

# From Talk to Action in Fighting AIDS in Developing Countries

*At the opening session of the 8th Conference on Retroviruses and Opportunistic Infections, Jeffrey D. Sachs, PhD, discussed the politics and global economics of HIV/AIDS. Addressing the audience of HIV researchers and clinicians, Dr Sachs offered specific policy recommendations for fighting the pandemic. An edited transcript of his lecture is included here. Please see page 14 for a subsequent consensus statement prepared by Dr Sachs and colleagues at Harvard University following the Retrovirus Conference.*

We are at a pivotal time in the AIDS pandemic in terms of the role of science and the role of the United States. It is absolutely stunning for me as an economist to listen to and observe the stupendous progress of science in this area, including the basic science of the immunology and pathogenesis of the disease and the applied sciences that have brought us remarkable new pharmaceutical products and at least potential vaccines down the road. At the same time, I compare this with what I would regard as the utter failure of international policy to address this crisis in the poor countries of the world.

The essence of Africa's HIV/AIDS crisis begins with its extreme poverty and therefore its inability to mobilize even the barest of resources to address any of the public health crises the continent faces. The AIDS pandemic comes on top of the millions and millions of lives that are needlessly lost to malaria, tuberculosis, respiratory disease, diarrheal disease, and micronutrient deficiencies, deaths that would be readily preventable with even the smallest amounts of money. But the world has turned its back on this reality for the last 20 years. The core of Africa's crisis in public health is that, at least since 1980,

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because of the nature of the global economy and nature of the developing country debt crisis that engulfed the continent and many other parts of the poor world, almost all of Africa has experienced a virtually total collapse of its public health systems.

We ask why Africa does not do more in this crisis, but it is important to remember that outside of South Africa the average per capita income in African countries is around \$300 per person per year. Even if these countries, with heavy international debts that have not been forgiven during the past 20 years, had been able to mobilize 4% or 5% of their gross national product for public health, we would be talking about sums of \$12 to \$15 per person per year to address a disease ecology that is probably the most difficult in the world and was such even before the AIDS pandemic arose in the early 1980s. In sub-Saharan Africa, 600 million people have been living without effective public health systems for a generation or more. The international response on AIDS could not have been less—a few tens of millions of dollars and a lot of hand-ringing, but no real assistance.

In an analysis I published with my colleague Amir Attaran in *The Lancet* in January of this year, we reviewed the donor assistance data for HIV/AIDS during the last 15 years. If you take all of the rich countries together—the United States, Europe, Japan, and the other rich countries—they currently have a combined population of about 1 billion people and a combined annual income of about \$25 trillion per year. And yet all of the rich world mustered only \$70 million per year for HIV/AIDS in Africa between 1996 and 1998, the most recent data that are available. That translates to \$3 per year per HIV-seropositive individual in sub-Saharan Africa. We have essentially done nothing. Last summer former President Bill Clinton went to Nigeria. In 4 different stops he announced the same \$10 million US aid program for AIDS in Nigeria, a country of 120 million people. That \$10 million was about 40% of the estimated \$25 million cost of his trip. I had recommended as a matter of public policy that he just stay home and send \$35 million instead.

No major donor agency, not the World Bank nor any of the international aid agencies, has yet acknowledged that there may be a case for the rich countries to help make available the basic treatments, and especially the antiretroviral therapies, that could save millions of lives. The World Bank, in publication after publication in the second half of the 1990s, talked about

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**See page 14 for a Consensus Statement on Antiretroviral Treatment for AIDS in Poor Countries, prepared by Harvard University faculty.**

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massive programs for AIDS without mentioning treatment. Prevention and community support—even financial support to help grieving households and to help enterprises understand how to replace dying workers—those were mentioned as part of the World Bank's agenda. But the notion that people might be treated to be kept alive was not even mentioned as an option in World Bank studies, reports, and recommendations up until several months ago. And even in the last couple of months, it is still not the case that that institution, which has launched a multi-country AIDS program for Africa (their MAP program) with \$500 million as a first set of loans, envisages that that money should be used for antiretroviral treatment.

