



The AIDS Epidemic and Its Economic Roots

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The AIDS Epidemic and its Economic Roots

Do Education Campaigns in Africa Really Matter?

Plamen Nikolov

Economists have a vital role to play in helping public health officials and policymakers understand the AIDS epidemic and design efficient policies to limit its impact. AIDS is first and foremost a public health problem, but it is a problem with deep economic roots. In Africa, an estimated 24.5 million people were living with HIV at the end of 2005, approximately 60% of all HIV cases in the world.¹ Many explanations for the steady incidence rate of HIV have been proposed, such as gender², presence of other STDs³, drug injections⁴ and circumcision.⁵ Public health experts have long promised that effective education campaigns are lacking in much of the developing world, but once these materialize, officials predict that they will bring down the incidence rates and the prevalence of HIV in Africa.^{6,7}

Uganda's first AIDS control program was set up in 1987 to educate the public about how to avoid becoming infected with HIV. The program promoted the ABC approach (abstain, be faithful, use condoms), ensured the safety of the blood supply and started HIV surveillance.⁸ The ABC education campaign is widely associ-

ated with bringing adult HIV prevalence down from around 15% in the early 1990s to around 5% in 2001.^{9,10} The country is considered by many public health officials as having implemented a well-timed and successful public campaign.¹¹

Likewise, a variety of other countries have enacted policies to counter the rise in the HIV prevalence, such as a greater emphasis on safe sexual behaviors. How-

ever, much of this discussion has occurred ad hoc. Extorting individuals in most African countries to engage in safe sexual behaviors seems to have little effect on incidence rates. In theory, it seems reasonable that people would adopt safer sexual practices, including monogamy, in response to HIV risks. Why is it that this prediction fails to hold true in practice?

