Making Universal Access a Reality—What More Do We Need to Know?

Lisa R. Hirschhorn1,2 and Richard Skolnik3
1Harvard Medical School Division of AIDS and 2JSI Research and Training, Boston, Massachusetts; 3Population Reference Bureau, Washington, DC

Tremendous energy and resources have been committed in the last 5 years to expanding care and treatment for HIV-infected individuals in resource-limited settings. The number of people receiving treatment in low and middle-income countries grew from 240,000 in 2001 to 1.3 million in 2005 [1]. Although this represented a significant increase, it still fell significantly short of universal access. Moreover, whereas a substantial share of HIV-infected people in Brazil and Thailand, and later in Botswana, were receiving treatment, only a fraction of the affected people in most other developing countries were receiving treatment.

Building on initial efforts to expand access to antiretroviral therapy (ART), the United Nations General Assembly adopted a resolution in 2005 that committed its members to universally implement a package to prevent HIV infection and provide care and treatment for people living with HIV by 2010 [2]. In 2006, the General Assembly reaffirmed that access to HIV medicines is fundamental to people’s ability to enjoy “the highest attainable standard of physical and mental health” and confirmed its commitment to universal access to comprehensive programs to prevent HIV infection and programs to treat, care for, and support HIV-infected individuals [4].

Since 2005, there has been a continual increase in the number of people living with AIDS in low- and middle-income countries who have received antiretroviral therapy. At the end of 2006, it was estimated that about 2 million people were receiving ART in developing countries, which amounts to more than an eightfold increase in 5 years [5].

These achievements have been the result of substantial efforts from individual countries and support from a variety of agencies including the WHO, UNAIDS, the Global Fund to Fight Against AIDS, TB, and Malaria, the World Bank, and the President’s Emergency Plan for AIDS Relief (PEPFAR) of the United States government. However, despite significant increases in the number of people being treated and in the resources available for treatment, about 70% of those living with AIDS in developing countries were still not receiving treatment by the end of 2006 [6]. It is widely recognized that expanding treatment to all who are eligible for it will require difficult decisions about how, when, and where expansion should occur. These decisions will need to take equity issues into account, as well as operational and epidemiological concerns [7–9].

In this issue of the Journal, Walensky et al. [10] use an HIV infection simulation model to examine the number of deaths that could be averted under 5 different scenarios for scaling-up ART in South Africa, 4 of which represented an increase in the pace of treatment expansion. The model used data from South Africa, when available, or from similar settings, and varied the critical assumptions on treatment efficacy to ensure the robustness of the conclusions. Walensky et al. [10] also modeled the impact of different strategies for scale-up on the number of deaths averted, including prioritizing patients on the basis of the amount of time they had been eligible for treatment. They also modeled the impact of having only 1 first-line regimen and of using only clinical monitoring, instead of CD4 cell count monitoring.

The authors conclude that a rapid-growth scenario for ART, in which 2.5 million people would begin treatment by 2012, would provide antiretroviral therapy to all people in South Africa who were clinically eligible by that time. This scenario would avert 1.3 million deaths,
compared with a scenario in which there was no expansion of current ART treatment capacity. It would also avert about 200,000 more deaths than the current plans for treatment scale-up in South Africa. In addition, more deaths occurred in each scenario when there were 2 lines of therapy and no CD4 cell monitoring available, compared with only 1 line and CD4 cell monitoring. In the rapid-growth scenario, prioritizing the patients with the lowest CD4 cell counts could also avert as many as 100,000 deaths.

The model used by the authors is designed to measure impact in terms of deaths averted. By focusing only on deaths, the model may underestimate the benefits of a more rapid approach to scale-up. For example, the model does not capture the impact of ART on improving the quality of life and productivity for people living with HIV/AIDS, decreasing the risk of sexual transmission for individuals with suppressed viremia [11], or decreasing the risk of mother-to-child transmission [12]. These potential benefits would further strengthen the case for a more rapid approach to scale-up.