So we somehow went through the past 20 years with an utter failure of the rich countries to understand that Africa's most basic developmental challenge was the millions of people dying needlessly each year of preventable or treatable diseases. We went through the last 15 years of the greatest pandemic in modern history without doing anything meaningful for the poorest countries. The World Bank made it through an entire decade making just 3 AIDS-related loans in Africa, one to Kenya, one to Burkina Faso, and one to Uganda. The other 46 countries in sub-Saharan Africa did not receive a single focused loan to fight this pandemic, whether for treatment or prevention or anything else. And of course it has not gone unnoticed in Africa or in other parts of the world that

the technological advances in antiretroviral therapy and treatment of opportunistic infections and the like have substantially improved the health of the rich country populations while they have been almost unavailable to the poorest countries. As a result, we are creating a world of even starker and more shocking divides than the world of just a few years ago. It is one thing to have a world in which people of the rich countries are earning \$25,000 per year and the 600 million in the poorest of the poor countries are earning around \$350 per year and many are at \$200 per year, but it is quite another to have a circumstance where millions of people are dying before our eyes from diseases that could be treated with new products and drugs that could save their lives, and we know it. It is a very dangerous situation from all perspectives—ethical, public health, economic, and political. The pharmaceutical companies are beginning to understand the risk. They stand the chance of becoming public enemy number one in all corners of the world. They are not very popular in the United States and when one adds the massive international campaign against these companies now happening in many parts of the developing world, where the unhappiness and adverse publicity filters back to the US market as well, I think they have a great deal of cause for worry.

The fact that we have done so little and that we are so rich, the fact that African governments all over the continent, not to mention governments in other parts of the world, are seeing the cusp of this pandemic in their countries and are understanding the dangers vividly, make it conceivable that we could actually change the way we have approached the pandemic during the past 15 years. I want to suggest a strategy that could, for the first time since this pandemic began, face up to the realities in the poorest countries. And I do so appealing to you at this Conference, who know about this disease, have more expertise, could contribute more, and could create more credibility for a new approach than any other group in the world. We have a chance to reach the basic idea that the AIDS pandemic should be addressed with real resources and that it should be addressed comprehensively, with prevention tied to treatment and supported by long-term basic science research, applied research for new pharmaceutical products and vaccines, and urgently needed operational research to understand the dynamics of the pandemic in the places that are being crushed by AIDS, particularly in Africa.

We now have, among the National Intelligence Council, Central Intelligence Agency, the United Nations Security Council, and other fora, a recognition that this pandemic fundamentally threatens US interests, not to mention the vital interests of millions of people who are dying from disease abroad, as well as their dependents and their communities. It threatens our interests because Africa has no chance of development without a capacity to address the public health crises, including AIDS, tuberculosis, and malaria. This is finally being recognized and appreciated

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**From 1996 to 1998,  
the combined annual  
income of rich countries  
was \$25 trillion;  
to fight HIV and AIDS  
during that time, they  
gave sub-Saharan Africa  
\$3 per HIV-infected  
person per year**

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because of important activism around the world and because of the shocking spectacle of the United States having enjoyed \$9 trillion of capital gains in the last decade (only \$1 trillion of which has been lost in the last 9 months of stock market decline). We have gained a net of some \$8 trillion yet our government was incapable of mobilizing more than pennies to address the pandemic. We are also arriving at a moment where we might do something because the pharmaceutical companies are unhappy about the current situation, as well they should be. They are, and I think wrongly, becoming public enemy number one. They are the target of a growing amount of activism, part of which they bring on themselves through misguided actions, such as taking South Africa to court.

