AIDS in Africa During the Nineties: Uganda

A review and analysis of surveys and research studies

Uganda AIDS Commission

MEASURE *Evaluation*

THE REPUBLIC OF UGANDA
MINISTRY OF HEALTH

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Acknowledgements

This report is based on an analysis and review of existing data in Uganda during the nineties and was carried out as part of a series of reports on AIDS-related trends during the nineties. A special country report on adolescents will appear separately. Funding for this series is provided by the United States Agency for International Development (USAID Africa Bureau and the Office of HIV/AIDS). Individuals from several institutions have contributed to this report including the Uganda Ministry of Health, the Uganda AIDS Commission, USAID/Uganda, the Centers for Disease Control and Prevention/Uganda, CMS/Uganda, MEASURE *DHS+,* and MEASURE *Evaluation*.

Contents

Chapter 1 Introduction

Uganda was one of the first countries in sub-Saharan Africa to experience the epidemic spread of HIV. The first AIDS cases were identified in Uganda in 1982 in the Rakai district on the shores of Lake Victoria (Serwadda et al., 1985). Since the identification of the first cases, the number of HIV infections increased rapidly throughout the country. By 1988, an estimated one million Ugandans were thought to be infected and Uganda had one of the highest rates of HIV infection in Africa. By 1990, HIV prevalence among women attending antenatal services exceeded 20% at two urban sites (MOH, 2001). As a comparison, the neighboring countries of Kenya and Tanzania reported HIV prevalence rates in major urban areas of about 9% that same year (UNAIDS, 2000a and UNAIDS, 2000b).

After a decade of increasing prevalence, the spread of the epidemic began to wane in the early 1990s. Since 1993, there is evidence of a consistent decline in HIV prevalence in pregnant women and in other populations under surveillance. There is some indication, however, that HIV incidence peaked in the 1980s and that declines in HIV prevalence in the nineties reflect declines in HIV incidence that occurred during the late 1980s (Low-Beer, 2002).

Uganda is the only country in the region to experience significant declines in HIV prevalence during the nineties. In only one other country, Zambia, was there evidence for declining HIV prevalence and this occurred among youth and was primarily in urban areas. Despite this positive turn in Uganda, the impact of the epidemic is still great. By the end of 2001, UNAIDS estimated that about 600,000 Ugandans (in a population of 24 million) were living with HIV, including over 110,000 children under 15 years of age. (UNAIDS, 2002).

Orphanhood is also a problem, though the decline in HIV prevalence may also foretell a decline in orphanhood. UNAIDS estimates that almost one million children under 15 years of age living at the end of the decade had lost one or both parents to AIDS (UNAIDS, 2002). This is about one-half of the estimated 2.3 million children under 15 years of age in Uganda who are orphans (USAID, 2000).

Objectives

As most of the HIV infections in Uganda are attributable to heterosexual transmission, the National AIDS Control Program has focused primarily on increasing knowledge of HIV and changing behavior through the promotion of delayed sexual initiation, the reduction of non-marital sexual partners, and using condoms. While surveillance data demonstrate the decline in HIV prevalence, it is also essential to assess the many determinants of infection to identify where change has occurred and where programs may have been effective. The objective of this report is to present trends in AIDS-related knowledge, attitudes, and behavior in Uganda during the nineties. To provide program and epidemiologic context, a brief summary of the response to the epidemic in the area of HIV prevention and a summary of trends in HIV infection are also presented.

Data and Methods

Trends in knowledge and behavior are based on three Uganda demographic and health surveys (UDHS) conducted in 1988/89, 1995, and 2000/01.[1] These surveys are based on nationally representative samples of women aged 15-49 years and men 15-59. While the 1995 and 2000/1

[1] Further details on the UDHS methodology can be obtained from the following reports: MOH and IRD/Macro 1989; Statistics Dept and Macro 1996; UBOS and ORC Macro 2002.

Map of Uganda

UDHS surveys covered most of the country and are considered to have comparable geographic coverage, the 1989 survey omitted part of the north (about 20% of the population of Uganda) due to security reasons. The 1989 survey is somewhat limited in that it did not include men nor did it obtain information on AIDS knowledge and attitudes, and obtained only limited information on sexual behavior. Characteristics of the survey respondents in the UDHS can be found in Appendix A, Table 1.

As DHS data from the early part of the decade are limited, results from a secondary analysis of the 1989 and 1995 WHO supported Global Programme on AIDS (GPA) Surveys are also presented. However, because the 1989 survey covered only eight districts and the 1995 only four, and because both surveys significantly over-sampled the capital city of Kampala, the results from the GPA surveys are not compared directly with the UDHS. Due to differences in sample coverage between the two GPA surveys and differences in questionnaire design, trends in indicators from these surveys should be interpreted with caution. Characteristics of the respondents in the GPA surveys can be found in Appendix B, Table 1 while additional information on the GPA surveys appears in Appendix C.

Trend analyses are complemented by results from sub-national surveys and other research findings. This includes the behavioral surveillance surveys conducted routinely in selected districts by the Ministry of Health, as well as other studies that have collected data at two or more points in time, thereby allowing for an assessment of changes in indicators over time.

Chapter 3 presents information on the spread of HIV using data from the national sentinel surveillance system and from research studies. Chapters 4, 5, and 6 present trends in knowledge and attitudes about HIV, sexual behavior, and the use of condoms in the nineties. Finally, Chapter 7 presents information on the impact of the epidemic from other surveys and research studies.

Chapter 2 The Response to the Epidemic

The National Response

In 1986, the president of Uganda openly recognized AIDS as a national health problem. The government's first response to the epidemic was to establish the National AIDS Control Programme (NACP) in the Ministry of Health (MOH). The NACP was charged with conducting epidemiologic surveillance, ensuring a safe blood supply, providing HIV/AIDS information, education, and communication, providing patient care and counseling, and the prevention and control of other sexually transmitted infections (STI). Following a review of the NACP in 1988, it was recognized that the response to the AIDS epidemic needed to be addressed in a broader context. In 1992, the government adopted a multi-sectorial approach to the control of HIV/AIDS. This approach emphasized the role of individuals, community groups, the government at different levels, and other agencies in the prevention of HIV infection. It also emphasized building and strengthening organizational capacity among government and non-government sectors to sustain AIDS activities. The Uganda AIDS Commission was established in 1992 to coordinate the response to the HIV/AIDS epidemic in this broader context (UAC, 2000).

Despite strong political support, Uganda has limited resources to spend on prevention and mitigation of the epidemic. In 2000, the per capita gross national income was $300, and in the mid-1990s, 37% of the population lived on less than $1 per day. Annual public and private health expenditure per-capita during the 1990s averaged only $14 (World Bank, 2000).

Interventions

AIDS Education

In 1986, Uganda embarked on a strategy of health education to stem the transmission of HIV. The country set up a National AIDS Committee with five subcommittees, including one on health promotion and education. The educational goals of the program were to inform people on how AIDS is transmitted and to promote less risky sexual behavior. The program was charged with providing materials for seminars, airing radio and television programs, publishing brochures and posters, and addressing target groups in special campaigns. In addition, the program held training seminars in AIDS for parents, teachers, religious and political leaders, modern and traditional health workers, and program staff. One of the first AIDS campaign messages was "Love carefully." During the campaign, posters and leaflets were distributed, radio and television commercials aired, and door-to-door campaigns were mounted in villages. In rural areas where there is little access to the radio and television, pastors disseminated the message "Love faithfully." A second campaign encouraged "Zero Grazing" or being faithful to one' s sexual partner or partners (in the case of polygamous marriages).

Many employers instituted AIDS-in-the-workplace projects for their employees to further increase AIDS knowledge and awareness, and encourage safer sexual behavior. These interventions often included multiple channels for information dissemination such as formal talks, peer educators, brochures, comic books and films.

Adolescents have been the specific focus of several different AIDS education campaigns. One of the earliest interventions in Uganda was the School Health Education Program (SHEP), a school-based health education program that was established in 1987 by the Ministry of Education, the Ministry of Health, and UNICEF. The program focused on promoting AIDS-prevention practices to youth in schools with an emphasis on delaying sexual debut. The Safeguard Youth from AIDS (SYFA) initiative, a collaboration between UNICEF and the Government of Uganda through the Uganda AIDS Commission and the Ministry of Health, has worked with government agencies

and non-governmental organizations to reduce HIV and other STIs among sexually active youth and to encourage young people to postpone sex. As part of this initiative, the newspaper *Straight Talk* was launched in October 1993 to educate youth about sexual and reproductive health, and to promote the adoption of safer sex practices. In addition, a national campaign promoting safer sexual behavior among Ugandan adolescents, including abstinence, partner reduction and condom use began in 1995. The campaign promoted HIV-prevention messages through songs and soap operas, rap music contests, drama, a newsletter and posters. In addition to adolescents, children have been targeted through drama programs and other AIDS-education activities conducted in primary schools.

Community Mobilization

Uganda is noted for the number of community organizations active in educating the population about AIDS and how to avoid infection. These organizations rose to the challenge of addressing communities needs for information and support with little input from the government. In 1997, it was estimated that there were over 1500 community service organizations operating in the country. The AIDS Support Organization (TASO) was the first and is still the largest community service organization to provide care and support to individuals living with AIDS, and to provide extensive AIDS education in communities. TASO was founded in 1987 and by the end of 2000, the organization had registered over 63,000 clients with 21,000 clients served in 2000 alone (TASO, 2002).

Faith-based organizations have played an important role in educating and mobilizing communities to respond to the epidemic. The Church of Uganda, the Catholic Church, the Islamic Medical Association of Uganda and others have been active in community education and the training of religious leaders and lay persons. The Islamic Medical Association of Uganda, for example, has supported community education on HIV/AIDS throughout the country resulting in the adoption of safer sex practices and the changing of societal norms. Their work in HIV/AIDS prevention is the subject of a publication in UNAIDS Best Practices collection (UNAIDS, 1998).

Condom Promotion and Distribution

Condoms are distributed in Uganda by the government through the health sector, through social marketing organizations, and to some extent, through the private-for-profit sector. Condom promotion has been part of HIV-prevention efforts in the country since 1986. The public sector has played the greatest role in the distribution of condoms nationwide through both the health sector and community-based distribution outlets. In rural areas, it has probably been the most important source of condoms. To increase the availability of condoms, condom social marketing began in Uganda in 1991. In addition to marketing condoms at affordable prices in accessible outlets, condom social marketing promotes the use of condoms through advertisements and educational messages. Condoms have also been promoted as part of the family planning program.

HIV Counseling and Testing

As awareness of HIV increased in the mid-1980s, there was a growing demand for HIV testing. With few options available, many Ugandans interested in knowing their HIV status went to donate blood, which put an enormous strain on these institutions. In addition, blood banks were not equipped to provide counseling services. In response to the growing demand for HIV testing, several organizations joined together in 1990 to open the AIDS Information and Testing Center (AIC). Initially, counseling and testing services were available only in Kampala, but in 1993 branches were opened in three other large towns with satellite sites in some peri-urban and rural areas. These satellite sites are mostly located in public sector facilities with a few in facilities in the NGO and private sectors. By the end of the nineties, AIC had served over half a million clients (AIC, 2000). Despite these efforts, counseling and testing services were still available in a

limited number of districts by the end of the decade. Efforts are now being made to expand HIV testing and counseling services through the country by making voluntary counseling and testing (VCT) services available at district hospitals and health centers as well as at a stand-alone testing sites. By 2002, VCT services were available in 34 of the 56 districts through a combination of static sites and outreach services. However, even in districts where VCT services are available, coverage is far from universal.

Blood Safety

The Uganda Blood Transfusion Service was strengthened in the mid- to late eighties to screen all blood it received through the central blood bank and at the five regional blood banks. The blood bank has actively recruited donors and screened blood for distribution to hospitals throughout the country. In 1989, screening procedures for potential blood donors were also introduced to help reduce the prevalence of HIV among blood donors. As a result, the rate of HIV infection in blood donors dropped from 14% in 1989 to 2% in 1995 (UNAIDS, 1999). More recent data indicate that the Ugandan Red Cross Society's reliance on community-based donor clubs to mobilize new and repeat donors has resulted in an HIV-prevalence rate of 1.5%, a rate much lower than that in the general population (Evanson, 2002).

