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What Happened in Uganda?

Declining HIV Prevalance, Behavior Change, and the National Response

U.S. Agency for International Development

Editor: Janice A. Hogle, Ph.D.
Contributors: Edward Green Ph.D., Vinand Nantulya M.D., Ph.D., Rand Stoneburner M.D., M.P.H., John Stover Ph.D.

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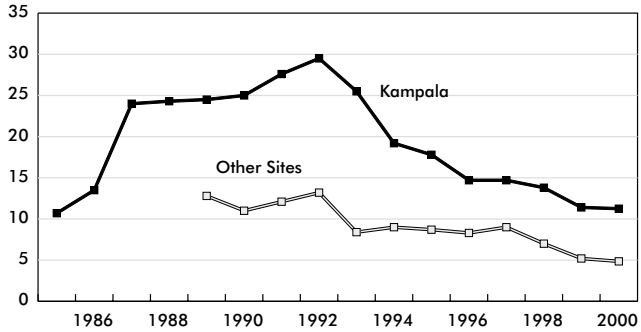
The Synergy Project
HIV/AIDS Technical Assistance by IVI Associates

WHAT HAPPENED IN UGANDA?

Declining HIV Prevalence, Behavior Change, and the National Response

This document is not intended to provide a definitive explanation for Uganda's AIDS prevention successes during the 1980s and 1990s. Rather, it is a synthesis of presentations made in February 2002 at USAID by four individuals with long-term experience in HIV prevention in Africa. USAID's Office of HIV/AIDS decided to commission a summary document synthesizing the ideas presented by these researchers. The following pages do not include all the various statistical and other details that were presented; however, it is hoped that the

MEDIAN HIV PREVALENCE AMONG PREGNANT WOMEN IN UGANDA
(Interpolated for one year gaps in site data)



Source: HIV/AIDS Surveillance Report, STD/AIDS Control Programme, Ministry of Health, Uganda, June 2001.

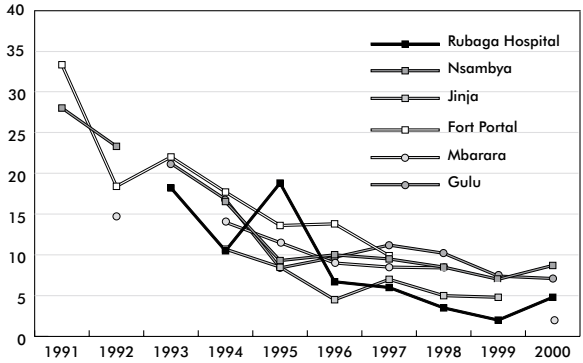
main points described here provide some insight into how Uganda has managed to control its HIV epidemic during the past 15 years.

HIV prevalence has declined significantly in Uganda: Now considered to be one of the world's earliest and best success stories in overcoming HIV, Uganda has experienced substantial declines in prevalence, and evidently incidence, during at least the past decade, especially among younger age cohorts. According to Ministry of Health (MOH) data, prevalence among pregnant women has declined consistently since the early 1990s at all of the country's sentinel sites (except Tororo, near the Kenyan border, where prevalence increased a little during the mid-to-late 1990s, but declined significantly again by 2000). While it is more difficult to find reliable data on trends in incidence (or the rate of new infections), seroincidence also appears to have fallen significantly. In one site, Masaka, incidence fell from 7.6 per thousand per year in 1990 to 3.2 per thousand per year by 1998. As with prevalence, the decline was more pronounced among younger women.

Seroprevalence among 15-19-year-old pregnant women, which is believed to be reflective of HIV incidence, fell sharply from the early 1990s, when this data was first collected, until 1995 or 1996, and since then has remained low. Based on this trend, as well as the fact that national seroprevalence peaked in 1991 and from some other indications (e.g., syphilis rates in Rakai plummeted in 1988), it is probable that incidence in Uganda would have peaked sometime in the late 1980s. Regarding prevalence, estimates by the U.S. Census Bureau/ UNAIDS are that national HIV prevalence peaked at around 15 percent in 1991, and had fallen to 5 percent as of 2001. This dramatic decline in prevalence is unique worldwide, and has been the subject of curiosity since the mid-1990s, and recently of even more intense scientific scrutiny.