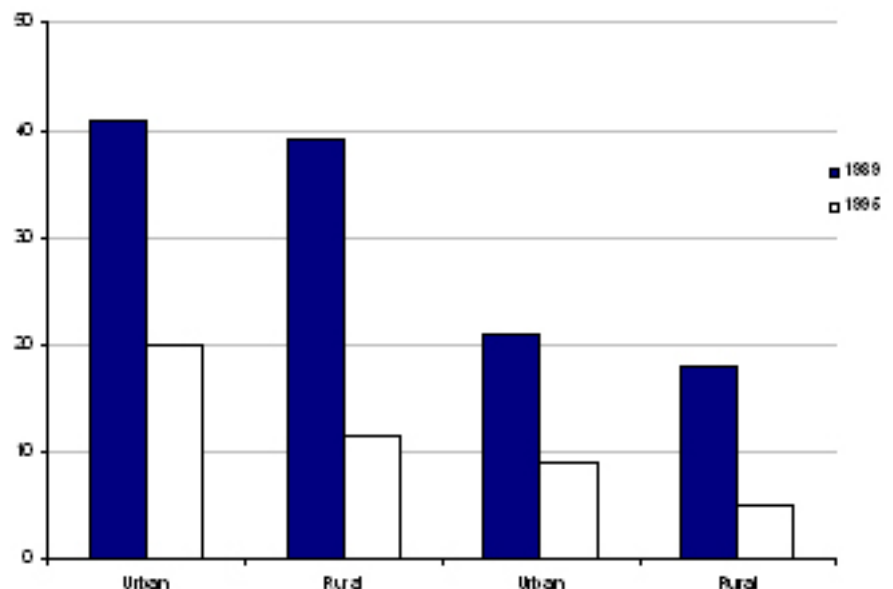


Figure 1. Reported Casual Sex for Uganda in Past 12 Months 1989-1995

HIV Prevalence Among Adults 15-49

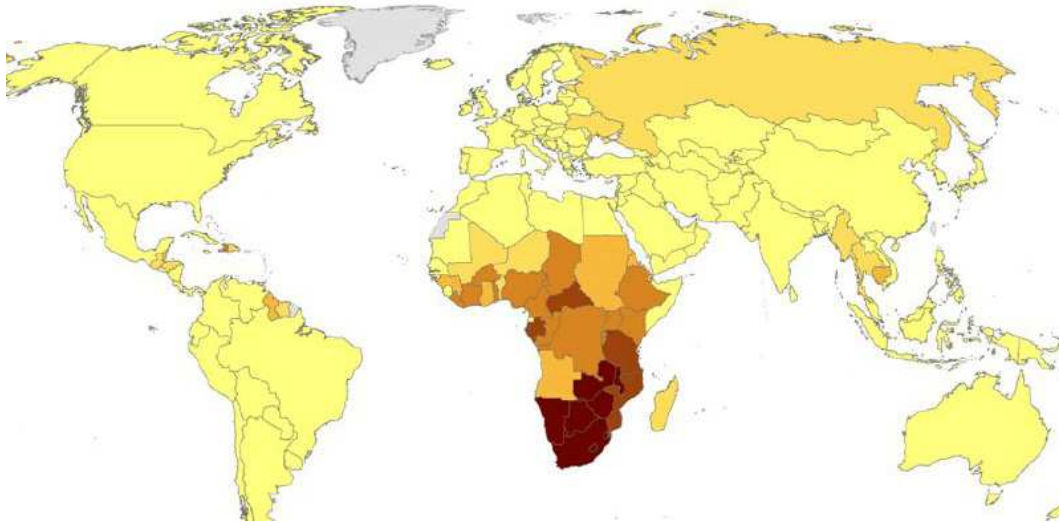


Figure 2. HIV prevalence in Africa (See figure 3 for exact numbers)

The Economic Framework and Behavior Change in Africa

Recent AIDS studies point to limited changes in sexual behavior in Africa.^{12,13} Since around 1985 a number of studies were undertaken, in the United States, Australia and other developed countries, to determine the reasons why gay men adapted to the demands of behavior change in response to HIV and AIDS more readily than non-gay men.¹⁴ It is clear that as early as the mid-1980s, before the initiation of large-scale public education campaigns, gay men enrolled in cohort studies modified their sexual behavior in response to growing awareness of the existence of AIDS and education campaigns mounted by gay community-based groups. Behavior change in response to education campaigns has been documented in high-risk individuals in the United States.¹⁵ If contrasted with the extensive behavioral response of gay men in the United States since the mid-1980s

to education campaigns, the lack of behavioral response to public health campaigns in Africa is stunning.

Economics provides a powerful way of examining the pattern of the epidemic's spread. The central idea is that HIV is not spread randomly, as tends to be the case with the bacteria that cause tuberculosis or the virus that causes the common cold. Rather, HIV is most often transmitted as a consequence of purposeful behavior that often has a strong economic foundation.^{16,17}

Consider two men, one who expects

to live for another ten years, and a second who expects to live for another fifty years. In a world without HIV, the choice of sexual behavior would not depend on the expected future life expectancy. However, in a world with HIV, sexual behavior carries a risk of death from HIV, assumed to happen ten years after infection.

Imagine that you are one of these two men. Will you choose to engage in unsafe sexual behavior if you are aware that by abstaining you significantly increase your lifespan? You would prob-

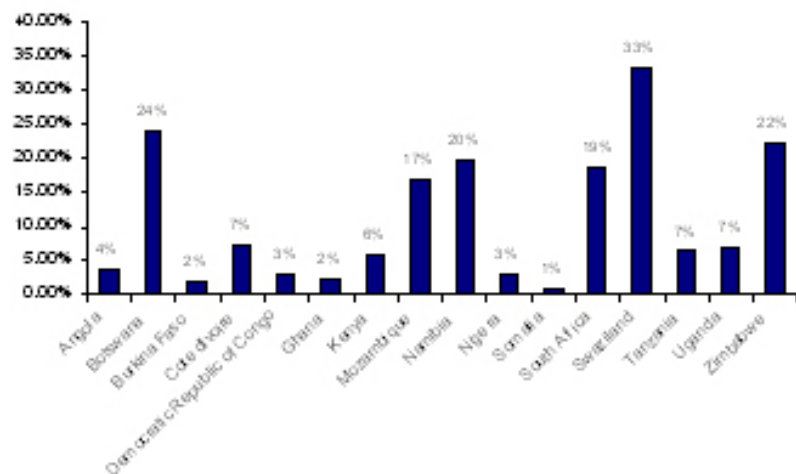


Figure 3. Adult Prevalence (in Percentages)

ics offers a set of tools that allow for rational policymaking and that can ultimately curb the epidemic in the African continent.

