



Winning or losing: where are we in the fight against HIV and AIDS?

Recently, news headlines around the world rang out with the message that the world is losing the fight against AIDS.

Those headlines were inspired by a talk given by Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases and US President George W. Bush's top adviser on HIV and AIDS, at the 4th International AIDS Society Conference on HIV Pathogenesis, Treatment, and Prevention held in Sydney, Australia, at the end of July. During the talk Fauci said that the world faces a serious problem because "for every one person that you put on therapy, six people get infected [with HIV]" (1). This fact, he said, made him concur with UNAIDS Executive Director Peter Piot, who recently stated that the discrepancy between the number of individuals being put on therapy and the number becoming infected "is not sustainable" and means "that we are losing the battle [against HIV and AIDS]" (2).

However, the negative nature of the news headlines generated by the talk did not reflect the overall message Fauci meant to convey, because, as he commented to the *JCI*, "much of what I said during the talk was positive." And while Fauci does feel that the world is "losing the numbers game" and that there is still "much to do" before we can say that we are winning the battle, he does believe that much has been accomplished.

Indeed, Fauci highlighted to the *JCI* that during his talk he discussed the huge advances that have been made in treating and preventing HIV and AIDS in recent years. For example, in 2003 only a couple of hundred thousand people in the developing world were receiving HIV therapy, most of whom were wealthy individuals, whereas in 2007 more than 2 million people in these regions of the world were receiving therapy. However, to provide a balanced outlook, Fauci told the *JCI* that although this is a huge advance, there is a long way to go, as this represents only 28% of individuals in the developing world who need HIV therapy.

Fauci also told the conference delegates that there have been scientific advances that the research community should be

proud of. One of the most recent of these advances is the demonstration that male circumcision substantially reduces the risk of acquiring HIV (3, 4). Another important step forward that he highlighted was the identification of a conserved structural epitope on the HIV-1 envelope protein gp120 (5), because he believes that it gives



HIV and AIDS are a global problem, with almost 40 million people estimated to be living with HIV in 2006. Image credit: Photo Researchers Inc.

hope that a vaccine can be developed that would induce truly neutralizing antibodies specific for multiple HIV strains and thereby provide individuals with protection against infection with HIV-1.

Another prominent HIV researcher, Robert Doms of the University of Pennsylvania, told the *JCI* that he shares Fauci's feelings that there have been some major steps forward in the fight against HIV and AIDS in recent years, but that there is still a lot to do. On the positive side, Doms stressed to the *JCI* the importance of the considerable array of antiretroviral drugs at the disposal of clinicians treating individuals with HIV and the increasing (although still far from ubiquitous) availability of these drugs in

the developing world. On the downside though, Doms noted that "vaccine development is progressing slowly, despite major efforts in this area" and the fact that the number of individuals becoming newly infected with HIV continues to rise "is depressing."

Doms also noted that because HIV is a sexually transmitted virus, prevention is the best way to control the HIV pandemic. However, as he pointed out, changing human behavior is a major challenge to this cost-effective approach to curbing the crisis. A related barrier to prevention is the considerable stigma surrounding the disease, due to which many individuals are not aware of their HIV status; more than 80% of people with HIV in sub-Saharan Africa do not know their status. In a bid to address this, and to thereby increase the number of individuals receiving treatment and decrease the number of individuals engaging in unsafe sexual practices, the governments of several countries, including Malawi and Tanzania, are advising all sexually active residents to take an HIV test. Indeed, in a bid to promote the campaign in his country, the president of Tanzania, Jakaya Kikwete, recently took an HIV test publicly.

So, as Fauci stated in the title of his talk, much has been accomplished, but much remains to do: although the battle against HIV and AIDS has not been won, it certainly has not been lost.

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2. Russell, S. 2007. May 9. Politics worries UN AIDS official as much as virus. *The San Francisco Chronicle*. <http://sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/05/09/BAGT3PNMEM1.DTL&hw=peter+piot&sn=001&sc=1000>.
3. Bailey, R.C., et al. 2007. Male circumcision for HIV prevention in young men in Kisumu, Kenya: a randomised controlled trial. *Lancet*. **369**:643–656.
4. Gray, R.H., et al. 2007. Male circumcision for HIV prevention in men in Rakai, Uganda: a randomised trial. *Lancet*. **369**:657–666.
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