I propose a modest set of steps that could make, for the first time since the pandemic began, a truly new course with the understanding that we are going to try to save the lives of people around the

world. What has been missing so far is money, not the will of the pharmaceutical companies. Nine months ago, the leading 6 producers of antiretrovirals and UNAIDS agreed to a rough schema in which the pharmaceutical companies would substantially reduce the prices of these products from the \$10,000 to \$15,000 per year range in the rich country markets down to prices closer to production costs. Agreements with 2 countries, Senegal and Uganda, were reached in the following 8 months. A few others are in the works. We have learned what we all knew from the producers of generic drugs as a result of these negotiations: the production costs for a triple combination therapy that relies on nucleoside and nonnucleoside reverse transcriptase inhibitors is probably in the range of \$500 per year, certainly well below \$1000 per year. Whether it is 7% of the market prices in the rich countries or 5% or 3%, we cannot be sure, but it is a very, very small amount relative to the retail prices that were the reference point leading so many observers to think that it was impossible to treat Africans because there was no way of providing the interventions at reasonable cost. The generics producers have even offered prices that are below these, ranging from \$1 per day to \$500 or \$600 per year, although these are claims that have not yet been proven by actual deliveries. But this process did not work from the point of view of the world community or the pharmaceutical companies because, although these deals have been made, no one is getting treated and the pharmaceutical companies find themselves in an even worse position now than 9 months ago.

The products are not moving for a very simple reason: Uganda cannot afford highly active antiretroviral therapy (HAART) even at \$500 per year. Uganda and similarly placed poor countries could only afford treatment if the rich countries of the world helped pay for it—which has been the missing piece until now. And the pharmaceutical companies need to understand that this kind of negotiation has further undermined them because of the absence of the rich country governments participating in the deal. Now the companies have agreed to price discounts and explained how big their mark-ups are in the rich country markets, with patent protection giving the returns to allow for high rates of research and development in the future. But they have exposed this mark-up to political risk without solving the problem of actually getting people treated. This

leads me to believe that with one real but not insuperable step, we could quickly move to a new and quite fundamentally different situation. The rich countries, with a \$70 trillion gross national product, have been putting about \$75 million a year into Africa. With even tiny amounts relative to our national income, only a few billion dollars a year, we could introduce real preventive actions combined with the vital component of treatment.

Suppose that it is possible for pharmaceutical companies to provide these basic combinations at around \$500 per year. Given the 2001 Department of Health and Human Services guidelines that treatment should be extended to symptomatic patients, we are talking about 3 or 5 million people in Africa at the outer limit right now, not the 24 million HIV-seropositive individuals. We know that if the drugs were available there would be a fundamental barrier in capacity to deliver. We do not have operational protocols, much of the continent lacks the most basically trained doctors, and most of the primary health sector of Africa has collapsed over the past 25 years, to the extent that it had existed even a quarter century ago. Realistically, therefore, if these protocols could be developed and adherence could be achieved—if operational research verifies the capacity to use HAART appropriately in the context of very low income populations and largely illiterate populations—antiretroviral drug resistance could be kept at a tolerably low level and it might be possible to scale up the reach of these interventions to 1 million AIDS sufferers in Africa within the next few years. If we did wonderfully with spectacular assistance from our schools of public health, our universities, our international agencies, maybe we could reach 3 to 5 million African AIDS sufferers in 5 years.

How much money would that cost? For the drugs themselves, money is hardly an obstacle. At \$500 per year and perhaps falling, 2 million people can be treated for \$1 billion per year. If that figure is doubled for the extension of capacity to reach those people, then \$2 billion per year reaches 2 million AIDS sufferers within 3 or 4 years. What is \$2 billion in the scheme of things? To a macroeconomist, it is a rounding error. We are currently debating whether our tax cuts should be \$2 *trillion*. It took me years to get UNAIDS to use the “B” word (billions). When they finally started talking about billions, all of the rest of the world, the rich world, had started talking about the “T” word. We are talking about \$2 tril-

lion in tax cuts extended over the course of the decade in our \$10 trillion economy. With 1 billion people in the rich world, \$2 billion is a levy of \$2 per person per year. For \$25 trillion of annual income, it is one 100th of 1% of gross national product; 1 penny out of \$100 is the cost of taking the steps to provide HAART to people who are dying by the millions right now.

