

AIDS - A Global Perspective

Towards a National AIDS-Control Program in Uganda

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A national AIDS-control program was developed in Uganda to deal with a potentially serious epidemic of the acquired immunodeficiency syndrome (AIDS). A cumulative total of 1,138 cases of AIDS has been reported in Uganda between 1983—since AIDS was introduced into the country—and March 1987. More than 80% of the victims are sexually active persons whereas less than 10% are infants and children younger than 5 years. Virtually no cases or seropositivity is reported in persons between the ages of 5 and 14 years or after the age of 60 years. Most transmission has been through the heterosexual route, and, unlike in the United States, the male-female ratio is 1:1. Heterosexual high-risk behavior is cited as an important mode of transmission. A survey of household contacts showed that despite the closeness, only the sexual partners were seropositive.

A five-year plan of action has been developed, and health education is the main thrust. It also includes blood screening, improved sterile procedures, improved surveillance and notification, research and terminal patient care. The plan stresses integration based on primary health care. There are unresolved moral issues of whether or not to tell the truth to an AIDS victim or any healthy seropositive person in developing countries, especially unstable persons. The best approach is to sensitize everyone so that they become guardians of their lives because sexual behavior is an issue of individual responsibility.

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The acquired immunodeficiency syndrome (AIDS) could turn out to be the greatest medical challenge of this century. This worldwide pandemic is presenting more unique problems than we can ably cope with. AIDS has spread to several African countries,¹⁻³ especially those of Central and East Africa, which appear to be most affected. At present inadequate infrastructures make it difficult to meet the increasing demand for relatively specialized services to respond effectively to the epidemic.

Uganda is one of those affected. Situated in the heart of Africa along the Equator, Uganda is a focal point of human interaction and trade routes. It is on a high plateau, evergreen and warm. More than 90% of the estimated 15 million population live in rural areas while less than 10% live in urban areas. The southern part of the country is fairly densely populated, especially along the townships of the Trans-African Highway to the Indian Ocean ports (Figure 1).

The First Cases

The first cases of AIDS in Uganda were suspected during the last quarter of 1982 when several businessmen died at Kasensero, an isolated small fishing village on Lake Victoria. This small town was also known for smuggling and illicit trade, and when these deaths occurred fellow traders

shrugged it off as witchcraft. Others thought it was natural justice against those who had cheated. The only common characteristic the victims had was that they were all young and sexually active and stayed away from home for several days chasing wealth and presumably using it generously for their recreation and merriment. Soon there were corresponding deaths among the spouses. The social victimization and prejudice that followed led to migration to bigger towns inland, to the capital and to places beyond, which hitherto had not experienced the disease.

It became clear that we were dealing with a completely new disease. In the subsequent years, the number of cases increased from 17 in 1983 to more than 1,000 by 1987 (Table 1).

Epidemiology

The reasons for the rapid increase in the number of cases may be attributed to an open and frank government policy as well as to active surveillance.

The age distribution of the cases has remained constant—that is, it appears to be a disease of the young, sexually active groups. Nearly 70% of the victims were between the ages of 20 and 40 years. It was striking that there were virtually no cases in persons between the ages of 5 and 14 years nor among the elderly. The latest returns show an increasing number of

ABBREVIATIONS USED IN TEXT

AIDS = acquired immunodeficiency syndrome
 ELISA = enzyme-linked immunosorbent assay
 HIV = human immunodeficiency virus
 NCPA = National Committee for the Prevention of AIDS
 WHO = World Health Organization

infants and children younger than 5 years (Table 2), which could suggest the ever-increasing role of vertical transmission.

Surveys carried out suggest that heterosexual contact was probably the most important mode of transmission. Unlike in the United States and Europe, homosexuality is virtually non-existent in Uganda—or Africa, for that matter. Our surveys suggest that having multiple partners, as in prostitution, is a high-risk behavior. On the other hand, school children aged 5 to 14 years and the elderly (over 60 years) were associated with a very low risk indeed (Table 3). Virtually none of the school children nor the elderly showed evidence of infection with the human immunodeficiency virus (HIV).

AIDS in Uganda is a disease of urban areas. The incidence among antenatal mothers is 13% in Kampala and may usually be associated with a sexually transmitted disease complaint. The incidence in remote traditional districts such as West Nile and Tororo districts is virtually zero (1987). There is a clear difference between urban areas, where sex is liberal, and rural areas where there are stricter codes of morality.

