

CDC economic models show HIV treatment scale-up is cost-effective, can save money over time

By Meredith Mazzotta • January 27, 2012 • [Post a comment](#)

New economic modeling shows that scaling up antiretroviral therapy (ART) for HIV/AIDS treatment and prevention in the developing world not only saves lives, but saves money too. Dr. John Blandford of the Centers for Disease Control and Prevention's Center for Global Health and his team of colleagues have found that cost savings from averted negative outcomes offset a major portion of the cost of treatment over time.

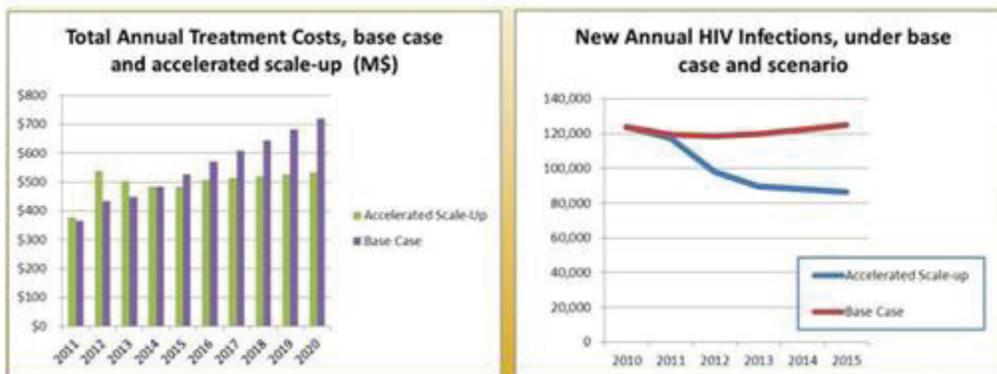
Blandford is chief of CDC's Division of Global HIV/AIDS Health Economics, Systems, and Integration Branch. He presented economic modeling data Thursday (via a webinar) projecting the impact of scaled-up ART coverage on health, new infections and financial costs associated with the AIDS response. The webinar for civil society groups was hosted by the Health Global Access Project (GAP), AVAC, and the Foundation for AIDS Research (amfAR).

"Based on [World Health Organization] standards, ART should be considered highly cost-effective in almost every country in sub-Saharan Africa," Blandford said.

Their model estimates that if 1,000 people were supported on antiretroviral therapy, over the course of one year 228 deaths would be averted, 449 children would not be orphaned, 61 sexual transmissions would be prevented (due to the lower infectivity of HIV-infected people on treatment), and nine cases of TB would be prevented among the HIV patients on treatment. Also, 26 vertical (mother-to-child) transmissions would be averted – not through traditional prevention of mother-to-child transmission (PMTCT) programs, but because a woman infected with HIV that becomes pregnant within that year will already be on treatment, protecting her baby from infection. Combining all of these benefits, 2,200 life-years would be gained.

Using this estimation, Blandford examined the benefits to society from the patients the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) program supported in 2011 and found that more than 800,000 deaths were averted, more than 1.6 million would-be orphans still have a parent, 220,000 sexual transmissions were averted, and 93,000 vertical transmissions were prevented – leading to more than 7.7 million life-years gained.

The modelers also looked at the multi-year effect of an intervention on a community's infectiousness. Using Kenya as an example, they compared costs and HIV infections averted if Kenya maintained the status quo of treatment coverage, assuming no more cost efficiencies were gained, and an expected increase of 200,000 patients on treatment by 2015. Annual program costs would approximately double between 2011 and 2020.



They compared this to an accelerated treatment scale up plan, where they enrolled in treatment all HIV-infected people already in pre-ART care with a CD4 count below 500, all HIV-infected pregnant women (for life), all patients co-infected with TB, and all HIV-infected people in stable discordant couples regardless of CD4 count. By finding continued program efficiency gains – beyond the estimated 25 percent reduction in treatment costs they anticipate they will be able to find over the next five years in Kenya (approximately \$500 per patient, per year) – they found that further scale up would be possible without much of an increase in overall cost. That would put an additional 325,000 patients in Kenya on treatment by 2015, and reduce more new HIV infections over time (see graphs above, right).

The greatest potential for other cost reductions will not come from further reductions in drug costs, but rather from reduced care costs, Blandford said. While Blandford noted that their study did not include productivity gains from HIV-infected people on treatment who were well enough to stay in the work force, he said his colleague Dr. Stephen Resch of Harvard did and found treatment can be not just cost-efficient, but cost-saving over time.

Upper middle income countries – such as South Africa, Botswana and Namibia – have been driving their treatment scale up utilizing national resources rather than PEPFAR resources, he noted, allowing PEPFAR monies to go farther in places still struggling to finance their own AIDS response.

Other “good values” in terms of return on investment mentioned by Blandford were medical male circumcision, prevention of mother-to-child transmission and condoms. “The real epidemic impact is from the combination of prevention interventions – none of these interventions is the solution on its own,” he said.

“We need them all working together to change the course of the epidemic.”