Let me suggest therefore what I think

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**A levy of \$2 per person  
per year in the rich world  
would provide antiretroviral  
therapy to approximately 2  
million Africans with AIDS**

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could be done and what I hope such powerful voices as yours could convey should be done with the power and backing of your scientific genius and your institutions. Any realistic program for this pandemic must combine prevention, treatment, and research as a starting point. There can be no effective prevention without treatment. When HIV-seropositive status is a death sentence, a sentence of utter exclusion from society because there is no treatment, there is also no effective prevention. So prevention and treatment are complementary forces. UNAIDS estimates that effective prevention interventions in Africa, including those for mother-to-child transmission and condom use for commercial sex workers and other core groups in the transmission of the disease, might cost around \$2 or \$3 billion per year to scale up for the 49 countries of sub-Saharan Africa. HAART could probably be brought to 1 or 2 million people within 3 years, with an annual cost of \$1 or \$2 billion per year.

How do we therefore make the breakthrough to the \$5 billion that would amount to \$5 per person per year in the rich countries? I suggest the following steps, which are feasible but still lacking the necessary US leadership. Without question, for African countries with an average income of \$300 per year in Africa, there is no way to contemplate the use of these drugs or any effective treatments and prevention without ample support from the rich countries.

The first step therefore is for the United States to acknowledge that if HAART and related interventions were demonstrated to be medically effective, the United States and the other rich country partners would provide funding to the poorest countries in the world.

Step number two would be for the pharmaceutical companies to acknowledge the point that they have actually already acknowledged: that they would be prepared to supply these drugs at cost for such an international program. Pharmaceutical companies are not the obstacle right now. But what the pharmaceutical industry is realizing is that, without US government leadership, they cannot act effectively and they will continue to be in the line of fire.

The hard part is not getting the pharmaceutical industry to agree to supply a \$500-per-year 3-drug regimen. The hard part is to get the underlying financing available to make that possible. What would the pharmaceutical industry like in return? They would like to preserve their rich-country markets, and we should be strong supporters of that. This is a remarkable and dynamic industry. It has the country's highest productivity in research and development, and therefore bashing of the industry is doubly unfortunate as we ride the cusp of our current scientific revolution in biotechnology and genomics. The idea that the pharmaceutical industry should be the villain rather than the hero of the story makes no sense. I am sure they are thinking the same thing, so we are not far from getting the buy-in of the pharmaceutical industry.

The third step is where you, as clinicians and researchers, come in, and that is to test the proposition that HAART could be applied and could be feasibly extended with medical and public health efficacy in the poorest countries of the world. For example, Paul Farmer at Harvard University has dedicated much of his life to treating some of the poorest people in the world in the central plateau of Haiti over the last 18 years. For the first 15 of those years he was treating mainly tuberculosis and other public health crises. In the last 3 years his practice in the central plateau has increasingly expanded to the introduction of HAART into one of the world's poorest and most difficult places. He is saving lives in this region and demonstrating, at least on a small scale, a remarkable efficacy of the treatment.

He has developed what I call DOT HAART, a system in which the poor indi-

viduals who are illiterate and living in villages without electricity, communications, or even roads have their therapy directly observed by local community health workers whom Farmer has trained. So Paul Farmer is taking DOTS, directly observational therapy shortcourse, from tuberculosis care and applying it as DOT, directly observed therapy, for HAART interventions, and what he has demonstrated is the capacity on a scale of dozens of patients to achieve extremely high adherence and extremely high efficacy in the intervention. What we need to know is what kind of protocols can work in these extraordinarily difficult settings. Do we need viral load monitoring? Do we need CD4+ cell counts? Is a non-protease inhibitor regimen feasible and for how long? What will be the dynamics of drug resistance? What kind of adherence can be achieved? What kind of DOT program or alternative program could be implemented? How fast could we train doctors? Suppose that we encourage Bill and Melinda Gates to put in internet connections in primary health centers all through Africa. Will you be at the other end of the e-mails helping to train the doctors that are doing the HAART interventions?