While existing work on HIV in Africa focuses on cultural barriers to changing behavior, economic reasoning from the point of view of the infected individuals suggests that standard economic theory may provide significant insights:

- **Individuals may rationally decide to accept unsafe sex in exchange for the short-term benefit associated with it.**
- **While public health advocates may encourage people to exercise safe sex, people will only perform it when it is the best use of their scarce time.**

In many sub-Saharan African countries, the incentive to change sexual behavior in response to HIV risks is very low. Policymakers must recognize that the issue is not entirely due to cultural differences. There is an important link between response to HIV and other mortality risks.

The two major differences lie in transmission rates of the virus and in the limited incentive for behavior change due to other mortality risks manifesting themselves in low life expectancy. First, for a given unprotected sexual relationship with an HIV-infected person, Africans are between four and five times more likely than Americans to become infected with HIV themselves. This stark fact accounts for virtually all of the difference in population-wide HIV rates in the two regions. There is more than one reason why HIV spreads more easily in Africa than America, but the most important one seems to be related to the prevalence of other sexually transmitted infections. Es-

timates suggest that around 11 percent of individuals in Africa have untreated bacterial sexually transmitted infections at any given time and close to half have the herpes virus. Because many of these infections cause open sores on the genitals, transmission of the HIV virus is much more efficient. The fact that Africa is so heavily affected by HIV has very little to do with differences in sexual behavior and very much to do with differences in circumstances. Perhaps even more importantly, there is potential for significant reductions in HIV transmission in Africa through the treatment of other sexually transmitted diseases. Such an approach would cost around \$3.50 per year per life saved. Treating AIDS itself costs around \$300 per year. There are reasons to provide AIDS treatment in Africa, but cost-effectiveness is not one of them.

The second difference lies in the insurmountable difference in life expectancies due to mortality associated with other non-HIV infectious diseases widely prevalent in the African continent. Life expectancy in much of the continent is already low not only due to HIV but also because of high prevalence of respiratory infections, TB, malaria, and other infectious diseases. What does this imply for behavior change? If your life expectancy is

only 40-50 years due to environmental and disease factors, you might be more willing to take a 3% risk associated with having unprotected sex with one more sexual partner than a gay man in America who otherwise expects to live almost 80 years. Stated simply, if life expectancy in Africa were the same as it is in the United States, we would see the same change in sexual behavior—and the AIDS epidemic would begin to slow down. But this hypothetical is not supported by the difference in the life expectancies without HIV in the two continents.

Non-HIV mortality risks are the areas that health policymakers, economists, international organizations, nongovernmental organizations, and others concerned with the social and economic implications of the epidemic need to address most urgently. They involve complex issues that include matters of health, sociology, psychology, law, politics, and economics.

As governments and NGOs consider interventions like drug treatment, which change the cost of infection, the possibility of behavior change as a function of life expectancy and future income should be considered. Targeting populations with higher income and higher life expectancy within

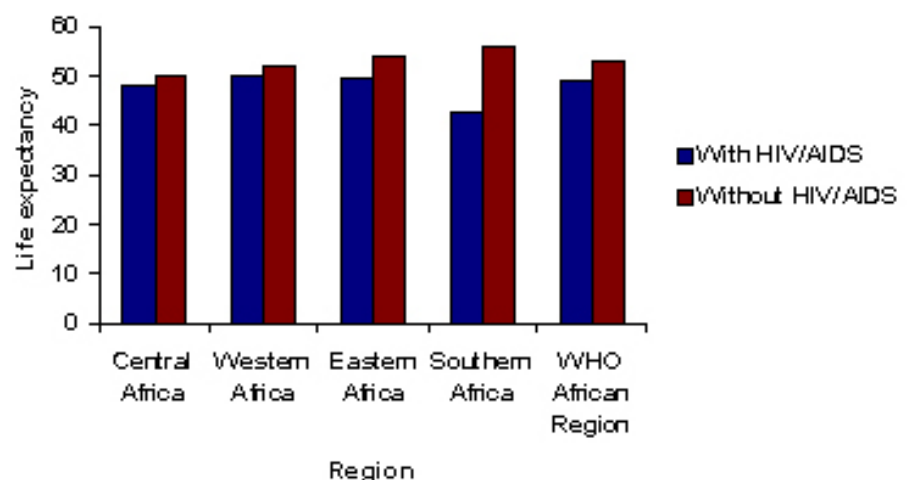


Figure 5. Life Expectancies with and without HIV