new infections is declining now rather than rising as it was projected in 2002, and (3) the target of 7 million infections averted referred to the seven year period 2003-2010, while the suggested new target refers to the five year period 2009-2013.

The US Congress may also want to set targets more directly attributable to PEPFAR funding. These can be difficult to measure since many programs are supported by a

mixture of domestic and international support. Still it is useful to estimate the direct contribution of US support to these global goals.

Direct targets for PEPFAR might reasonably be based on estimating the US "fair share" of the global effort during the next phase of PEPFAR, 2009-2013. Although, it is not clear what the fair share of the US should be, the Bush administration has set the US fair share at one-third for its contribution to the Global Fund to Fight HIV, TB and Malaria, implying that targets for PEPFAR might be set as one-third of the global targets. President Bush requested funding of $30 billion for PEPFAR II while others have called for $50 billion. These funding levels also imply a fair share for the US.

UNAIDS estimates of global resource needs for HIV/AIDS for the period 2009 to 2013 are almost US$ 200 billion to achieve universal access by 2010 and US$ 140 billion for a slower scale-up to achieve universal access by 2015. It is expected that domestic resources will provide a significant proportion of these needs, especially in the middle income countries. UNAIDS estimates that domestic resources provide about one-third of global needs[2], implying that the need for international assistance during 2009-2013 is two-thirds of the total, or US$ 90 – $130 billion. If the next phase of PEPFAR were funded at US$ 30 billion it would account for one-third of the international financial resource needs of the phased scale-up scenario but just one-quarter of the international assistance needs to achieve universal access by 2010.

At US$ 50 billion PEPFAR II would provide just over one-third (38%) of the international assistance needed to achieve universal access by 2010, or 25% of the all resources needed.

By providing 25% of global funding during 2009-2013 PEPFAR's direct contribution would be 820,000 infections averted, 3.2 million on ART, 240,000 receiving non-ART care and support for 4.7 million orphans.