Chapter 3 The Spread of HIV in Uganda

- AIDS cases were first identified in the central region near the shores of Lake Victoria in 1982 and then quickly spread throughout the country.
- HIV prevalence peaked in Uganda in 1992 and has declined steadily since then, particularly in urban areas. Prevalence has also declined among young antenatal women indicating that the number of new infections has also likely declined.
- Prevalence varies by region with highest rates of HIV infection in Kampala and in the western region. These are also the areas where declines in HIV prevalence have been greatest.
- HIV incidence, or the number of new infections, probably started to decline in the late eighties with the decline continuing into the nineties.
- Prevalence among women peaks in younger age groups than among men, indicating that women become infected at an earlier age.
- UNAIDS estimates that at the end of 2001, 5% of adult Ugandans are living with HIV; this is a decline from previous years.

At the end of 2001, UNAIDS reports that HIV prevalence among adults in Uganda is estimated to be 5%; a decline from 8% just two years earlier. This translates to approximately 510,000 adults and 110,000 children living with HIV infection. (UNAIDS, 2002).

As in other countries, national estimates of HIV prevalence are based on data from surveillance of antenatal women at sentinel sites.[2] Antenatal sentinel surveillance was instituted in Uganda in the mid-1980s in Kampala and the number of sites was gradually expanded following the publication of the WHO/GPA surveillance guidelines in 1989. In 1989 there were six sites, located mainly in urban areas. These were increased to 13 in 1993 to achieve more geographical coverage of the system, and then to 19 in 1995 to increase both geographical coverage and to bring in more rural areas. At the end of 2001, the number of sites was further increased to 20 (MOH, 2002).

While sentinel sites are now located throughout the country, they are generally located in urban areas and in towns, and are not necessarily representative of populations living in truly rural areas. In addition, only a few sites have sufficient data available to assess trends over time, as not all sites have data for all years, largely attributable to logistical constraints.

In addition to HIV prevalence from sentinel surveillance, HIV prevalence and incidence are available from two population-based cohort studies in the Masaka and Rakai districts in the

[2] While it is recognized that estimates of HIV prevalence based on blood samples from pregnant women seeking antenatal services have inherent biases, studies comparing HIV prevalence from population-based surveys to estimates from sentinel surveillance of antenatal women have found these data to be quite robust.

southwestern part of the country. Prevalence data in other populations are also available from other research and surveillance activities. These data are presented later in this chapter.

Sentinel Surveillance Data

General Trends

Figure 3.1 presents HIV prevalence among antenatal women by sentinel site over the past 16 years. The trends over time vary by site, as do the levels of HIV infection; however, the overall pattern suggests a decline in HIV prevalence after 1992. Because HIV prevalence reflects the numbers of new as well as existing infections, HIV incidence, or the numbers of new infections, likely peaked several years earlier.

To simplify presentation and interpretation of these data, the median HIV prevalence in the two sentinel sites in Kampala and at sites outside of Kampala are presented in Figure 3.2. In Kampala, there was a rapid increase in HIV prevalence at sentinel sites from about 11% in 1985 to 25% in 1990. Prevalence peaked near 30% in 1992 then declined steadily to about 10% in 2001. An overall decline has also occurred at sentinel sites outside of Kampala. A small decline in prevalence was seen between 1992 and 1993 but then prevalence remained steady until 1997 when a further decline was seen. By 2001, the median HIV prevalence at sites outside of Kampala was estimated to be about 5%, down from 13% in 1992.

Aggregating these data, however, masks differences in magnitude and trends in the epidemic across the country. Thus, trends in HIV prevalence among antenatal women at sentinel sites are described by region below. Figure 3.3 presents the sites, except for Kampala, where adequate trend data are available. These sites are located primarily in larger towns because sentinel sites that are located in smaller towns were added more recently to the surveillance system. While not presented in the figure, HIV prevalence in smaller towns is generally lower than that in larger towns, and declines over time are smaller.

Central Region

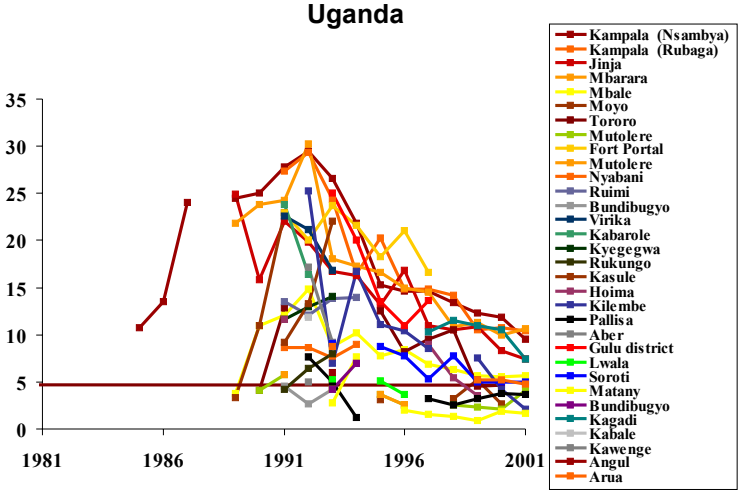
Jinja, an urban area directly east of Kampala, also saw declines in prevalence that mirror the trends seen in Kampala. HIV prevalence peaked at 22% in 1991 then declined to about 7% in 2001.

Western Uganda

Western Uganda, the epicenter of the epidemic, reported very high rates of HIV infection in the early 1990s. In Mbarara, located on the trans-Africa highway that carries traffic from Tanzania, Rwanda, and the Democratic Republic of Congo, prevalence increased from 22% in 1989 to over 30% in 1992. It then declined steadily from 1993 to 1998. Prevalence has stabilized at about 11% in 2001. These figures are similar to those seen in Kampala.

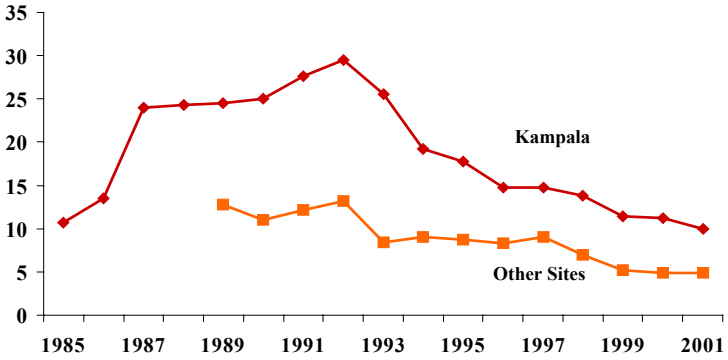
In Fort Portal, located in western Uganda towards the border with the Democratic Republic of Congo, data are available from antenatal women from 1991 to 1997. In antenatal women, HIV prevalence fluctuated around 20% in the early 1990s and then declined somewhat to about 17% in 1997. This was the highest prevalence recorded at a sentinel site in 1997 and is similar to the rates of infection in 1997 found in Kampala and Mbarara.

Figure 3.1
HIV prevalence at antenatal surveillance sites in Uganda



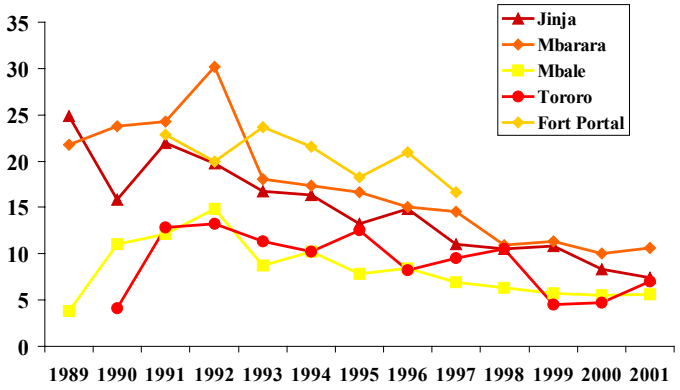
Source: Data from Ministry of Health HIV/AIDS Surveillance Reports, June 2000-2002.

Figure 3.2
Median HIV prevalence at antenatal surveillance sites in Uganda*



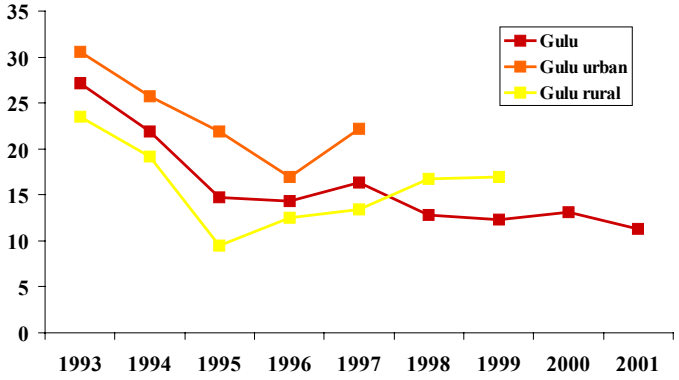
Source: Data from Ministry of Health HIV/AIDS Surveillance Reports, June 2000-2002.
*Data have been interpolated for one year gaps in site data.

Figure 3.3
HIV prevalence among antenatal women in large towns in Uganda



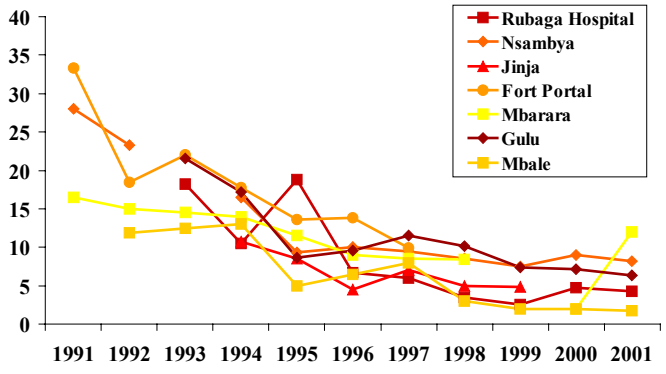
Source: Data from Ministry of Health HIV/AIDS Surveillance Reports, June 2000-2002.

Figure 3.4
HIV prevalence among antenatal women aged 15-49 in Gulu, by residence



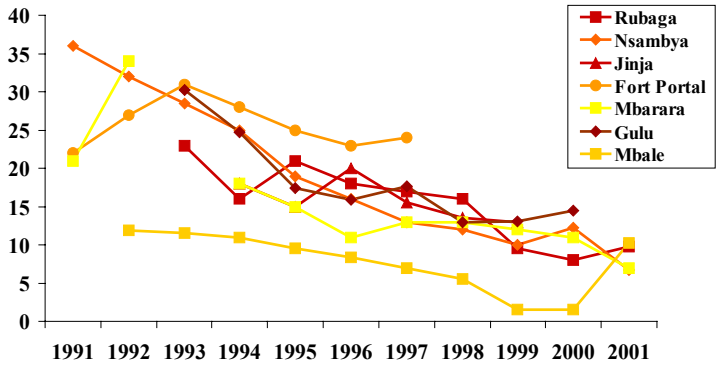
Source: Data from Ministry of Health HIV/AIDS Surveillance Reports and Fabiani et al., 2001.

Figure 3.5
HIV prevalence among 15- to 19-year-old antenatal women



Source: Data from Ministry of Health HIV/AIDS Surveillance Reports, June 2000-2002. Data have been interpolated for one year gaps in site data.

Figure 3.6
HIV prevalence among 20- to 24-year-old antenatal women



Source: Data from Ministry of Health HIV/AIDS Surveillance Reports, June 2000-2002. Data have been interpolated for one year gaps in site data.

Eastern Region

In Mbale and Tororo, located in Eastern Uganda near the border with Kenya, prevalence in the early 1990s was lower than in the aforementioned sites, just under 15% in 1992. The greatest declines were seen in the mid-nineties and prevalence has since stabilized at between 6% and 7% in 2001.