Mosquitoes and other vectors have also been considered. The local people believe that mosquitoes could be as responsible as the use of needles and syringes. This is unlikely, however. A recent household survey of 114 household contacts of 25 AIDS victims showed that only the sexual partners were infected, while the rest of the household casual contacts such as children, adults and other relatives were free from infection.

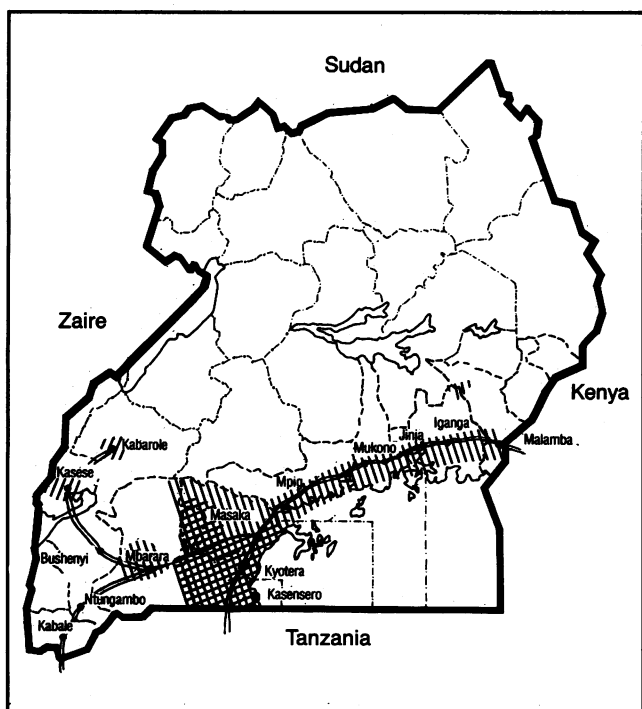


Figure 1.—The map of Uganda shows infected areas (1987). ▨ = newly infected areas and districts (1987), ▩ = endemic areas (1985), ⇄ = international trade routes and stopping towns

Since the disease first appeared in 1982, it has spread fast. The disease is spreading eastward along the Trans-African Highway, which handles considerable human traffic and interaction; 33% of long-distance truck drivers are infected. Civil disturbance that leads to the displacement of large adult populations is also a factor to be considered in the further spread of the disease.

Social Consequences of Infection

To tackle the AIDS problem, the medical and social consequences of HIV infection should be taken into account. For example, some medical conditions of significant public health importance are on the increase. We are experiencing epidemics of tuberculosis and other diseases, and the infant mortality rate will continue to rise as a result of vertical transmission from infected mothers to their newborns.

The social consequences are even more somber. Death at the most productive age is frustrating and painful to the family, the community and, indeed, the government. In Africa and Uganda, for that matter, death is an important event during which no other socioeconomic activity can be undertaken. AIDS deaths on a large scale could mean fewer harvests, with the inevitable famines in many rural areas giving way to the vicious cycle of poverty, ignorance, disease and death. We have also got to address ourselves to the basic moral issues of whether or not HIV-infected persons should be allowed to marry and procreate. These issues stretch anyone's imagination, especially in African societies where traditional values are associated with children and inheritance.

TABLE 1.—Number of New Cases in Uganda (Cumulative), 1983-1987

Year	New Cases (cumulative), No.
1983	17
1984	29
1985 and 1986	910
1987 (through March)	1,138

TABLE 2.—Age Distribution of Cases in Uganda, 1987

Age, Years	New Cases, No.	Percentage
0-4	14	10
5-14	1	1
15-19	10	7
20-39	96	69
40-59	18	13
60+	0	0
Totals	139	100

TABLE 3.—Comparison of Seropositivity Rates Among High-Risk Groups and Low-Risk Groups, Uganda (1986)

Risk Groups	Sample, No.	Seropositivity, %
<i>High-risk group</i>		
Prostitutes, bartenders (Rakai)	186	86
Long-distance truck drivers (Lyantonde)	74	33
<i>Low-risk group</i>		
School children aged 5-14 years (Kasese)	200	0
Elderly aged 60+ years (Kampala)	74	0

Strategy for Control

A comprehensive AIDS-control program must take several factors into consideration.