Observed consistently over time and across many different geographic and demographic populations, Uganda's falling HIV prevalence is likely not due merely to measurement bias or a "natural die-off syndrome," but rather mainly to a number of behavioral changes that have been identified in several surveys and qualitative studies. Some have postulated that the decline in seroprevalence was primarily a result of so many people succumbing to the disease that the rate of new infections was simply outweighed by the numbers of AIDS deaths. However, a number of other African regions (e.g., Zambia, Zimbabwe, western Kenya) have experienced nearly as old—and at least as severe—epidemics as Uganda's, yet prevalence has yet to decline at the population level. Furthermore,

HIV PREVALENCE AMONG 15-19 YEAR OLD PREGNANT WOMEN



Source: HIV/AIDS Surveillance Report, STD/AIDS Control Programme, Ministry of Health, Uganda, June 2000.

the large decline in prevalence among younger age cohorts in Uganda argues against this as a primary explanation.

The relationships between the large variety of interventions in Uganda and the decline in incidence and prevalence are complex and not yet completely understood. This is especially true regarding the earlier years (i.e., there is little HIV-related DHS data from before 1995). However, changes in age of sexual debut, casual and commercial sex trends, partner reduction, and condom use all appear to have played key roles in the continuing declines. Although we know that HIV knowledge, risk perception, and risk avoidance options can ultimately lead to reduced HIV incidence, there is a complex set of epidemiological, socio-cultural, political, and other elements that likely affected the course of the epidemic in Uganda. Many of these elements appear to be absent or less significant in other African countries that have not yet seen significant seroprevalence declines, such as Zimbabwe, South Africa, Botswana, Kenya, and Malawi. These key elements are summarized in roughly chronological order in the following pages.

1. High-level political support with multi-sectoral response set the tone: In 1986, after 15 years of civil strife, Uganda's new head of state, President Yoweri Museveni, responded to evidence of a serious emerging epidemic with a proactive commitment to prevention that has continued to the present. In face-to-face interactions with Ugandans at all levels, he emphasized that fighting

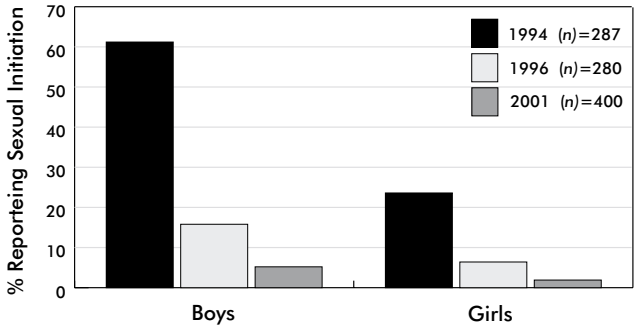
AIDS was a patriotic duty requiring openness, communication, and strong leadership from the village level to the State House. His charismatic directness in addressing the threat placed HIV/AIDS on the development agenda, and encouraged constant and candid national media coverage of all aspects of the epidemic. This early high-level support fostered a multi-sectoral response, prioritizing HIV/AIDS and enlisting a wide variety of national participants in the "war" against the decimating disease known as "Slim." In 1992, the multi-sectoral Uganda AIDS Commission (UAC) was created to coordinate and monitor the national AIDS strategy. The UAC prepared a National Operational Plan to guide implementing agencies, sponsored Task Forces, and encouraged the establishment of AIDS Control Programmes in other ministries including Defense, Education, Gender and Social Affairs. As of 2001, there were also reportedly at least 700 agencies—governmental and nongovernmental—working on HIV/AIDS issues across all districts in Uganda.

2. Decentralized planning and implementation for behavior change communication (BCC) reached both general populations and key target groups: In 1986, Uganda established a National AIDS Control Program (ACP), which launched an aggressive public media campaign that included print materials, radio, billboards, and community mobilization for a grass-roots offensive against HIV. A national sentinel surveillance system, which has tracked the epidemic since 1987, began with four sites and by 2000 included 15; also of importance, there has been surveillance of AIDS cases since 1986. The ACP became the STD/AIDS Control Programme in 1994 and has since trained thousands of community-based AIDS counselors, health educators, peer educators, and other types of specialists. Led by their leaders' examples, the general population in both urban and rural areas eagerly joined the fight against AIDS, so that it became a "patriotic duty" to support the effort. Spreading the word involved not just "information and education" but rather a fundamental behavior change-based approach to communicating and motivating. Decentralization itself was actually a type of local empowerment that involved local allocation of resources—in itself a motivating force.