Northern Region

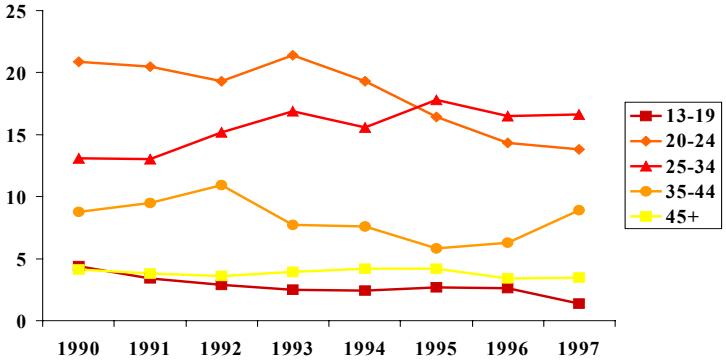
In Gulu, a district in northern Uganda that borders Sudan, the first estimates of HIV infection from sentinel surveillance instituted in 1993 indicated an HIV prevalence of 27% (Figure 3.4). By 2001, this had declined to 11% with the greatest decline occurring between 1993 and 1995; the decline was more pronounced among women under 30. Despite this overall decline, a study that disaggregated these data by residence found that among women living in rural Gulu, HIV prevalence in young women actually increased between 1995 and 1999. The authors attributed this to civil strife, population displacement, and a reduction in health education activities (Fabiani, Ayella, et al., 2001).

Two other sites in northern Uganda had much lower rates of HIV infection in the early 1990s. In 1993, Moyo and Arua reported rates of 5% and 4%, respectively. HIV prevalence in these sites remained low through the end of the nineties. In 2001, HIV prevalence was about 3% in Moyo and 5% in Arua.

HIV Prevalence in Young Women

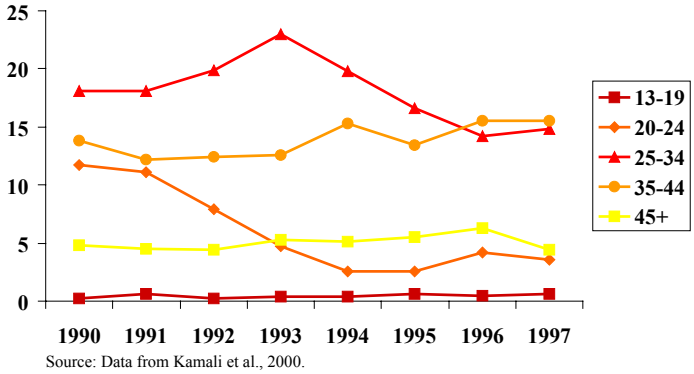
HIV prevalence among younger women is more closely related to HIV incidence than is HIV prevalence among older women. Younger women have been sexually active for a much shorter period of time so HIV infections are likely to be more recent. A decline in HIV prevalence among the young is a better indicator of a decline in the number of new infections than is overall HIV prevalence. Figures 3.5 and 3.6 present HIV prevalence among antenatal women aged 15-19 and 20-24 years at several sentinel sites. Among the 15- to 19-year-olds, there is clearly a trend towards declining HIV prevalence during the nineties at all of the sentinel sites presented, with the greatest declines in the first half of the decade. Similarly, declines in HIV prevalence can be seen among 20- to 24-year-olds. At Nsambya hospital in Kampala, for example, prevalence declined from about 28% in 1991 to about 8% in 2001 among 15- to 19-years-olds. Among 20- to 24-year-olds, prevalence went from about 35% in 1991 to 7% in 2001.

Figure 3.7
HIV prevalence among women in 15 villages in Masaka district



Source: Data from Kamali et al., 2000.

Figure 3.8
HIV prevalence among men in 15 villages in Masaka district



Source: Data from Kamali et al., 2000.

HIV Prevalence and Incidence from Population Cohorts

In addition to sentinel surveillance of pregnant women, estimates of HIV prevalence and incidence are available from two population-based cohort studies located in southwestern Uganda.

Masaka district, on the shores of Lake Victoria, has been the site of a cohort study of HIV infection for the past decade. Since 1989, all consenting adults aged 13 years and over resident in 15 villages in Masaka district have been kept under surveillance through annual demographic and serologic surveys. Data from these surveys indicate that from 1989 to 1996, overall adult seroprevalence rates in the population declined from 8.2% to 6.9%. The greatest declines in HIV prevalence occurred among young women aged 13-19 and 20-24 and among men 20-24 and 25-34 (Figures 3.7 and 3.8). In the older age groups prevalence either increased or remained stable (Kamali et al., 2000). A more recent analysis that includes data through 1999 confirms this overall decline in HIV prevalence as well as significant declines among young women and men. More importantly, the study shows significant declines in HIV incidence in this population with a decline from 8.0/1000 person years in 1990 to 5.2/1000 person-years in 2000 (Mbulaiteye et al., 2002).

Figure 3.9 presents data on HIV prevalence in 1996-1997 among men and women in the Masaka population cohort by age group. The prevalence rate for women in the younger age groups far exceeded that for men. Twice as many women aged 13-19 years were HIV infected as were men of the same age group. Among 20- to 24-year-olds, almost four times as many women as men are HIV infected. Seroprevalence for women is highest in the 25- to 34-year-old age group whereas for men, it is the 35- to 44-year-old age group that has the highest prevalence rate (Kamali et al., 2000). Women are becoming infected at much younger ages. This is probably due to the earlier age of sexual debut among women as well as the tendency for younger women to have older sexual partners, often the result of coercion or for material gain.

Interpreting Declines in HIV Prevalence

While HIV prevalence data (the percent of the population HIV infected) are used by surveillance systems to track the HIV epidemic, prevalence is not an ideal measure as it reflects HIV infections that have been acquired over the years. Thus declines in HIV prevalence may reflect a decline in the number of new infections, an increase in mortality (and thus fewer people living with HIV) or a combination of the two. While HIV incidence (the number of new infections in a population in a given time period) provides a better understanding of how an epidemic is changing over time, these data are limited in their availability.

While there has been a downward trend in HIV prevalence in Uganda after 1992 it is likely that HIV incidence started to decline several years earlier. Based on data from the Masaka cohort, it has been suggested that HIV incidence was much higher in the 1980s than in the 1990s and that declines in HIV prevalence after 1992 may reflect declines in HIV incidence during the late 1980s (Low-Beer, 2002).

Two different cohort studies have been undertaken in the neighboring Rakai district which also provide information on HIV prevalence and incidence. Rakai is a rural district in southwest Uganda bordering Tanzania and Lake Victoria, and was one of the epicenters of the HIV epidemic in Uganda. The district is traversed by roads carrying traffic from Tanzania, Rwanda, the Democratic Republic of Congo and Kenya. The first Rakai cohort was established in 1989 and consisted of residents of 31 community clusters representing trading centers, trading villages on secondary roads, and agrarian villages. From 1990 to 1992, annual data on HIV prevalence in the study population were obtained. Overall prevalence in the cohort decreased slightly from 23% in 1990 to 22% in 1991 to 21% in 1992 with declines also seen among young adults aged 15-24 years (Figure 3.10). During the same time period, incidence declined among young adults but increased among women of reproductive age and remained fairly constant in the cohort as a whole (Wawer et al., 1997).

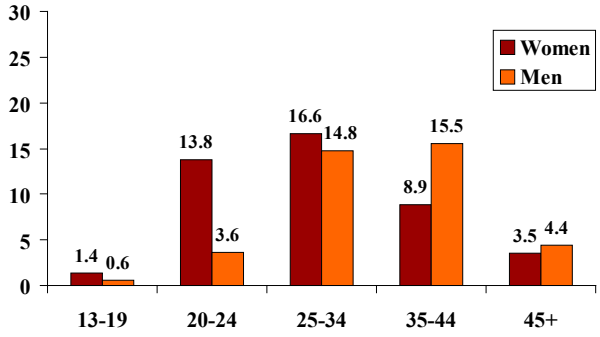
The second Rakai cohort was formed for an intervention trial of intensive STD control for HIV prevention that was conducted from 1994 to 1996. This study included 56 communities from among trading villages on secondary roads. This study also provides incidence and prevalence data over a two-year period in the mid-nineties, albeit on a slightly different population. In 1994, prevalence was about 13% among men and 19% among women. Incidence rates for 1994-1995 and 1995-1996 were 1.3 and 1.8 cases per 100 person-years respectively, a small but non-significant increase (Wawer et al., 1999).

HIV Prevalence by Locale

HIV prevalence among antenatal women varies by whether women are living in semi-urban or rural areas, even when visiting the same sentinel site for antenatal services. Figure 3.4 (discussed previously) presents HIV prevalence data from the sentinel surveillance site in Gulu. HIV prevalence among antenatal women living in Gulu municipality was consistently higher than HIV prevalence among women living in rural areas of Gulu district (Fabiani et al., 2001).

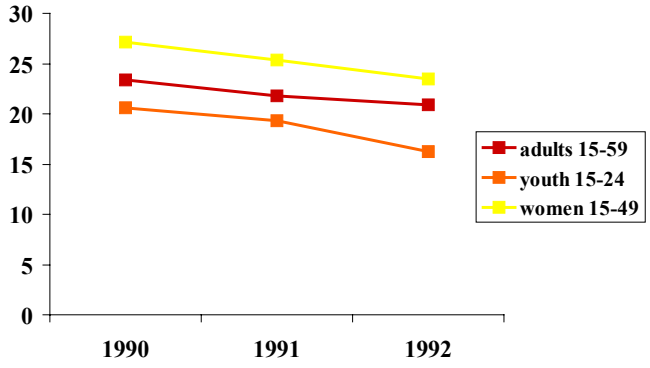
Results from a seroprevalence study carried out in Fort Portal district in 1992 also illustrate differences in HIV prevalence by locale (Figure 3.11). Among adults living in rural villages, HIV prevalence was 4% whereas it was 13% in villages closer to the district capital. In relatively isolated fishing villages where mobility is high, HIV prevalence was 24% (Kipp et al., 1995).

Figure 3.9
Prevalence of HIV among women and men in 15 villages in Masaka district, 1996-1997



Source: Data from Kamali et al., 2000.

Figure 3.10
HIV prevalence among adults in villages in Rakai district



Source: Data from Wawer et al., 1997.

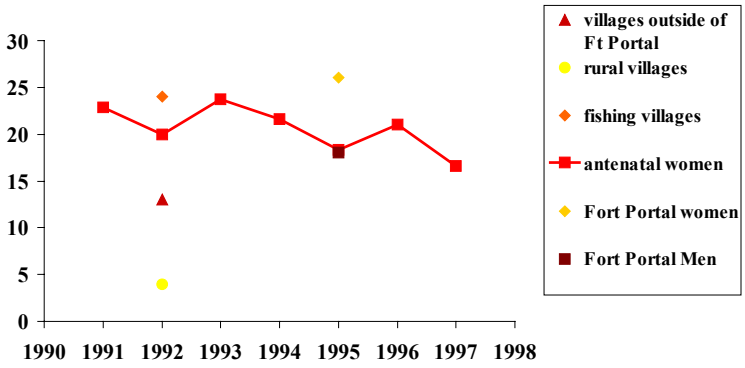
Finally, data from the Rakai cohort indicate large trading centers located on paved roads experienced a much higher HIV prevalence than did trading and agricultural villages (Figure 3.12). In 1990, prevalence was estimated to be 38% in the trading centers as compared to 26% in trading villages and 14% in agricultural villages. The decline in HIV prevalence from 1990 to 1992 was greatest in trading centers where prevalence dropped from 38% to 31% over the two-year period. Incidence also declined somewhat in trading villages from 3.1 to 2.7 per 100 person-years. The decline in prevalence in agricultural villages was small and incidence actually slightly increased from 1.1 to 1.9 per 100 person-years during the same time period (Wawer et al., 1997).

