Outcomes for Patients Receiving Antiretroviral Therapy in the Developing World Appear to Be Not Much Different from Those in the Developed World

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(See the article by Ivers et al. on pages 217–24)

During the first decade of the AIDS epidemic, the outcome for nearly every person infected with HIV around the world was virtually the same: most of those who became infected with HIV eventually died as a result of AIDS. However, this began to change in 1996, with the advent of protease inhibitors and HAART. In a very short time, we saw dramatic decreases in the morbidity and mortality associated with HIV infection throughout the developed world, and, as a result, the gap between outcomes for HIV-infected persons in the developed world and outcomes for those in the developing world began to widen. This unacceptable inequity between the countries that bear the greatest burden of disease and those that benefit the most from therapy is now beginning to change, thanks largely to the efforts of nongovernmental organizations, such as Médecins Sans Frontières (MSF), and initiatives such as the President’s Emergency Plan For AIDS Relief and the “3 by 5” strategy of the World Health Organization (WHO). The WHO estimates that, as a result of such programs, the estimated number of people receiving antiretroviral therapy in the developing world increased from 400,000 to 700,000 during the second half of 2004. However, this number still represents only ~12% of the nearly 6 million people who are in dire need of antiretroviral treatment [1].

As treatment programs are scaling up, concerns have been raised that such a complex therapeutic intervention will simply not be as successful in the developing world. Providing antiretroviral therapy involves more than just dispensing of medications, and a variety of problems, including the prevailing limitations in health infrastructure and human resources in the countries most heavily affected by the HIV/AIDS pandemic, have been mentioned as reasons to expect failure of treatment programs. We are thus in urgent need of studies that look at the commonly measured outcomes of antiretroviral therapy in developing countries, such as the percentage of patients with an undetectable HIV RNA viral load at weeks 24 and 48 after initiation of therapy, and that compare those outcomes with the outcomes seen in developed countries.

The article by Ivers et al. [2] attempts to do exactly this by using a meta-analytical approach. After reviewing the literature, Ivers et al. were able to identify 10 observational studies that documented virologic outcomes for 2464 HIV-infected patients who were treated mostly in Africa. Over 90% of the patients were antiretroviral naive. The pooled data from these studies are encouraging, because ~70% of the patients had undetectable HIV viral loads (defined as an HIV RNA level of <400 copies/mL) at month 6 after initiation of antiretroviral therapy, and 57% at month 12. In addition, in 2 of the 3 studies that included a large proportion of nonnucleoside reverse-transcriptase inhibitor (NNRTI)—experienced patients, the reported response rates were 76% and 79%. These virologic response rates approximate the rates found in similar clinical trials that, until now, have been conducted mostly in developed countries. Furthermore, Ivers et al. [2] note that the data also suggest that patients who received antiretroviral therapy free of charge had an almost 30% higher chance of having an undetectable HIV viral load after therapy than did patients who had to pay for all or part of their drug therapy.

The analysis by Ivers et al. [2] demonstrates that outcomes for patients receiving antiretroviral therapy—or, at least, virologic responses among antiretroviral-naive and NNRTI-experienced patients—in the developing world are not much dif-
different from those seen in the developed world, despite substantial differences in individual and health care resources. Other recent reports support these findings. Observational data presented last year by MSF at the International AIDS Conference in Bangkok included findings for >12,000 adults who have been treated in 31 MSF programs in 16 countries, which demonstrated that most patients experienced a 3–5 kg weight gain and an increase of 135 cells/μL in CD4 cell counts at month 12 of antiretroviral treatment [3]. Similarly, Zhou et al. [4] recently published findings from an observational cohort of antiretroviral-naive Asian patients receiving HAART and found 69% of patients showed a virologic response (i.e., had an HIV RNA load of <400 copies/mL) at month 6.

Now that there are data suggesting that initial antiretroviral therapy can work equally well in resource-poor and resource-rich settings, the next step, in addition to identifying the most effective antiretroviral therapy program models for resource-limited settings, is to use what we have learned about the pitfalls of antiretroviral therapy—that is, long-term toxicities, the challenge of adherence to treatment, and the development of resistance mutations—to improve the course of antiretroviral therapy in developing countries. The finding that the data show better outcomes for patients who received drugs free of charge is intriguing but not surprising [2]. If patients are required to pay for their therapy, in addition to paying for food for their families and other more pressing needs, treatment adherence is likely to suffer. Similar differential outcomes have been reported for insured and uninsured patients in Botswana [5].

Finally, as substantial resources become available for treatment of HIV in resource-poor countries, we must not allow the funding of prevention to diminish. Of course, prevention and treatment are not mutually exclusive, and, in fact, they are part of the continuum of care. Combining treatment with effective prevention could dramatically reduce the need for treatment in the long term and could help make the treatment programs that are now being started in resource-poor countries sustainable [6].

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References