Notably, Uganda's approach to BCC has relied more on "non-electronic" mass communication—which was community-based, face-to-face, and culturally appropriate. Strong NGO and community-based support led to flexible, creative, and culturally appropriate interventions that worked to change behavior despite extreme levels of post-civil war household poverty. As Edward Green

observed, "low-tech" approach also led to the sensitization and subsequent involvement in AIDS awareness and education of not only health personnel, traditional healers, and traditional birth attendants (TBAs), but influential people normally not involved in health issues such as political, community, and religious leaders, teachers and administrators, traders, leaders of women's and youth associations, and other representatives of key stakeholder groups. BCC interventions reached not only the general population, but also key target groups including female sex workers and their clients, soldiers, fishermen, long-distance drivers, traders, bar girls, police, and students, without creating a highly stigmatizing climate.

DELAYED SEXUAL DEBUT AMONG PRIMARY SCHOOL PUPILS (13-16 YEARS) FOLLOWING IEC (Soroti District, Uganda)



Source: The Effects of the Katakwi/Soroti School Health and AIDS Prevention Project, AMREF Report, Kampala, August 2001.

3. Interventions addressed women and youth, stigma and discrimination: Linked to high-level political support and grassroots-level communication for behavior change was a strong emphasis on empowerment of women and girls; targeting youth in and also out of school; and aggressively fighting stigma and discrimination against people living with HIV/AIDS (PLWHAs). Since at least 1989, teachers have been trained to integrate HIV education and sexual behavior change messages into curricula. At the same time, the country's President and his political party have attempted to empower women and youth by giving them more political voice, including in Parliament where by law women make up a minimum one-third of the members. Four members elected by youth caucuses

represent youth in Parliament. Youth-friendly approaches promoted partner reduction through talking about delaying sexual debut—remaining abstinent, remaining faithful to one uninfected person if "you've already started," "zero-grazing," and using condoms if "you're going to move around." Of particular note is the indicator for the proportion of youth that has not yet begun to have sex. In an AMREF study in Soroti District cited by Vinand Nantulya, among youth age 13-16 nearly 60 percent of boys and girls reported having already "played sex" in 1994, but in 2001 that proportion was down to less than 5 percent.

Respecting and protecting the rights of those infected by HIV has been inspired since 1988 by a number of prominent Ugandan citizens, and by public events such as candlelight memorials and World AIDS Day observances. In the late 1980s, a celebrated European-based Ugandan musician, who went public about his HIV status at the beginning of the epidemic, returned home and devoted his last days to giving testimonies in schools, colleges, churches and elsewhere. Of critical importance, The AIDS Support Organization (TASO) was organized back in 1987, and has advocated against discrimination and stigma while pioneering a community-based approach for care of PLWHAs. The work of TASO and other care organizations has also made important contributions to prevention efforts, exemplifying the concept of a prevention-to-care continuum. Other national spokesmen included a Major in the Ugandan army who talked openly about his infection and how he used condoms to avoid infecting his wife, and a Protestant minister who disclosed that he learned of his infection when his first wife died, and talked publicly about using condoms to avoid infecting his new wife and their children. Openness on the part of the President, other government and community leaders, and prominent activists has led in general to a remarkably accepting and non-discriminatory response to AIDS.

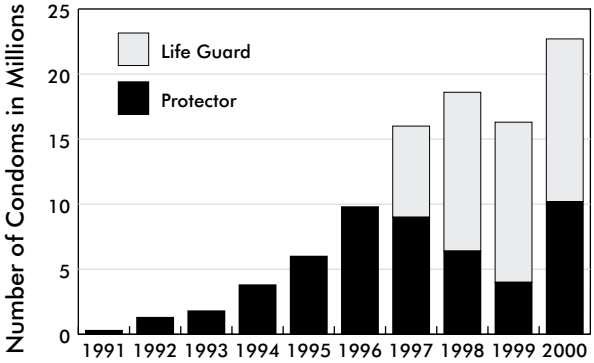
4. Religious leaders and faith-based organizations have been active on the front lines of the response to the epidemic: Mainstream faith-based organizations wield enormous influence in Africa. Early and significant mobilization of Ugandan religious leaders and organizations resulted in their active participation in AIDS education and prevention activities. Also, Mission hospitals were among the first to develop AIDS care and support programs in Uganda. In 1990, the Islamic Medical Association of Uganda (IMAU) piloted an AIDS education project in rural Muslim communities that evolved into a larger effort to train local religious leaders and lay community workers. Documenting increases in correct