HIV Prevalence in Select Populations

While estimates of HIV prevalence in select populations cannot be generalized to the general population, trends in prevalence among other groups over the past decade also show declines that are similar to those seen in antenatal women.

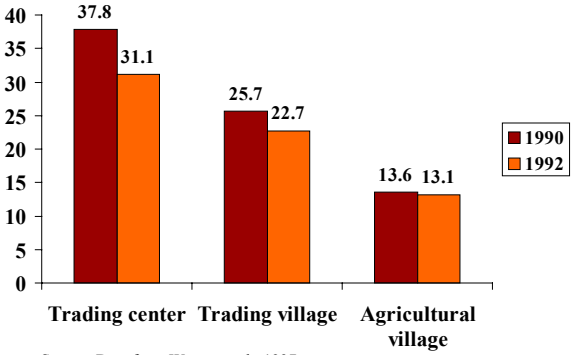
The AIDS Information Centre reports a decline in HIV prevalence between 1992 and 2001 among first-time testers (MOH, 2002). These data are not representative of the general population since persons who are tested are self-selected and are more likely to include high-risk persons. In addition, changes over time could be a result of increasing numbers of individuals in rural areas (where HIV prevalence is lower) getting tested due to the increased accessibility of testing sites, or that those at highest risk got tested earlier. It is notable, however, that there was a large decline in HIV prevalence after 1992, a trend that mirrors that observed in data from antenatal women (Figure 3.13). HIV prevalence among young men who are first-time testers stabilized around 1997, though the most recent data indicate that HIV prevalence may now be increasing slightly. The large discrepancy between rates of HIV infection in men and women in these data reflects the differing reasons for testing between men and women. While the main reasons cited by clients for getting tested are wanting to know their serostatus before getting married or making plans for the future, a larger percentage of women than men come for testing because they are ill or have symptoms of HIV, or because they are worried or fear being exposed (UNAIDS, 1999).

Figure 3.11
HIV prevalence in the Fort Portal area



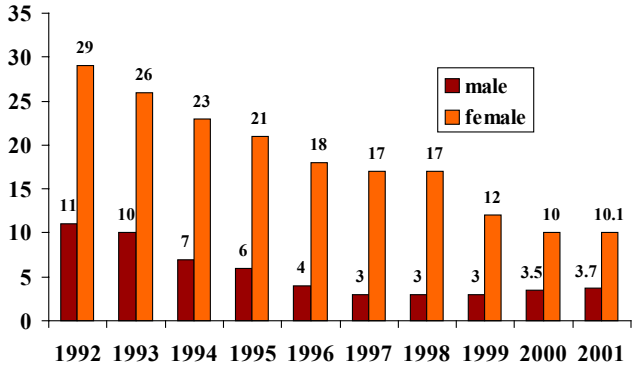
Source: Data from Ministry of Health, HIV/AIDS surveillance report June 2000 and Kipp et al., 1995.

Figure 3.12
HIV prevalence in Rakai district, by locale



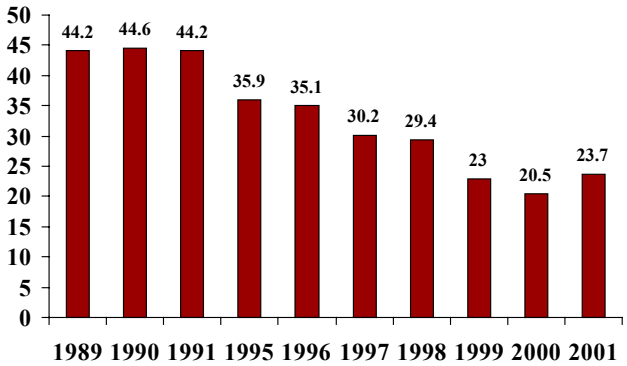
Source: Data from Wawer et al., 1997.

Figure 3.13
HIV prevalence for 15- to 24-year-olds among first-time testers at the AIDS Information Center



Source: Data from Ministry of Health HIV/AIDS Surveillance Report, June 2002.

Figure 3.14
HIV prevalence among STD patients at Mulago Hospital STD clinic, Kampala



Source: Data from Ministry of Health HIV/AIDS Surveillance Report, June 2000-2002.

Data on HIV prevalence among patients attending Mulago hospital STD clinic are also available. While 44% of STD patients were HIV infected in 1989, this had declined by almost 50% to a rate of infection of 24% in 2001 (Figure 3.14) (MOH, 2002). While data for the 1992-1994 period are not available, a steady decline in prevalence is seen from 1995 to 2000, though there was a slight increase in 2001. While this is also a highly select population and does not represent the population as a whole, or the population of STD patients in Uganda, it does provide additional evidence to support the declines in HIV prevalence during the nineties among other populations.

While not part of the sentinel surveillance system, HIV-prevalence data among women attending antenatal care at Mulago Hospital, the national referral hospital located in Kampala, are also available from the early 1990s. HIV prevalence was already 25% among women in 1988 and increased to 37% in 1990 before declining to 16% in 1993. This is higher than the prevalence found at any of the sentinel sites in Uganda but may reflect the fact that the hospital tends to see referred and complicated cases.

Other Sexually Transmitted Infections

The probability of HIV transmission is increased if either partner has a sexually transmitted infection (STI). While the risk is greatest among men and women with infections that cause genital ulceration such as syphilis and chancroid (Haemophilus ducreyi), an increased probability of transmission has also been demonstrated for other infections such as gonorrhea and chlamydia. A comprehensive summary of the occurrence of STIs in Uganda is beyond the scope of this report, however a brief overview is presented here.

Several studies have shown that both ulcerative and non-ulcerative STIs are relatively common in Uganda. The Rakai study found that in 1994 about 10% of men and women surveyed had active syphilis. Other infections were less common. Of the women surveyed, 2-3% had chlamydia and 1-2% had gonorrhea; rates for men were similar. Other vaginal infections which may increase susceptibility to HIV infection were however quite common. Of the women surveyed, 50% had bacterial vaginosis and 24% had trichomoniasis (Wawer et al., 1998).

The Masaka study also provides data from the early nineties on the prevalence of genital ulcer disease in this district that neighbors Rakai in southwestern Uganda. The prevalence of syphilis was found to be 12.9% in men and 12.6% in women. The study also found that the prevalence of chancroid to be 9.8% in men and 7.3% in women. The prevalence of herpes (HSV-2) was much greater, 36% in men and 71.5% in women (Kamali et al., 1999).

Chapter 4 AIDS-Related Knowledge and Attitudes

- Even though knowledge of AIDS is almost universal, there are still misconceptions about how HIV is transmitted and how infection can be prevented. Despite increases in knowledge of HIV-prevention methods during the second half of the nineties, there is still room for improvement.
- Women, particularly those living in rural areas, are still at a disadvantage with respect to understanding key issues about AIDS and HIV transmission. Over one-quarter do not know that an HIV infected person can appear healthy and one in five does not know that HIV can be transmitted from mother to child.
- Almost every Ugandan has personally confronted AIDS, and the majority of Ugandans are willing to care for family members with AIDS.
- Research studies indicate that AIDS-prevention programs have been successful in increasing knowledge and changing attitudes about AIDS.

Knowledge of AIDS is Universal

Data on men and women's knowledge of, and attitudes about, AIDS were obtained in the 1995 and 2000 DHS surveys (Appendix A, Tables 2A-2B). A few additional data are also available from the 1989 GPA survey (Appendix B, Table 2).

In 1995, virtually all men and women had heard of AIDS and knowledge of AIDS remained almost universal in 2000. Even as early as 1989, the GPA data indicate that almost all respondents in this highly urban sample knew of AIDS.

In each of the UDHS surveys, individuals who had heard of AIDS were asked a series of questions about their knowledge of ways to avoid AIDS and AIDS related attitudes. The few men and women who had not heard of AIDS were considered not to have knowledge of ways to avoid AIDS. National trends in knowledge and attitudes for men and women are available in Appendix A, Tables 3A and 3B. Those data that are available from the 1989 GPA survey are presented in Appendix B, Table 2.

Most Men and Women Know That AIDS Can Be Avoided

In 1995, the majority of women (86%) knew that HIV/AIDS can be avoided and there was little change in knowledge in 2000 (Figure 4.1). Knowledge that AIDS can be avoided is higher among urban than among rural women. For men, knowledge that AIDS can be avoided rose from 91% to 95% over the same time period. This was primarily due to an increase in knowledge among rural men as knowledge was already high among urban men in 1995. Knowledge that AIDS can be avoided was higher among men than among women, and these differences are seen primarily in rural areas. Women may feel that they have less control over their own sexual behavior or the sexual behavior of their partners. While the figures from the 1989 GPA survey are similar to those noted for 1995 above, (84% of women and 88% of men; Appendix B, Table 2), the urban bias in the GPA sample and differences in wording of questionnaires make an assessment of change over time difficult.

Figure 4.1
Knows that HIV can be avoided

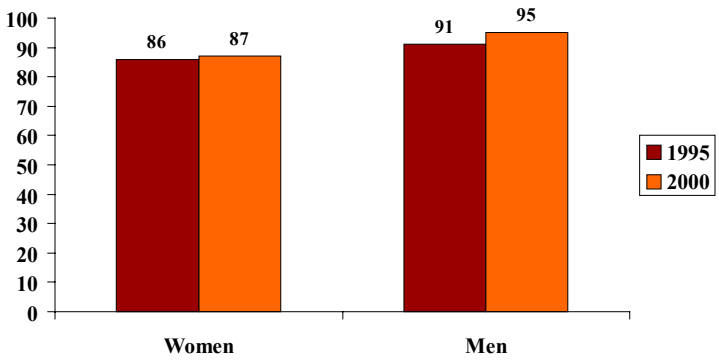


Figure 4.2
Knows HIV can be avoided by limiting sexual partners, women

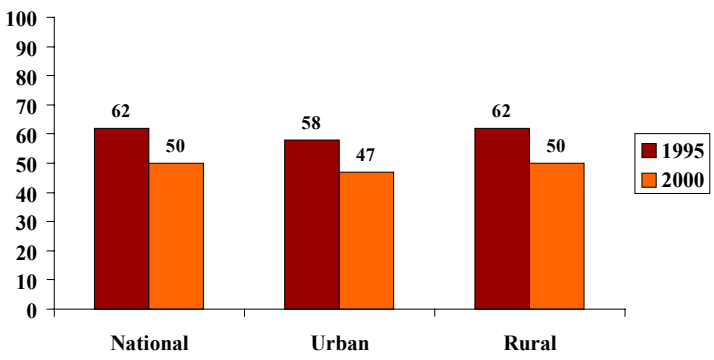


Figure 4.3
Knows HIV can be avoided by limiting sexual partners, men

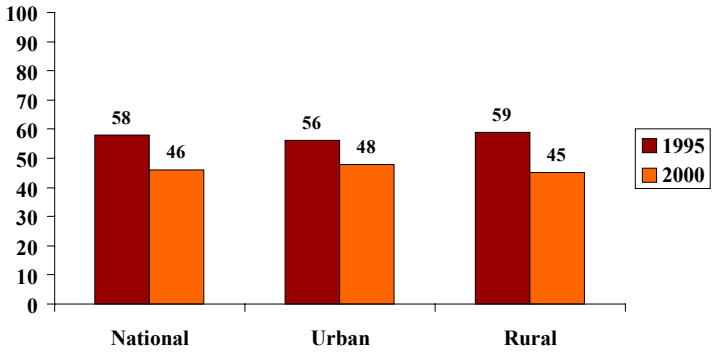
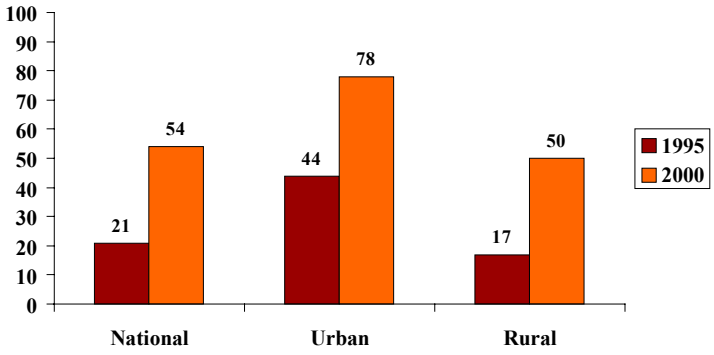


Figure 4.4
Knows HIV can be avoided by using a condom, women



Knowing How to Reduce the Risk of Sexual Transmission: Higher in Men Than in Women

Respondents were asked to spontaneously list the ways a person can avoid getting AIDS or the virus that causes AIDS. Respondents who answered that either having one sexual partner or not having many sexual partners were coded as having knowledge of limiting sexual partners. For both men and women, there was a decline in knowledge that limiting sexual partners can help avoid AIDS. While 62% of women spontaneously mentioned limiting sexual partners in 1995, only 50% did so in 2000 (Figure 4.2). A decline was also seen for men; while 58% of men in 1995 mentioned limiting sexual partners as a way to avoid AIDS, only 46% did so in 2000 (Figure 4.3). Most of the decline is in the percent of men and women who state that reducing the number of sexual partners is a means to avoid AIDS, whereas the percent indicating having only one partner is similar over time (Appendix A, Table 2A). Unlike most indicators that measure AIDS-related knowledge, knowledge of limiting sexual partners is slightly lower among men than among women.