However, there remain a number of unanswered questions about whether the benefits projected from the model can actually be realized. As countries move from models to implementation, what are likely to be the key constraints on achieving effective, efficient, and sustainable programs that provide universal access to treatment? Policymakers who must juggle competing demands will need data on the costs and cost-effectiveness of alternative approaches to scaling-up. A growing literature has highlighted the gaps in human resources for health that will need to be addressed if these countries are to have the capacity to provide effective care and treatment for all people living with HIV [13]. Innovative approaches are being tried to bridge these gaps, such as organizing treatment in various ways to maximize efficiency and “task shifting” [14], in which health workers carry out functions traditionally performed by staff with higher qualifications, such as nurses prescribing ART rather than only physicians. However, operational research is still needed to evaluate the impact of these efforts on efficacy. It will also be essential for countries to build strong logistic systems to prevent treatment interruptions due to interruption in supplies of antiretrovirals, as well as enhanced information systems and improved laboratory capacity for treatment monitoring and expanded support and education for patients to ensure adherence to care and treatment programs. Finally, national governments will need to make difficult decisions about how to balance equity of access with the speed at which treatment slots are expanded. What is the extent, for example, to which resources should be focused on patients who are easier to reach, compared with patients in more rural areas who may require more support and higher levels of expenditure if they are to achieve similar outcomes? In addition, how much should efforts focus on the longer-term goals of developing infrastructure and program sustainability in settings in which patients continue to die due to lack of immediate access?

The model is not designed to examine the costs of implementing the various scenarios, the opportunity costs of such expenditure compared with other health care and development needs, or the potential impact of the speed of scale-up on sustainability. This last area poses an immediate challenge for many governments. As they seek to make care and treatment universal, how can they maintain, expand, and sustain the excellent outcomes of care and treatment that some programs have achieved initially? A number of ART programs in Zambia, South Africa, and other countries have reported very good outcomes during the initial start-up and expansion stages, with response rates as high or higher than those used in the model [15–17]. However, most of these reports are from a single site or area and reflect outcomes from ≤3 years of care. Although this is important information, it does not address the question of long-term effectiveness, about which little is known. In addition, a growing concern about loss to follow-up and retention highlight the challenges that these programs will face as they expand beyond initial sites and populations [18]. Reviewing data from 33 programs in sub-Saharan Africa, Rosen et al. [18] estimated retention rates that fell from 79% at 6 months to 62% at 24 months, considerably lower than those reported from model pilot programs. Similar efforts to look at adherence to ART as programs and sites are rapidly expanded will also be important to ensure that efficacy rates for ART are maintained and resistance is avoided.

The loss of patients in some programs highlights the fact that any pace of scale-up that results in less effective care with increased rates of ART failure will decrease program benefits and result in the growth of viral resistance. In addition, scale-up must be carried out without compromising the health system’s capacity to provide essential primary care, including maternal and child health care, and manage other high-burden conditions, such as tuberculosis and malaria [19]. Ideally, scale-up would strengthen these capacities.

The concluding comments by Walensky et al. [10] point us in the right direction for further scale-up. As we seek to promote universal access to ART, our goal must be to save as many lives as possible, as fast as possible, at the least possible cost, while paying careful attention to concerns about equity, the quality of care, and program sustainability. These goals can only be achieved on the basis of evidence that is garnered from rigorous clinical, operational, and implementation research. These results must be immediately and widely shared and then fed back into refined models and approaches for program implementation [20]. In this way, models, such as the one described by Walensky et al. [10] can increasingly assist policymakers in deciding how best to move along the fast track toward ensuring universal access to treatment. While
these notions seem obvious, they are not yet being addressed with sufficient coherence or urgency to support achievement of the goal of universal access to effective, quality care by 2010.

Acknowledgments

We wish to acknowledge Ms. Cara Sumi of the George Washington University, Dr. Megan O’Brien of the Clinton Foundation, and Dr. Reuben Granich and Ms. Diana Weil of the World Health Organization who provided background information for this editorial.

References