knowledge and decreases in risky behaviors, the IMAU project was selected as a "Best Practices Case Study" by UNAIDS. The Protestant Church of Uganda organized a workshop for bishops and other religious leaders in 1991, and implemented an extensive AIDS education project in many dioceses. The Catholic Church and mission hospitals provided leadership in designing AIDS mobile home care projects and special programs for AIDS widows and orphans. The three chairpersons of the Uganda AIDS Commission have included an Anglican and a Catholic Bishop. (The first leader was President Museveni.)

5. **Africa's first confidential voluntary counseling and testing (VCT) services**: In 1990, the first AIDS Information Center (AIC) for anonymous VCT opened in Kampala. By 1993, AIC was active in four major urban areas as more and more people became interested in knowing their sero-status. AIC pioneered providing "same day results" using rapid HIV tests, as well as the concept of "Post Test Clubs" to provide long-term support for behavior change to anyone who has been tested, regardless of sero-status. Uganda was fairly unique in Africa in the emphasis it placed on VCT, at a time when the Global Program on AIDS and other international organizations were not yet recommending it as a prevention strategy.

6. Condom social marketing has played a key but evidently not the major role: Condom promotion was not an especially dominant element in Uganda's earlier response to AIDS, certainly compared to several other countries in east-

NUMBER OF SOCIALLY MARKETED CONDOMS SOLD IN UGANDA



Source: Deloitte Touche Tohmatsu, Commercial Market Strategies, Uganda Report, 2001.

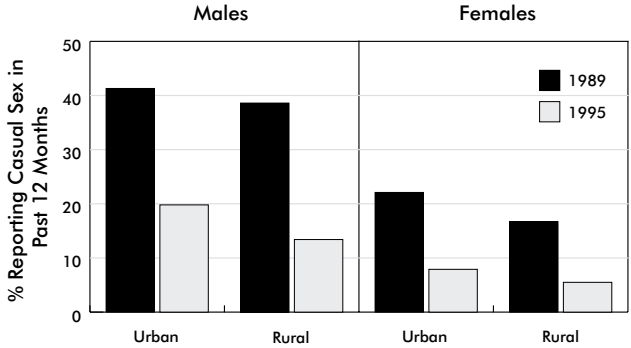
ern and southern Africa. In DHS surveys, ever-use of condoms as reported by women increased from 1 percent in 1989, to 6 percent in 1995 and 16 percent in 2000. Male ever-use of condoms was 16 percent in 1995 and 40 percent in 2000. Nearly all of the decline in HIV incidence (and much of the decline in prevalence) had already occurred by 1995 and, furthermore, modeling suggests that very high levels of *consistent* condom use would be necessary to achieve significant reductions of prevalence in a generalized-level epidemic. Therefore, it seems unlikely that such levels of condom ever-use in Uganda (let alone consistent use, which was presumably much lower) could have played a major role in HIV reduction at the national level, in the earlier years. However, in more recent years, increased condom use has arguably contributed to the continuing decline in prevalence.

In the early 1990s, there was resistance on the part of the President and some religious leaders to promoting condom use, but by the mid-1990s the controversy had generally faded. Purchased mainly with external donor funds, millions of condoms have since then been distributed by the MOH through health centers and NGO projects. Condom sales and reported use have increased significantly during the past half-decade (although still not to the same extent as in other countries like Zimbabwe, South Africa, Botswana, and Kenya). High levels of condom use have been reported for commercial sex work (i.e., reportedly at near-100 percent levels in Kampala), and according to Uganda's 2000 DHS, among people reporting a non-regular partner in the past 12 months, 59 percent of men and 38 percent of women reported using a condom with their last non-regular partner. Therefore, current condom use rates with non-regular partners are probably playing a role in the continued declining seroprevalence. Note that while condom use with non-regular partners has been increasing, Ugandans are also reporting significantly fewer non-regular partners. In contrast, according to John Stover, if condom use in Kenya had not been as plentiful, seroprevalence might have increased even more than it has. But without the other, Uganda-like behavior changes (i.e., delay of sexual debut and "zero grazing"/partner reduction), prevalence did not decline.