In the 2000 survey, men and women were asked directly if a person can reduce their chances of getting AIDS by having one sex partner who has no other partners. These prompted questions produced higher levels of knowledge than the spontaneous questions described above. While 49% of women spontaneously mentioned having one sexual partner as a way to avoid AIDS, 83% of respondents agreed, when asked directly, that having one sexual partner who has no other partners can reduce a persons chance of getting AIDS. For men, 90% agreed with this statement whereas only 43% mentioned spontaneously that having one sexual partner was a way to avoid AIDS (results not shown).

Knowledge of Condoms as a Way to Avoid AIDS More Than Doubled

Knowledge of condoms greatly increased over the 1995-2000 time period. While only 21% of women spontaneously cited using condoms as a way to avoid AIDS in 1995 over twice as many, 54%, did so in 2000 (Figure 4.4). Knowledge of condoms is higher among men than women in both surveys. In 1995, 32% of men spontaneously cited the use of condoms as way to prevent AIDS; this rose to 72% in 2000 (Figure 4.5). The greatest increase in knowledge occurred among rural men and women. While only 28% of rural men cited condoms as a means to prevent HIV in 1995, over twice as many (70%) did so in 2000. For rural women, these figures were 17% and 50%, respectively.

Knowledge of condoms as a way to reduce the risk of acquiring AIDS is also higher if the results are based on prompted questions, though the difference between prompted and spontaneous responses is much smaller than what was seen for sticking to one partner. In 2000, 65% of women and 75% of men agreed that using a condom every time they have sex can reduce a persons chances of getting AIDS (results not shown).

The standard UNAIDS indicator for knowledge of HIV prevention methods combines responses to having one faithful partner and using condoms into one indicator.[3] For women there was an increase from 13% to 28% in the percent knowing both primary sexual prevention methods while for men the percent increased from 19% and 34%. Knowledge in rural areas of both methods is considerably lower than in urban areas.

[3] While the UNAIDS indicator relies on prompted questions, spontaneous responses are used here so that data from 1995 and 2000 can be compared.

Figure 4.5
Knows HIV can be avoided by using a condom, men

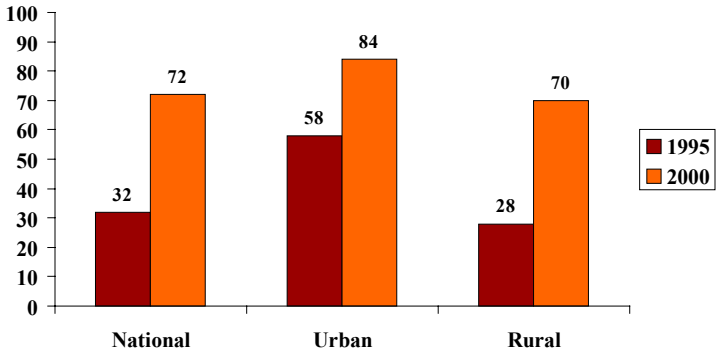


Figure 4.6
Knowledge of HIV transmission among men and women, 1989 WHO/GPA Survey

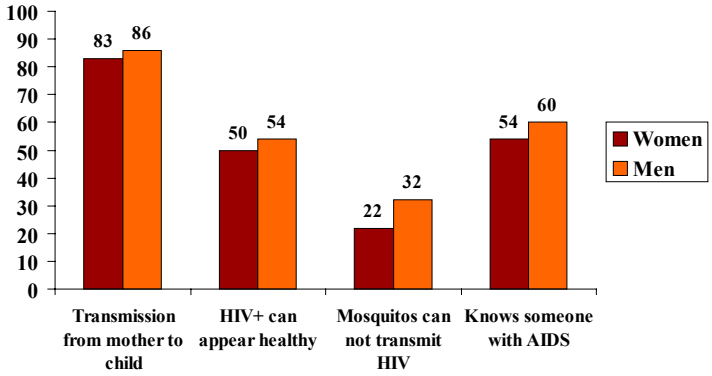


Figure 4.7
Knows that an HIV-infected person can appear healthy

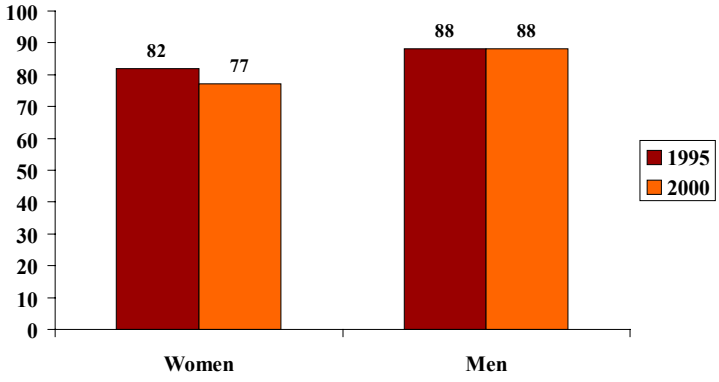
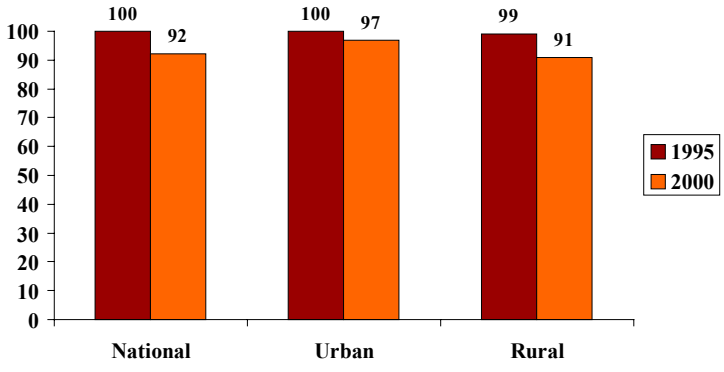


Figure 4.8
Knows that an HIV cannot be transmitted by mosquitoes, women



Knowledge That an HIV-Infected Person Can Appear Healthy: Misconceptions Remain

Respondents were asked if it is possible for a healthy-looking person to have the AIDS virus. In the 1989 GPA survey just over one-half of men and women agreed that a person with the AIDS virus can appear healthy (Figure 4.6). Between 1995 and 2000 there was little change in knowledge that an HIV-infected person can appear healthy overall for men, this remained at 88% (Figure 4.7). There was, however, a small decline among rural women and thus an increase in misconceptions about AIDS among women in rural areas (Appendix A, Table 2B).

HIV Is Transmitted by Mosquitoes: One-quarter of Respondents Agree

A belief that mosquitoes can transmit HIV has been a common misconception in many countries. When asked what a person can do to avoid AIDS, 8% of women in Uganda in 2000 spontaneously responded that they should avoid mosquito bites. Almost no men or women gave this response in 1995 (Figure 4.8). However, in 2000, respondents who had heard of AIDS were asked directly if a person can get the AIDS virus from a mosquito bite. Over 23% of women and 24% of men agreed with this statement.

Because of the leading nature of probed questions, these figures may overstate levels of misconceptions. The truth probably falls somewhere between the results obtained from spontaneous and probed questions.

Knowledge of Mother-to-Child Transmission Is High

Most men and women in Uganda, about 83%, know that AIDS can be transmitted from a mother to a child and overall there was little change in levels of knowledge of this mode of transmission between 1995 and 2000 (Figure 4.9). This was also similar to the levels recorded in the 1989 GPA survey (Figure 4.6). Levels of knowledge are similar among men and women, and are slightly higher in urban than in rural areas (Appendix A, Tables 2A and 2B). Despite high levels of knowledge of mother-to-child transmission, less than one-half of men and women know that the virus can be transmitted during breastfeeding. Knowledge of breastfeeding as a mode of transmission has declined slightly since 1995, particularly in rural areas where knowledge levels were highest.

Risk Perception: Over One-Third of Men Feel They Are Not at Risk

Questions on perceived risk for HIV transmission were asked in the 1995 DHS survey. While 78% of women thought that they were at small to great risk of getting AIDS, only 61% of men did so. In other words, 22% of women and 39% of men feel they are at no risk at all of getting AIDS. Men and women living in urban areas perceive themselves to be at higher risk for HIV infection than those living in rural areas. This urban-rural difference is greater for men than for women. This is somewhat higher than the figures from the 1989 GPA survey where just over one-half of respondents felt that they were at some risk. The differences in sample coverage between these surveys, however, makes interpretation of changes in perceived risk difficult (Appendix A, Tables 3A and 3B; Appendix B, Table 2).

Almost Everyone Knows Someone with AIDS

Most women and men in Uganda know someone with HIV or someone who has died of AIDS. Even as early as 1989, over one-half of the respondents in the GPA sample knew someone with AIDS. Nationally, in 1995, 85% of women knew of someone with AIDS or who has died of AIDS and this rose to 90% in 2000. For men, this figure remained at about 90% nationally in both surveys. Respondents living in urban areas are more likely than rural respondents to know someone who has AIDS or who has died of AIDS. This is likely reflecting the higher prevalence of AIDS in urban areas, better access to medical care leading to an increased likelihood of diagnosis, and perhaps lower levels of stigma (Appendix A, Tables 3A and 3B).

Figure 4.9
Knows HIV can be transmitted from mother to child

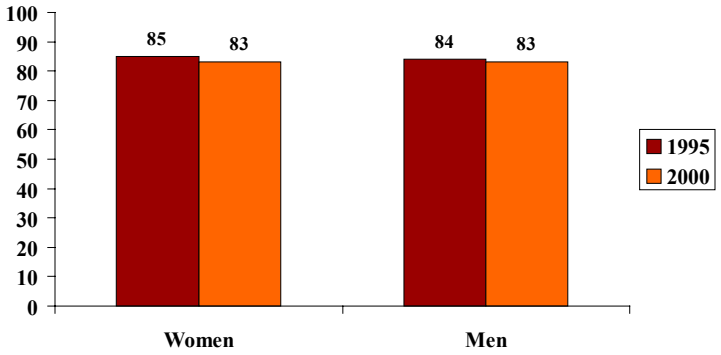
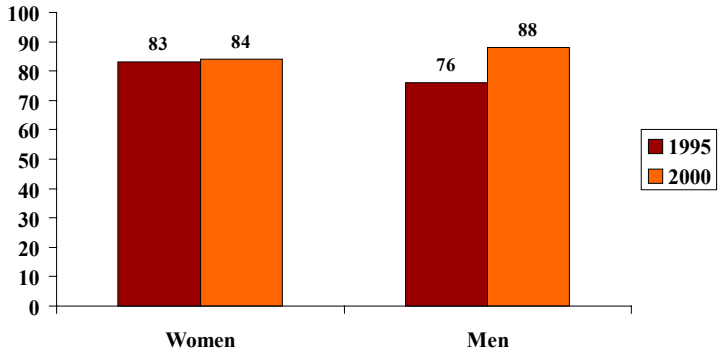


Figure 4.10
Would care for a family member with AIDS



AIDS Knowledge in the Early Nineties

While representative of a very urban population (31% of the sample was from Kampala), the 1989 Global Programme on AIDS survey provides a useful picture of knowledge of AIDS at the end of the eighties.

