Earlier HIV Treatment Should Be Priority in Developing World

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Earlier initiation of antiretroviral (ARV) therapy should be the highest priority as global health experts begin implementing the 2010 World Health Organization (WHO) recommendations for HIV treatment in resource-limited counties, according to a paper published last week in PLoS Medicine.

“Immediate scale-up of the entire WHO guideline package may be prohibitively expensive in some settings,” said lead author Rochelle P. Walensky, MD, of the Massachusetts General Hospital in Boston. “In many resource-limited settings, the relevant policy question is: What to do first?”

Since 1981, AIDS has killed more than 25 million people, and about 33 million people—the vast majority of whom are living in low- and middle-income countries—are now living with HIV.

Initially, resource-limited countries could not afford to provide ARV therapy to citizens living with HIV. Now, through the concerted efforts of governments, WHO and other international agencies, more than a third of the people in resource-limited countries who need ARV treatment are receiving it.

Unfortunately, many remain without access to ARV therapy. To help maximize the rollout of treatment in developing nations, agencies often base their HIV treatment and care policies on recommendations spelled out by WHO in its ARV therapy guidelines originally published in 2006.

The WHO HIV treatment guidelines were revised earlier this year and include three major changes: initiating ARV treatment when CD4 cell counts fall below 350, rather than waiting until they reach 200; replacing the ARV drug stavudine with the less-toxic but more expensive tenofovir for first-line treatment; and switching patients to second-line ARV regimens when the first-line regimen fails.

However, many resource-limited countries are still struggling to implement the 2006 guidelines. In turn, it remains unclear as to which of the revised recommendations should be prioritized.

To address this question, Walensky and her colleagues conducted a mathematical model using South African clinical and cost data to project survival and costs in a hypothetical group of South African HIV-positive patients under different WHO guidelines prioritization scenarios.

According to the report by Walensky’s group, earlier ARV treatment initiation increased the likelihood of five-year survival from 80 to 87 percent and showed substantially improved early clinical outcomes compared with either using tenofovir for first-line treatment or providing second-line regimens.

In settings where ARV treatment is already started at 350 CD4s, the authors add, switching stavudine to tenofovir offers clinical benefit and is less costly than adding second-line regimens.

Finally, although providing access to second-line ARV treatment regimens would result in more clinical benefits than simply providing greater access to tenofovir, the cost of this change in strategy would be substantially greater.

As with all mathematical models, the accuracy of these findings depends on the assumptions included in the model and on the data populating it. Nevertheless, the authors conclude, in places where resources are limited and it's impossible to immediately implement all the new WHO recommendations, starting ARV treatment at a CD4 count of less than 350 would provide the greatest survival advantage and would be very cost-effective.

Importantly, these findings "should help avoid the complete dismissal of the revised WHO guidelines on the basis of cost and should help policy makers adjust their ARV treatment rollout program strategies to maximize their clinical benefits and cost effectiveness."
