



# Financial resources required to achieve universal access to HIV prevention, treatment, care and support

**Revised Projections of the Number of People in Need of ART**

## **Methodological Annex - II**

Uniting the world against **AIDS**



## Annex II

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### Revised Projections of the Number of People in Need of ART and the Number Receiving ART

The estimates of need for ART and number on ART are based on the methodology developed by the UNAIDS Reference Group on Estimates, Models and Projections and implemented in Spectrum. The procedure starts with an estimate of adult HIV prevalence over time prepared from surveillance data using either EPP or the Workbook. Spectrum uses this prevalence estimate to calculate the number of new infections occurring each year. (This calculation estimates the number of new infections required to match the input prevalence taking into account AIDS deaths, non-AIDS deaths, aging out of the 15-49 age group and new 15 years old entering this age group.)

New infections progress to ‘need for treatment’ according to a progression pattern described by a Weibull function with a median of 7.5 years for adult males, 8.5 years for adult females and 2 years for children. Once ‘in need’ of treatment a person progresses to AIDS death according to a Weibull function with a median of 3 years. If an adult gets on ART before dying from AIDS his/her survival on first line is estimated to be 85% in the first year on ART and 95% in each subsequent year. When first line fails the person is assumed to die from AIDS in that year unless he/she gets on second line. Once on second line survival is also assumed to be 85% in the first year and 95% in each subsequent year.

For children who get on ART survival is assumed to be 80% for children under the age of 1 year. For those older than one survival on ART is assumed to be 90% in the first year and 95% in each subsequent year.

The percent of those in need of ART who get on first line is an input to Spectrum. We start in 2006 with the number on ART as of the end of the year as reported in the Progress Report (April 2007). The number on ART is converted to a percentage by dividing by the need for first line ART. ‘Need for first line ART’ is defined as all those who have progressed to need for ART plus those receiving first line ART.

Currently we are using two projections of future coverage.

- The “**universal access by 2010 scale-up scenario**” envisions achieving universal access by 2010 in accordance with globally agreed goals and nationally set targets. In the ‘universal access’ approach, coverage is assumed to increase from current coverage in 2006 to 80% by 2010 for those within 3-Year Need. This coverage rate assumes that people in need are identified three two years before death in the absence of ART, which is the optimal time to commence ART.
- The “**Phased Scale-Up to Universal Access Scenario**” assumes different rates of scale-up for each country based on current service coverage and capacity, with countries reaching universal access by 2015 at the latest. Countries with generalized epidemics have an urgent need to scale all types of preventive services, while countries with concentrated epidemics are advised to focus first on specific activities and services for most at risk populations. In the “phased scale-up” approach, coverage is assumed to

increase from current coverage in 2006 to 60% by for those within 3-Year Need by 2015. This increase is consistent with to the rate of increase in the last six months of 2006 as reported in the WHO Progress Report. Phased scale-up, coverage will grow by 1 million patients per year to reach 10.5 million on ART by 2015.

The number of people added to ART per month is multiplied by 12 to create an annual figure. This is converted to an estimate of annual the reduction in unmet need by dividing the increase in coverage by the proportion not covered. Thus if total need at the end of 2006 was estimated as 200,000 and the number on ART was 100,000, coverage would be 50%. If 1,000 people were added to ART per month, that would 12,000 per year. Unmet need would be 100,000 (200,000-100,000) and the proportionate reduction in unmet need would be 12% (12,000 / 100,000). If we define the target coverage as 80% of need then the reduction in unmet need becomes 20% (12,000 / (0.8 \* 200,000 – 100,000

We define total need for ART for adults to be those in need of first line but not on ART, those on first line and those on second line. There is no ‘unmet need’ for second line because we assume that people either get second line when they need it or end follow-up. These estimates are based on projections of adult HIV prevalence made by countries and reviewed by UNAIDS for 2005. These estimates will change once the 2007 round of national estimates is complete.