There are many, many practical questions for which we do not know the answers. Therefore not only do we need to start with a general concept that the rich countries are prepared to go forward and that the pharmaceutical companies are prepared to provide the drugs at cost, but also that we need to embark on this in a deeply and fundamentally scientific manner, viewing the next steps as operational research at the largest scale.

What I would like to see happen in the most concrete sense is for the World Bank to use its new multi-country AIDS program to put aside \$50 or \$100 or \$200 million, as grants rather than loans, for HAART scale-up trials and for the National Institutes of Health, the Centers for Disease Control and Prevention, our medical schools, our schools of public health, and other related institutions to be deeply involved with those projects so that we get a proper epidemiological analysis. We need to view this as a scientific intervention to examine feasibility. We can only approach the feasibility of large-scale use of HAART in Africa as a hypothesis—not as a proven conclusion but as a hypothesis—that needs to be tested urgently.

I would also recommend, just as a small footnote, that the World Bank set aside perhaps \$50 million or \$100 million

to allow nongovernmental organizations, such as *Médecins Sans Frontières* or *Farmer's Partners in Health*, to apply for these drugs for use in small-scale trials in local units where these organizations are working. The funding should be based on scientific submissions so that the requests are not simply to "give us drugs" but are part of large-scale field trials that are extended to many parts of the African continent and perhaps to many other poor countries as well.

All of this could be done very quickly. We have talked for 15 years, and at least since the advent of HAART, we have talked

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for 5 years of pure hand-ringing about doing something. We now know that at least we can try to do something. We now know that at modest cost, if we are lucky enough that this works out, we could even bear the load of a dramatically expanded treatment intervention system for the world's poorest countries. What we need to do urgently is finally to move, to get started on some large-scale trials, to get the principals set out, to get the donor agencies to shed their economically illiterate and morally untenable position not to discuss treatment, and to get the process moving.

This is a good time to do it. The perhaps ironic feature of our new Presidency is that the new President will talk less than the old one but the old one actually accomplished nothing in regard to antiretroviral treatment. The new one will give confidence to the pharmaceutical industry to play a much more ambitious role. This government is a friend of the pharmaceutical industry and the industry

knows that this government is not going after their markets, is not going for price controls, is not going to undermine their intellectual property rights. It is therefore possible for major pharmaceutical firms in the HIV field to come forward to help lead a new process so that they stop being the villains and start being the heroes, so that they make their drugs available, so that the drugs will not be the limiting factor, and so that the operational capacity and the research knowledge should properly be the limiting factor, because that is the one part of the process that is the hardest and that is the one we most urgently need to learn about.

AIDS is not the only crisis that the poorest countries are facing. Malaria continues to take at least more than 1 million and, by my estimates, more than 2 million lives per year. It is resurging, perhaps on the back of the AIDS pandemic. Tuberculosis and the other major killer diseases are equally under-addressed in Africa right now. They are much cheaper than AIDS to address and we understand much better what to do about them, but the fight against these diseases is also starved for cash. This country needs therefore not only to spearhead an HIV/AIDS program for the world, but also programs to help save millions of lives from the ravages of tuberculosis, malaria, and other killers, and thereby establish a humane base for the poorest countries of the world to begin once again their process of economic development, a process that has been completely and utterly derailed by the disastrous 20 years of public health failure. This will cost the rich countries perhaps \$10 to \$20 billion per year, of which the \$5 billion per year for AIDS is just 1 part. But even as much as \$20 billion would be less than one tenth of 1% of the gross national product of the rich countries. Given that we have stopped most foreign aid in our country, aside from the money that goes to the Middle East, one tenth of 1% of the gross national product is probably the very least that we should be doing to fight the great disease pandemics in Africa.

Thank you again for all of the wonderful science and medical knowledge that you are bringing forward. I hope you can use your positions, your expertise and your good offices to push forward a campaign for global justice.