- By 1989, knowledge of AIDS was almost universal (97% of both men and women) and the majority of respondents agreed that they could avoid getting AIDS by changing their behavior (84% of women and 88% of men).
- Just over one-half of respondents felt that they are at risk of catching AIDS while almost one-quarter of women and 16% of men were unsure.
- Over one-half of respondents say they have known someone who has had AIDS, possibly reflecting the high prevalence of the disease as well as the absence of stigma.
- Almost all respondents agreed with statements that a person can get AIDS from prostitutes and the majority agreed that an infected mother can pass the virus to her baby.
- There were also many misconceptions about how HIV could be transmitted. From one-third to one-half of men and women agreed that you can get AIDS from sharing food or by wearing the clothes used by someone who has AIDS.

Most Are Willing to Care for a Family Member with AIDS

A large proportion of women, about 83%, would care for a family member who has AIDS and this figure changed little between 1995 and 2000 (Figure 4.10). Willingness to care for a family member with AIDS did increase for men though levels in 1995 were lower for men than for women. While only 76% of men in 1995 would care for a family member with AIDS, this rose to 88% five years later. Urban respondents are more willing than rural respondents to look after a family member with AIDS (Appendix A, Table 3B).

Knowledge Increases and Attitudes Change in Response to Interventions

- In an evaluation of a primary school health education program to prevent AIDS in a rural district, students in the intervention group were found to speak to peers and teachers more often about sexual matters. They also reported a decline in sexual activity after two years of intervention (Shuey et al., 1999).
- In a series of surveys designed to monitor the impact of the Uganda Ministry of Health's Basic Health Services project, there was a steady increase in knowledge and adoption of safer sexual practices among secondary school students in Kabarole district 1994-1997. There was increased knowledge of ways to prevent AIDS and pregnancy, ever use of condoms and recent condom use (Ndyanabangi et al., 1998).
- An evaluation of a village-based AIDS-prevention programme in northwestern Uganda found an increase in knowledge of the long incubation period of HIV, increased knowledge of condoms, and increased willingness to care for a person with AIDS after an 18-month period (Schopper et al., 1993).
- Prevention activities in Muslim communities were associated with improved knowledge of HIV transmission and methods of HIV prevention, as well as the risk of infection associated with ablution of the dead and unsterile circumcision (Kagimu et al., 1998).

Chapter 5 Sexual Behavior

- The age of sexual debut among young men and women increased by about one year during the nineties. The percent of youth aged 15-19 years who had not yet had sex increased for both girls and boys, with increases among girls occurring initially in urban areas.
- There was a decline in pre-marital sex and an increase in abstinence among women in the first part of the decade. However, the trends reversed in the second half of the decade, reflecting a slight increase in sexual activity among women who were already sexually active.
- Results from the GPA surveys and research studies from the early nineties indicate that there was a large reduction in multiple partnerships, particularly in urban areas and among both men and women. This is also the period of time when the greatest declines in HIV incidence are believed to have occurred.
- Changes in sexual partnerships in the second half of the decade appear mixed, though levels of extramarital sex and multiple sexual partners remain relatively low.

Data on timing of sexual intercourse are available for women in all three DHS surveys and for men in the last two (Appendix A, Tables 4A-4B). Levels of sexual activity from the 1989 and 1995 GPA surveys and changes in indicators of sexual activity from other research studies (all subnational) are also included in this chapter to highlight the changes that occurred in the early part of the decade (GPA data appear in Appendix B, Table 3). As discussed in Appendix C, trends based on GPA data are likely to over-estimate trends nationally, thus the magnitude of any changes should be interpreted with some caution. It should also be noted that all data on sexual behavior presented in this report are self-reported and may under-estimate levels of higher-risk sexual activity as respondents in surveys may under-report behavior that is not considered to be socially acceptable.

Sexual Activity among Youth Has Decreased

A delay in the age of sexual debut among youth has been one of the primary goals of the AIDS-prevention strategy in Uganda. In the 2000 survey, women, on average, report that they start to have sex at about 17.5 years of age, this is up from 16.5 years in the late eighties. Among men, the average age at first sex is reported to be about 18.5 years, this is up from 17.5 years reported five years earlier (Figure 5.1). A more robust analysis that used current status data (have you ever had sex) and recall data (age at first sex) found that over the decade, there was about a one-year delay in the sexual debut for both women and men (Zaba et al., 2002). Changes in age of sexual debut are discussed in detail in the companion report "Young People, Sex, and AIDS in Uganda."[4]

[4] AIDS Trends during the Nineties: Young People in Uganda (MEASURE Evaluation, fothcoming).

Figure 5.1
Median age at first sex among women and men aged 15-24

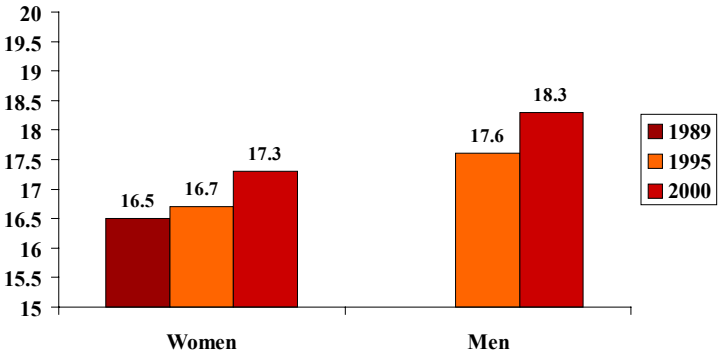
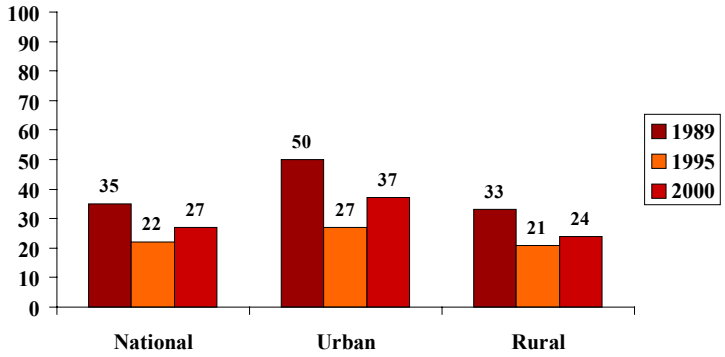


Figure 5.2
Premarital sex: never-married women aged 15-24 who had sex in the past year



Men and women often become sexually active before marriage, putting themselves at risk for HIV infection through non-regular (non-marital/non-cohabiting) and multiple partnerships. Based on results from the 2000 UDHS, the average age of marriage among women is about 18 years, roughly one year after the onset of sexual activity. For men, it is about 22 years, almost three years after the onset of sexual activity. While there has been little change in age at first marriage for women over the decade, there is some evidence for a small increase at age at first marriage among men.

A second measure of pre-marital sex among youth is the percent of never-married men and women aged 15-24 who had sex in the past 12 months. Among young single women, 35% reported that they had sex in the past year in the 1989 survey. This declined to 22% in 1995 but then increased to 27% in 2000 (Figure 5.2). The declines in pre-marital sex in the early part of the decade were slightly greater among urban women, as was the smaller increase in pre-marital sex in the second part of the decade. Overall, rural women are somewhat less likely to have premarital sex than are urban women.

Between 1995 and 2000, there was little change overall in the percent of never-married 15- to 24-year-old men who report having sex during the past year (Figure 5.3). About 31% of these young men report having had sex in the past year in the 2000 survey, a slightly higher figure than that seen for women. While DHS data are not available for men in the early nineties, a comparison of the GPA survey data indicate that a substantial decline in premarital sex among young men has also occurred.

Because the age of sexual debut increased throughout the decade, this small increase in pre-marital sex among women in the late nineties is reflecting an increase in sexual activity among never married young women who have already initiated sexual activity.

Figure 5.3
Premarital sex: never-married men aged 15-24 who had sex in the past year

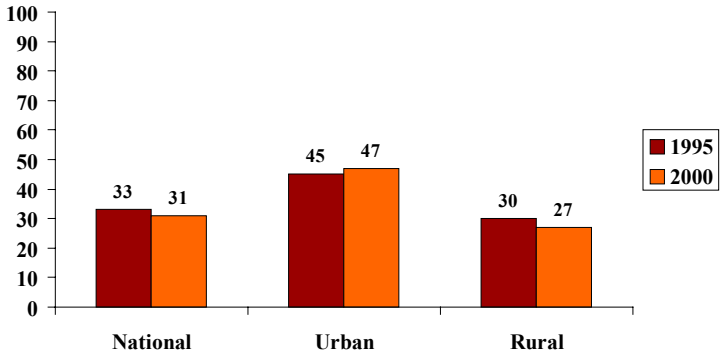


Figure 5.4
Abstinence: women who report no sex during the past year

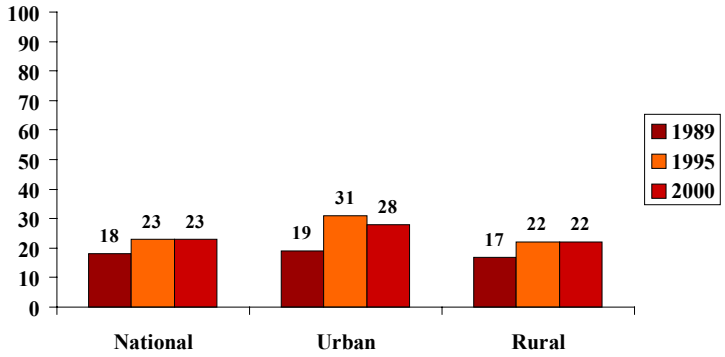


Figure 5.5
Abstinence: men who report no sex during the past year

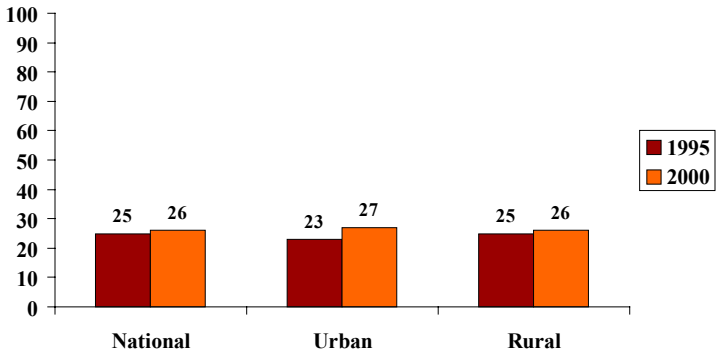


Figure 5.6
Extramarital sex: women who report sex with someone other than their spouse in the past year

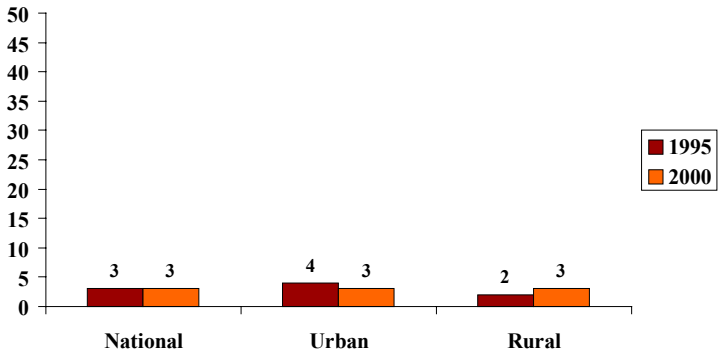


Figure 5.7
Extramarital sex: men who report sex with someone other than their spouse in the past year