- First, it must be recognized that AIDS is not just a medical problem, but has social and spiritual dimensions.
- Second, all efforts against the disease must be integrated into the existing health care system. The strategy must have multidisciplinary and multisectorial components. AIDS control must be integrated in the overall primary health care strategy in the health care system and must make use of all available resources at the community level, our primary frontline against the spread of the disease.
- Third, it must be recognized that AIDS is a new disease with new demands—especially financial—that must explicitly be made available.
- Fourth, the need for speed and a minimum of bureaucratic red tape is vital. AIDS is a sensitive disease and, before any program can take off, there must be political commitment at the very top to guarantee open and frank discussion about the disease. There is no vaccine or drug against it as yet. For this reason, we have decided to maintain a policy of openness and frankness about the disease because the only way at the moment to prevent AIDS is by health education.

Limited financial resources mean that we have had to tackle those activities for which the least financial outlay produces the most benefits in the shortest possible time.

Organizational Framework

A decision was quickly made to form a National Committee for the Prevention of AIDS (NCPA) that is multidisciplinary, multisectorial and extensively broad-based. The committee comprises physicians, academics from the University of Uganda, educators, administrators, security forces, the political movement, church leaders and nongovernmental agencies and representatives from other ministries coordinating social services. The NCPA role is advisory and formulates primary policy. It was generally agreed that the Ministry of Health would maintain a leadership role in all technical matters. A coordinating implementing unit called the AIDS Control Program was established directly under the Minister's office. This was to ensure that the AIDS Control Program does not divert resources from the regular medical activities, which are equally important, and that there is no unnecessary competition for the limited AIDS funds. Bureaucratic procedures would be cut to a minimum. There was no need to strengthen coordination at the district and subsequent lower levels to ensure that there was total integration of the AIDS Control Program with primary health care. The fact that there are team leaders at each of these levels ensures accountability and responsibility and facilitates the flow of information from the top to the grassroots levels.

This infrastructure is the basis for an emergency six-month program, to be followed by a long-term five-year program.

The Main Activities

Generally speaking, measures against AIDS will entail improving measures to prevent other infections. The health infrastructure must therefore be improved to keep infections and AIDS at bay. The following listed items will be our priority concern, with health education being our main thrust:

- Health education.
- Screening of blood and improvement of blood transfusion services.
- Improved sterile techniques.
- Improved surveillance, through notifications and surveys.
- Research—seroepidemiology and social research.
- Improved patient care.

Health Education

Health education is the main thrust of the AIDS Control Program. It entails making use of all facilities to disseminate health information and education. We have recognized that the town and urban dwellers are a special risk group in the most danger. Messages have been put on local television and radio programs urging people to "love carefully" and to avoid indiscriminate sexual relations. Unfortunately, television, radio and newspapers are not available in rural areas where most of the people live. Illiteracy and relative ignorance are a part of life for most people in the rural areas. Fortunately, at least for the time being, there are strict codes of morality that forbid casual sexual relations in the rural areas. The program has also focused special attention on some potentially high-risk groups such as schools and workers in places of entertainment.

To educate the rural people, we have made use of the political structure at the grassroots level. His Excellency the President has incorporated health education in speeches at most of his rallies, which are usually well attended. "Resistance committees" are responsible for household contacts. They have received elementary but effective reorientation about AIDS, which information they eventually pass along from door to door. The Catholic, Protestant and Moslem churches are deeply rooted in the villages, and the clergy, like the schoolteachers, has preached "the gospel according to AIDS," asking their flocks to change their ways by "loving faithfully" and maintaining "zero grazing"—an agricultural metaphor for having only one sexual partner at a time. For many people, it is sometimes hard to assimilate the bitter facts about AIDS transmission. We need to soften our campaign with light jokes and comic plays by theater groups.

Blood Screening

It would be gross malpractice to transfuse anyone with contaminated blood. The provisional high rates of infection of donated blood mean that between 5% and 15% of those transfused could become infected. Instituting blood screening has been handled as an absolute emergency. In 1986 we had only limited screening facilities in Kampala, but by May 1987 there were at least 13 readers of enzyme-linked immunosorbent assays (ELISAs) in centers in all the regions, especially in the HIV-endemic areas and along the corridors of the trans-African route. Another sector that is receiving considerable attention is the National Blood Transfusion Service, which is being improved and rehabilitated to cope with the AIDS epidemic.

Improved Sterile Procedures

To protect the public and health workers, several orientation courses in sterile techniques have been mounted. This has been accompanied by improvement in actual facilities. More sterilizers for the rural areas were acquired for health centers and hospitals. Needles, syringes and disinfectants were pur-

chased in substantial quantities. An additional quantity of gloves, aprons and surgical boots was a must, especially for midwives and traditional birth attendants. The gap between demand and supply remains wide, however.

