AIDS Prevention in Generalized Epidemics: What Works?

Senate Testimony
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We're here today to talk about making PEPFAR sustainable, and the key to sustainability must be prevention. We cannot treat our way out of this epidemic. Even now, five people are being infected with HIV in Africa for every one starting treatment. And treatment or not, these people will die of AIDS.

For prevention, it's fundamental to distinguish between "concentrated" and "generalized" HIV epidemics. These are different situations that require very different strategies. In most countries, HIV is mainly transmitted in high risk settings and groups, including men who have sex with men, injecting drug users, and commercial sex, so that's where you need to do prevention.

But in generalized epidemics, transmission is widespread in the heterosexual population, so you can't focus only on high risk groups. Just a few countries in Eastern and Southern Africa have this pattern. But these countries, because of their very high infection rates, account for most of the world's HIV infections. Most PEPFAR priority countries have generalized epidemics.

Five years ago, I was commissioned by UNAIDS to conduct a technical review of how well condoms have worked for AIDS prevention in the developing world. My associates and I collected mountains of data, and here's what we found.

First, condoms are 85-90% effective for preventing HIV transmission when used consistently. We then looked at whether condom promotion has been successful as a *public health* strategy – something very different from *individual* effectiveness. Here we found good evidence for effectiveness in concentrated epidemics. For example, condoms made an important contribution to controlling HIV among gay men in places like San Francisco and epidemics driven by commercial sex in places like Thailand.

We then looked for evidence of a public health impact for condoms in generalized epidemics. To our surprise, we couldn't find any. No generalized HIV epidemic has ever been rolled back by a prevention strategy based primarily on condoms. Instead, the few successes in turning around generalized HIV epidemics, such as in Uganda, were achieved not through condoms but by getting people to change their sexual behavior.

UNAIDS did not publish the results of our review, but we did ourselves. I would like to have the following article entered into the record:

Hearst N, Chen S. Condoms for AIDS Prevention in the Developing World: Is It Working? Studies in Family Planning 2004;35:39-47.

These are not just our conclusions. A recent consensus statement in *The Lancet* was endorsed by 150 AIDS experts, including Nobel laureates, the president of Uganda, and officials of most international AIDS organizations. This statement endorses the ABC approach to AIDS prevention: Abstinence, Be faithful, and Condoms. It goes further. It says that in generalized epidemics, the priority for adults should be B (limiting one's number of partners). The priority for young people should be A (not starting sexual activity too soon.) C (condoms) should be the main emphasis only in settings of concentrated transmission, like commercial sex. I also ask that this article be entered into the record:

Halperin DT, Steiner MJ, Cassell MM, Green EC, Hearst N, Kirby D, Gayle HD, Cates W. The time has come for common ground on preventing sexual transmission of HIV. Lancet 2004; 364: 1913-1915.

PEPFAR follows this ABC approach. Last year, I was on a team reviewing PEPFAR's prevention activities in three African countries for the Office of the Global AIDS Coordinator. We found a strong portfolio of prevention activities that mixed A, B, and C (though, in my opinion, probably not enough B.) This contrasted with other funders that often officially endorse ABC but in practice continue to put their money into the same old strategies that have been so unsuccessful in Africa for the past 15 years: condoms, HIV testing, and treating other sexually transmitted infections.

One might ask why they continue to do this despite all the evidence. It's difficult to convey the tremendous inertia for doing the same old things. First, they're relatively easy to do. Second, many of the implementing organizations and individuals have backgrounds in family planning. They're good at distributing condoms and providing clinical services but may have no idea how to get people to change sexual behavior. Third, decisions are often made by expatriates and westernized locals trained in rich countries who have internalized prevention models from concentrated epidemics. Finally, if you try to do everything, expensive clinical services quickly eat up budgets, leaving little for the critical A and B of ABC.

Let me close with a warning regarding talk about "ABC plus" or "moving beyond ABC" and diverting AIDS prevention funding to whatever other good cause people are promoting. Always ask, "Where is the evidence?" For example, I'm all in favor of poverty alleviation. But in almost countries with generalized epidemics, the rich have higher HIV infection rates than the poor. I ask that the following article which documents this be entered into the record:

Mishra V, Assche SB, Greener R, et al. HIV infection does not disproportionately affect the poorer in sub-Saharan Africa. AIDS 2007; 21 (suppl 7): S17-S28.

Similarly, for gender equity, many of the African countries with the best records in this regard (like Botswana) have the highest rates of HIV infection. The question here is not whether poverty alleviation, treating STI's, and improving the status of women are important. Of course they are. The question is whether they are where we should put

our limited AIDS prevention dollars. This decision needs to be based on evidence of effectiveness, not facile sociologic arguments. Are there credible scientific studies showing proof that poverty alleviation programs reduce HIV transmission? There are none. Are there specific examples of programs to improve the status of women that resulted in reduced rates of HIV? There are none. Are there randomized controlled trials showing that treating STI's reduces HIV transmission? There is one, but there are five others that showed no such effect.

PEPFAR must instead put its money into strategies that have been proven to be effective. The most notable of these was the home-grown Ugandan "Zero Grazing" approach. When Ugandans decided to tackle their AIDS problem head on in the late 1980's, they did not say, "We must alleviate poverty before we can control AIDS," or "We must improve the status of women before we can fight AIDS." Instead, they took a common sense approach based on the knowledge that HIV is sexually transmitted. They mobilized all sectors of society to get people to change their sexual behavior, and they succeeded with little outside help and very limited funding.

PEPFAR has been a leader among international AIDS prevention programs by truly putting its money into ABC and not just giving it lip service while spending most of its prevention budget on other things. It would be foolish to change this without clear evidence that other approaches are more effective, not just emotional arguments that would divert energy and funding in unproven directions. Anything that dilutes the focus of AIDS prevention in Africa from changing sexual behavior may do more harm than good.