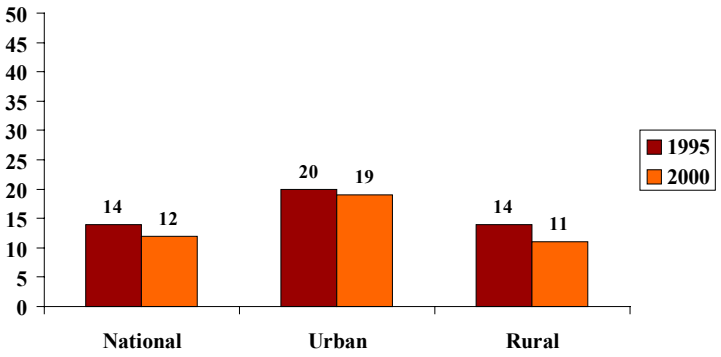


Figure 5.8
Indicators of higher risk sexual behavior among women in the late eighties/early nineties, GPA 1989 and 1995

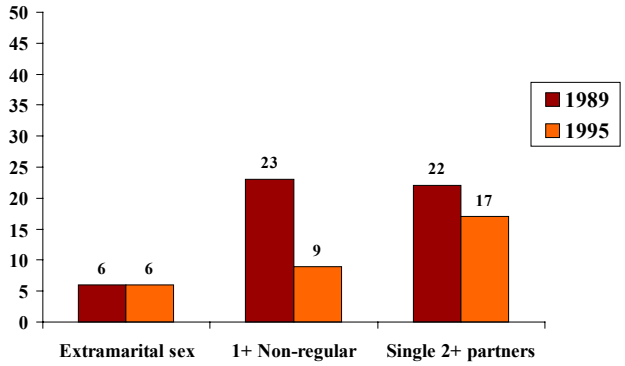
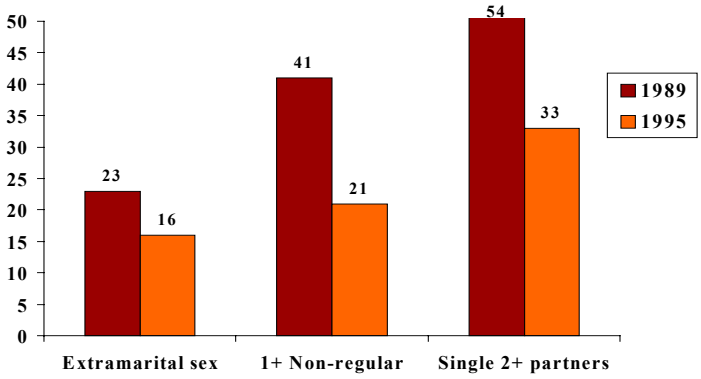


Figure 5.9
Indicators of higher risk sexual behavior among men in the late eighties/early nineties, GPA 1989 and 1995



Evidence for Behavior Change in the Late Eighties and Early Nineties

In Kasangati, a semi-urban area about 15 kilometers north of Kampala, periodic surveys in 1987 and 1994 found a decline in respondents reporting two or more sexual partners (from 27% in 1987 to 17% in 1994) (Konde-Lule, Tumwesigye et al., 1997)

In a study conducted in Moyo district in 1991 and 1992, there was a decline in casual sex among never-married respondents (Schopper et al., 1993)

In a study of adolescents aged 15-19 years in Rakai in 1990 and 1992, there was a significant decline in women reporting multiple partnerships from 13% to 6%. Among young men, the percent reporting multiple sexual partners declined only slightly from 22% to 18% (Konde-Lule, Wawer et al., 1997).

Abstinence Increased in the Early Nineties

Of all women surveyed, 18% stated that they were sexually abstinent in the past year in the 1989 survey; this rose to 23% in the 1995 and 2000 surveys (Figure 5.4). The increase in abstinence from 1989 to 1995 reflects both a decline in sexual activity among women who have ever had sex, as well as delay in age of the onset of sexual activity among young women as previously described. Among non-virgins, abstinence in the past year increased from 8% of women in 1989 to 15% in 1995, and then declined slightly to 13% in 2000 (results not shown). The greatest changes in abstinence were seen among urban women, though there were also increases in abstinence among rural women in the 1989 to 1995 time period.

While the percent of all men reporting abstinence in the past year remained at about 25% in 1995 and 2000, among urban men, the percent reporting abstinence increased slightly from 1995 to 2000. Little change was seen among rural men (Figure 5.5). From the late eighties to mid-nineties, data from the GPA surveys indicate that there was an increase in abstinence among men (Appendix B, Table 3).

Extra-marital Sex Uncommon for Women

Very few women report extramarital sex and the figures are similar in 1995 and 2000, the years for which nationally representative data are available (Figure 5.6). Many more men than women report extramarital sex, 12% of men as compared to 3% of women in 2000. There was a very small decline in the percent of men reporting extramarital sex between 1995 and 2000, primarily due to a small decline in extra-marital sex among men in rural areas (Figure 5.7).

While the GPA data showed little change in levels of extramarital sex among women between 1989 and 1995, among men there was a decline from 23% to 16% (Figures 5.8 and 5.9). Again it should be noted that declines in higher-risk sexual behavior as measured by this and subsequent indicators based on GPA data probably overstate declines that may have occurred across the country as whole.

Figure 5.10
Non-regular partnerships: women who report sex with a non-marital/non-cohabiting partner in the past year

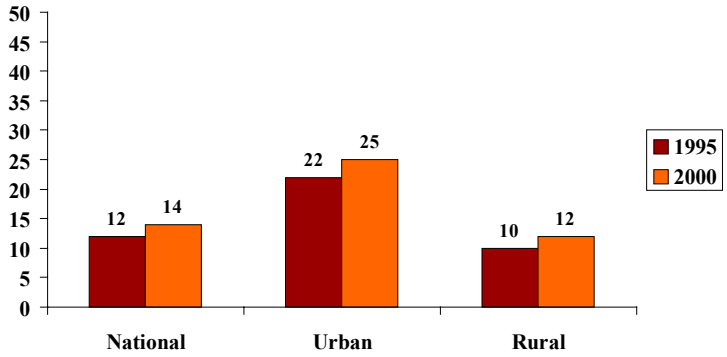
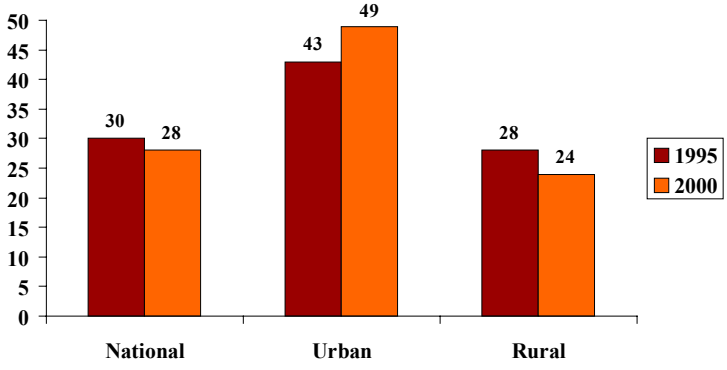


Figure 5.11
Non-regular partnerships: men who report sex with a non-marital/non-cohabiting partner in the past year



Non-Regular Sexual Partnerships Declined in the Early Nineties

Sex outside of a marital or cohabiting relationship is considered to be higher-risk sex as partners are less likely to be monogamous. The percent of men and women who have sex with a non-marital/non-cohabiting partner, referred to as a non-regular partner, provides a picture of the proportion of the population engaged in high-risk partnerships. This indicator captures sexual partnerships among non-married respondents as well as extramarital partners among married respondents. There was little change in the percent of sexually active women reporting non-regular partnerships from the mid- to late nineties (from 12-14%). About twice as many urban as rural women report having a non-regular partner in the last 12 months (Figure 5.10). Among sexually active men, while there was little change overall in men reporting non-regular sexual partners, there was a slight increase in the percentage of urban men reporting a non-regular partner in the second half of the decade (from 43% to 49%) while there was a small decline among rural men (from 28% to 24%) (Figure 5.11).

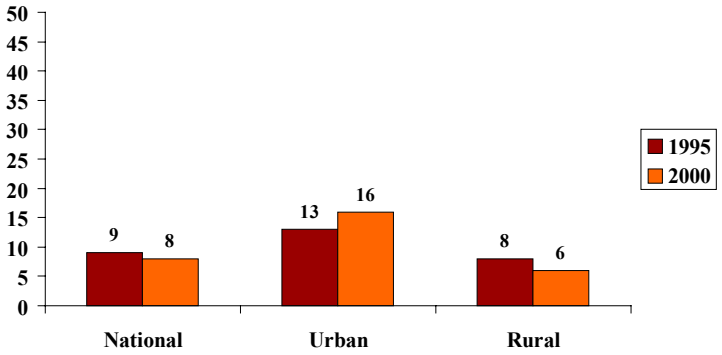
Data from the GPA surveys indicate that there was a large decline in the proportion of men and women reported having non-regular partners between 1989 and 1995 (Figures 5.8 and 5.9).

Multiple Partnerships Much More Common among Men

Information on the number of sexual partnerships was obtained in the 1995 UDHS by asking respondents for the number of partners with whom they had sex in the past six months. In the 2000 survey, respondents were asked about their sexual partners in the last 12 months. It is likely that with an increased time frame, there would be a greater number of partners. While prior research indicates that the increase in number of partners is not great, the difference in time frames for reporting numbers of sexual partnerships does make interpretation of trends in these indicators more difficult.

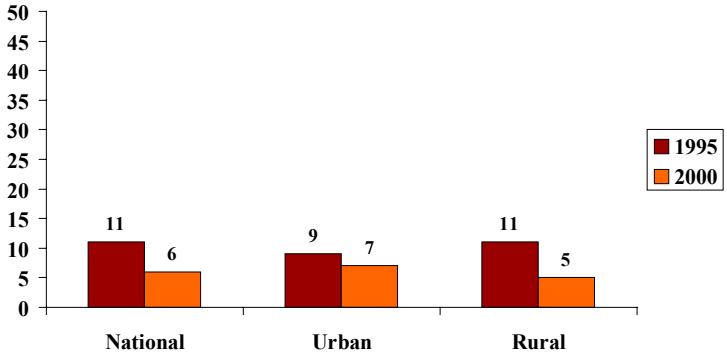
Few sexually active women (about 1%) report having two or more non-regular sexual partners and there is little change between 1995 and 2000 (Appendix A, Table 4A). Many more sexually active men (about 8%) report two or more sexual partners than do women, with perhaps a small increase in multiple partnerships among urban men in the second half of the decade (Figure 5.12).

Figure 5.12
Multiple partnerships: men who report sex with two or more non-marital/non-cohabiting partners in the past year*



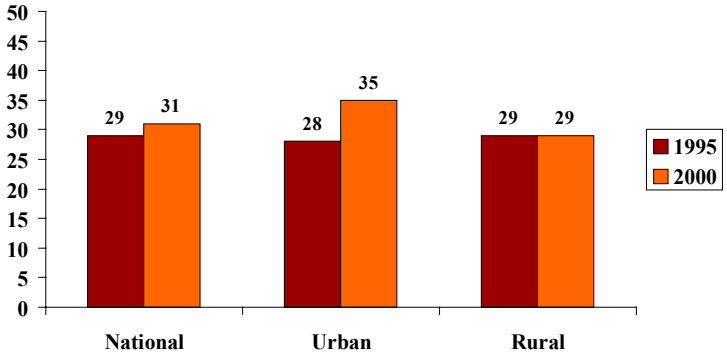
* Reference period is 6 months in 1995 survey.

Figure 5.13
Single women who report sex with two or more non-marital/non-cohabiting partners in the past year*



* Reference period is 6 months in 1995 survey.

Figure 5.14
Single men who report sex with two or more non-marital/non-cohabiting partners in the past year*



* Reference period is 6 months in 1995 survey.

Among single, sexually active women, a decline in multiple partnerships has occurred in the second half of the decade (from 11% to 6%) with the decline occurring primarily in the rural areas (Figure 5.13). Among single, sexually active men here the percentage reporting two or more sexual partners may have increased slightly due to increases in urban areas (Figure 5.14). Despite the limitations of these data due to differences in reference periods for sexual activity, the findings are consistent with the changes in non-regular partnerships described in the previous section.