Improved Surveillance

When the program started, the exact number of cases was not known. There was overdiagnosis, misdiagnosis and sometimes underdiagnosis of cases. Notifications were minimal. First, we had to ensure that the World Health Organization (WHO) case definition for AIDS was reliable in our situation. Fortunately for the WHO criteria, sensitivity, specificity and the predictive values were high. Hospital-based data collections were streamlined, and a task force of epidemiologists carried out several baseline surveys on the countrywide extent of the disease. This will be followed by longitudinal surveys at six-monthly or yearly intervals.

Research

More epidemiologic research is important to identify local risk factors associated with transmission. Research will certainly help improve surveillance. Our current priority is on understanding factors—especially social—associated with transmission. Several sociologic studies on knowledge, attitudes and practices are being undertaken, and more are planned; the main purpose is to understand the cultural practices before the condom can be fully promoted. Before that can be ascertained, we have to be cautious when advocating condom use. Basic virologic research has also been strengthened by establishing new quality control facilities at the Uganda Virus Institute, which we hope will become a regional AIDS collaborating center.

Clinical trials of local herbs to treat the AIDS victims have received considerable support from both the medical and general populations. Several studies are going on, but it is too early to be optimistic.

Patient Care

Admittedly, there is little that can be done for the patients, but they need palliative terminal care and, indeed, general maintenance. There are psychological and spiritual needs to be reckoned with, and the community fortunately has assumed full responsibility in the traditional way. The churches have taken up some of this load by counseling and delivering spiritual management. The idea of a hospital ward for these patients is being contemplated, but such an institution could be like a prison ward with condemned inmates. In any case, what extra good can be done? Will patients agree to stay, especially when there is so much stigma about the disease? Will enough health and nursing staff volunteer for this task? Perhaps for the moment, the traditional community system should be helped to take care of these patients within the communities, and small grants could be given to individual families.

Funding

We must make reference to budgets and funding of the AIDS Control Program. AIDS control is a costly enterprise. One screening test costs about US \$1. A confirmatory Western blot method is around US \$0.65 per test, and viral

isolation is even more expensive. A complete ELISA reader center is close to US \$10,000. Yet, the average per capita expenditure on health in many African and developing countries is around US \$1.70. This is the dilemma.

AIDS is a new disease that has created new financial and material demands. The World Health Organization should assume the leadership in mobilizing and coordinating both technical and financial resources for the disease. WHO should mobilize resources urgently. At a meeting of international interested participating parties in Kampala in May 1987, organized by WHO, adequate funds were raised for the most essential activities for the program. But the gap between needs and resources remains wide. Local donors are being solicited to raise voluntary funds for the welfare of patients and orphans to reduce the traditional burden of these dependents on society. Despite this financial goodwill, AIDS will continue to pose a direct strain on the financial resources of the Health Ministry and the government.

The Unresolved Issues

Several controversial issues remain unresolved. For instance, what does one do in the case of seropositive but healthy persons? What does one tell them? On the one hand, if we are frank, they may commit suicide, and what happens to the dependents? Second, they may not behave responsibly. Some may commit serious crimes or obtain large loans, expecting to default by death. Yet, a good number could survive a little longer even as carriers, and there is always a small possibility of false-positivity.

Third, we have encountered a serious reaction when trying to be frank; AIDS victims do not want to die alone, and they use all their resources and money to spread the disease to as many people as possible. Yet, if we keep quiet about the seropositive results but sensitize everyone fully, the response towards the community may be better because each person usually believes he or she is not yet infected and will try to protect against becoming infected. On the other hand, it may be necessary to inform some, but only for counseling purposes.

There are other serious controversies. Should HIV-positive couples be allowed to marry? Should HIV-infected expectant mothers be allowed to go to full term with their babies? These are some of the sensitive moral issues of public health concern for which we depend on individual goodwill for compliance, cooperation and responsibility. Already the society is overreacting, and there are examples of social prejudice towards the AIDS victims based on unscientific principles. Perhaps in the long run the churches may give us the solutions. For it is important to maintain that while there are some risk groups in AIDS cases, the key in the transmission is high-risk behavior. The best solution at the moment is to sensitize everyone by health education so that they become guardians of their own lives.

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