7. Sexually transmitted infections (STI) control and prevention programs have received increased emphasis. Since 1994, after declines in HIV prevalence began to be documented, two donor-funded projects addressed improving STI diagnosis and treatment of STIs. Adequate supplies of STI drugs in the country suffered from considerable delays in offshore procurement but by the

end of the 1990s, drug supplies were adequate and distribution to rural health facilities was improving. Donor funding also financed a national reference laboratory at Mulago Hospital to study drug resistance. Two large randomized trials in Uganda (Rakai and Masaka) attempted to look at the impact of STI treatment on reducing HIV prevalence. Although both interventions reduced the rates of some STIs, there was no significant reduction in HIV incidence. According to an expert panel at the 2002 World AIDS Conference in Barcelona, the main reason for the lack of effect on HIV from STI treatment was the large decrease in risky sex/multiple partner trends that had occurred in Uganda by the time the STI trials began. (Most HIV transmission therefore now occurs within monogamous regular partnerships, where bacterial STIs tend to be rare.)

POPULATION-BASED SURVEYS, UGANDA

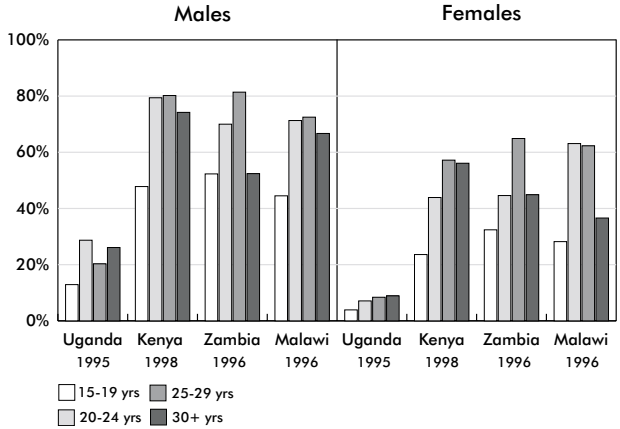


Source: Global Program on AIDS, Geneva.

8. The most important determinant of the reduction in HIV incidence in Uganda appears to be a decrease in multiple sexual partnerships and networks: In general, Ugandans now have considerably fewer non-regular sex partners across all ages. Population-level sexual behavior, including the proportion of people reporting more than one sexual partner, in Kenya (1998), Zambia (1996), and Malawi (1996), for example, appear comparable to those reported in Uganda in 1988-89. In comparison with men in these countries, Ugandan males in 1995 were less likely to have ever had sex (in the 15-19-year-old range), more likely to be married and keep sex within the marriage, and less likely to have multiple partners, particularly if never married.

According to Rand Stoneburner, such behavioral changes in Uganda appear related to more open personal communication networks for acquiring AIDS knowledge, which may more effectively personalize risk and result in greater actual behavior change. Comparing DHS survey data with Kenya, Zambia, and Malawi, Ugandans are relatively more likely to receive AIDS information through friendship and other personal networks than through mass media or other sources, and are significantly more likely to know of a friend or relative with AIDS. Social communication elements, as suggested by these kinds of indicators, may be necessary to bridge the motivational gap between AIDS prevention activities and behavior change sufficient to affect HIV incidence. If these elements are present, the success of prevention activities may be greatly enhanced. Model simulations suggest that knowledge can diffuse rapidly, even early in an epidemic, in an environment of "open" personal networks. Uganda's President set the example for the nation with his matter-of-fact approach to dealing with the HIV threat, and inspired thousands of community, religious, and government leaders to talk candidly to people about delaying sexual activity, abstaining, being faithful, "zero grazing," and using condoms (roughly in that order).

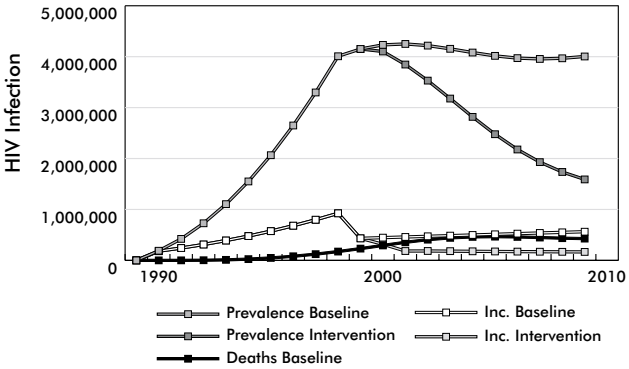
SEXUAL PARTNERSHIPS IN UNMARRIED BY AGE:
% reporting non-regular partners in last 12 months, (DHS)



Source: DHS Surveys.

What did all this cost? According to an analysis by Elizabeth Marum, USAID/CDC HIV program director in Kampala throughout the 1990s, total donor support for all AIDS-related contributions during the period 1989-1998 was approximately $180 million, or about $1.80 per adult per year over the 10-year period. Donor contributions amount to an estimated 70 percent of total expenditures on AIDS prevention and care in Uganda. Although this proportion is clearly significant, Uganda itself (both public and private sectors) must be credited with developing much of the successful approach, specifically: involvement of religious organizations, bold IEC in schools, VCT, and community-based and culturally appropriate BCC communication strategies.

SIMULATION OF UGANDA HIV DYNAMICS:
Potential impact of similar behavior change in South Africa by 2000



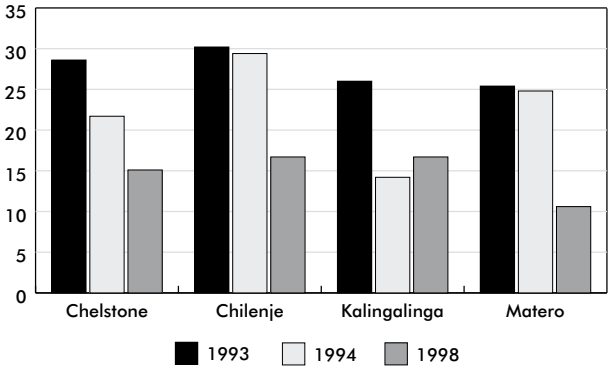
Source: Stoneburner, RL, Low-Beer D. Analyses of HIV trend and behavioral data in Uganda, Kenya, and Zambia: prevalence declines in Uganda relate more to reduction in sex partners than condom use. Abstract ThOrC734. XIII International AIDS Conference, Durban, South Africa, July 7-14, 2000.

A "social vaccine" in Africa? (Can this success be replicated?) It must be remembered that many of the elements of Uganda's response, such as high-level political support, decentralized planning, and multi-sectoral responses, do not affect HIV infection rates directly. Sexual behavior itself must change in order for seroincidence to change. According to Stoneburner, the effect of HIV prevention interventions in Uganda (particularly partner reduction) during the past decade appears to have had a similar impact as a potential medical vaccine of 80 percent efficacy. The historical and socio-cultural context, various interventions

and other factors are complex and may be somewhat unique to Uganda, and it is not clear to what extent this success can exactly be replicated elsewhere, especially in more cosmopolitan, Westernized settings. However, recent seroprevalence and behavioral survey data among youth in Zambia indicate that a Uganda-like success story may be in the making there as well. According to a recent study by Population Services International, the main factor behind the large decline in prevalence among Zambian youth during the 1990s was a significant reduction in multiple partner trends.

In conclusion, although we may never fully know "what really happened in Uganda," the experience there and in other countries that have achieved some success suggests that a comprehensive behavior change-based strategy, ideally involving high level political commitment and a diverse spectrum of community-based participation, may be the most effective prevention approach.

HIV PREVALENCE AMONG 15-19 YEAR OLD PREGNANT WOMEN IN LUSAKA, ZAMBIA



Source: U.S. Census Bureau, Popluation Division, International Program Center, HIV/AIDS Surveillance Data Base June 2001.

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