As with other indicators of higher-risk sexual behavior, the GPA surveys indicate declines in multiple partnership among single people between the late eighties and mid-nineties, particularly among men (Figures 5.8 and 5.9).

As the Nineties Progress, Changes in Sexual Partnerships Are Mixed

In a survey of men living in poorer neighborhoods surrounding Kampala, there was a large increase in men reporting always using condoms with casual partners from 1993 to 2001. However, the prevalence of sex with casual partners remained high (Kamya et al., 2002).

In the rural district of Lira, population-based surveys carried out in 1995 and 1998 found increases in knowledge of two acceptable ways to protect against HIV and ever use of condom. There was little change in non-regular partnerships among sexually active respondents (although only a small percentage of respondents in either survey reported having non-regular partners) and no change found in regard to age of sexual debut (Opio et al., 2000).

In population-based surveys conducted in 1997 and 1999 in four predominantly rural districts (Mbarara, Mpigi, Masindi, Pallisa), there was no consistent trend in the number of reported non-regular sexual partners (MOH, 2001).

In a population-based cohort study in Masaka district, declines in HIV prevalence over a seven-year period (1991-1998) were accompanied by increased ever use of condoms among men and women. While age of sexual debut increased for boys, it remained the same for girls, and there was actually a small increase in the percent of men reporting multiple sexual partners in the last 4 months (Kamali et al., 2000).

Based on data from another Masaka population-based cohort, the authors reported large declines in respondents reporting a casual sex partner in the past year (from 35% to 15%) and large increases in use of condoms with casual partners (21% to 65%) between 1994 and 2000. There was no decline in respondents reporting two or more sexual partners (Kamali et al., 2003). In the other studies cited here, multiple sexual partners may include more than one spouse.

Chapter 6 Condom Availability, Knowledge and Use

- There was a large increase in knowledge of condoms during the 1990s and now knowledge of condoms is almost universal. While knowledge of a source of condoms also increased, over one-half of rural women and one-quarter of men still do not know where to obtain a condom.
- By the end of the decade, 16% of women and 40% of men had used a condom at least once, up from 1% of women in 1989. Experience with condoms is much greater in urban areas than in rural areas.
- Over one-third of women and over one-half of men used a condom the last time they had sex with a non-regular partner. In urban areas, over one-half of women and 80% of men did so. This is a large increase since 1995 and indicates a reduced risk of HIV transmission during higher-risk sex acts.
- Research studies confirm that increases in condom use have occurred throughout the nineties. And while condom use is greatest with higher-risk sexual partners, research shows that condoms are not always used consistently.

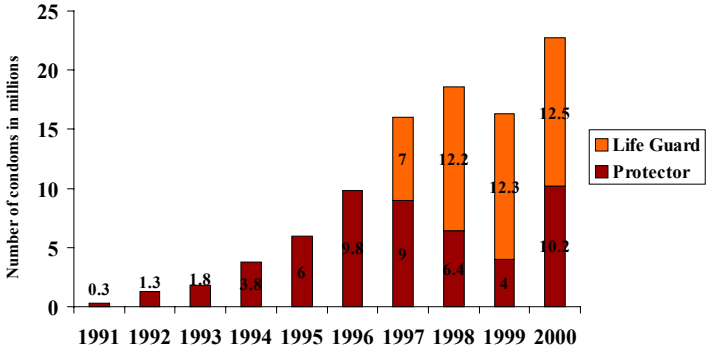
Data on knowledge and use of condoms during the nineties are available from the DHS surveys (Appendix A, Tables 5A-5B), the GPA surveys (Appendix B, Table 4) and from research studies.

Condom Availability

In Uganda, condoms are distributed through the Ministry of Health, through social marketing programs and commercial channels. The majority of condoms are distributed through the government sector and through social marketing programs. Commercial channels make up only a small share of the market.

Between 1992 and 2000, there was a huge increase in the number of condoms distributed in the country. While annual data on condoms distributed through the public sector in the nineties are not available, data from the social marketing programs do illustrate this trend. Just over 300,000 condoms were distributed by the social marketing program in 1991 and this increased to over 20 million in 2000 (Figure 6.1)

Figure 6.1
Number of socially marketed condoms distributed in Uganda



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

Figure 6.2
Condoms: knows of condoms, women

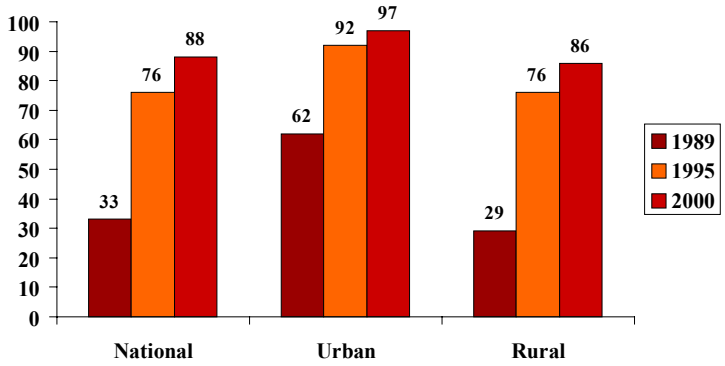


Figure 6.3
Condoms: knows of condoms, men

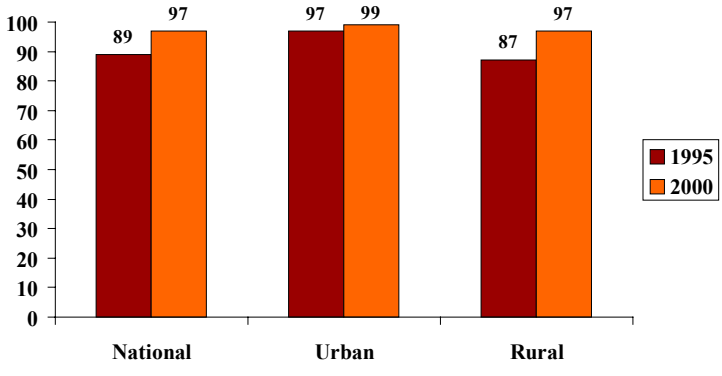
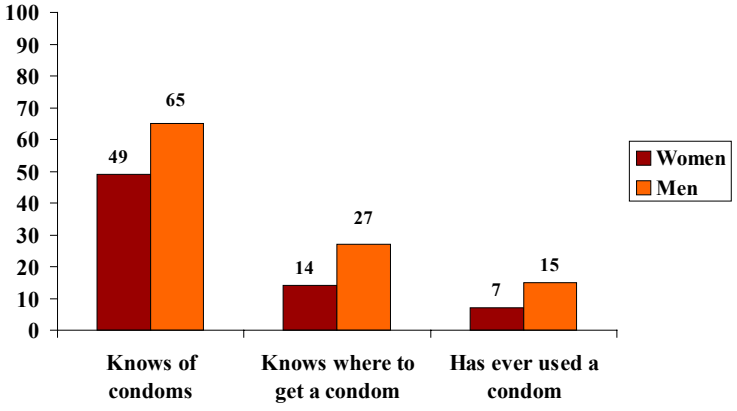


Figure 6.4
Condom knowledge and use among men and women, 1989 GPA Survey



Condoms Are Used, but Not Always Consistently

In a survey of men in a poor area of Kampala, 46% reported using a condom with their last casual sexual encounter, but only 31% reported always using condoms with casual partners (Kamya et al., 2002).

In a 1994 survey in Rakai district, only 13% of respondents reported always using a condom with non-marital partners, while 35% reported sometimes using a condom with non-marital partners in the past year (Ahmed et al., 2001).

Figure 6.5
Condoms: knows where to get condoms, women

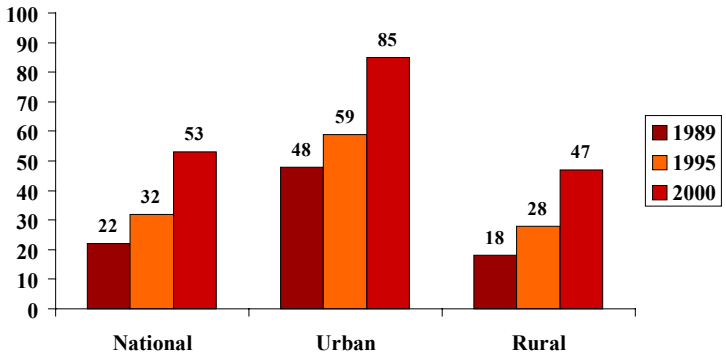
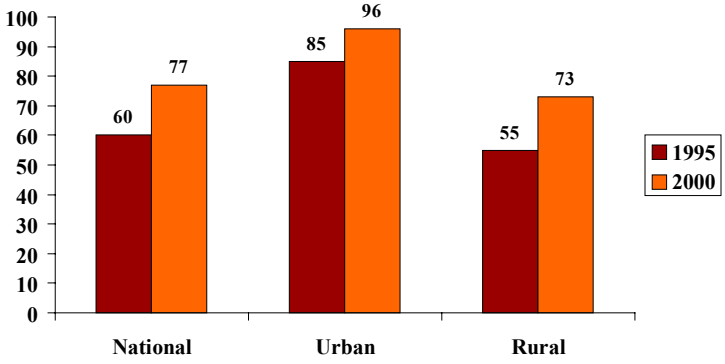


Figure 6.6
Condoms: knows where to get condoms, men



Knowledge of Condoms

While the number of condoms distributed through the country has increased, so has knowledge of condoms and where to get them, and to a lesser extent, use of condoms.

Figure 6.2 shows the dramatic increase in awareness of condoms over the past ten years among women. The greatest increases were seen between 1989 and 1995 with a more than doubling of the percent of women who were aware of condoms. The greatest increase in knowledge occurred among rural women; while only 29% knew of condoms in 1989, 76% did so in 1995 as did 86% in 2000. Awareness continued to increase between 1995 and 2000, though the gains were smaller. While there are no nationally representative data for men in 1989, findings from the 1995 and 2000 surveys also demonstrate a small increase in knowledge of condoms among men, though knowledge was already very high in 1995 (Figure 6.3). In fact, the GPA survey indicates that about 65% of men in this highly urban population knew of condoms as did almost 50% of women in 1989 (Figure 6.4).

Knowledge of a source of condoms also rose during the 1990s. While 22% of women knew of a source of condoms in 1989, 53% could name a source in 2000 (Figure 6.5). Despite this strong increase, almost one-half of women could not name a place where they could obtain a condom in 2000. Urban and rural differences in knowledge of a source of condoms are great. While the majority (85%) of urban women in 2000 knew of a source, less than one-half of rural women did

Condom Use Increases in Response to Specific Interventions

Community-level activities in local Muslim communities resulted in a significant increase in the correct knowledge of HIV transmission, a reduction in self-reported sexual partners, and increase in condom use among men (Kagimu et al., 1998).

A village-based AIDS-information and condom-promotion programme in rural northwestern Uganda resulted in increased knowledge of condoms and ever use (Schopper et al., 1993).

Figure 6.7
Condoms: ever use of condoms among women

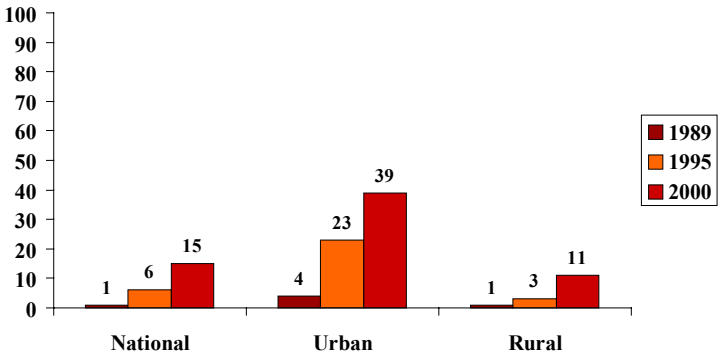
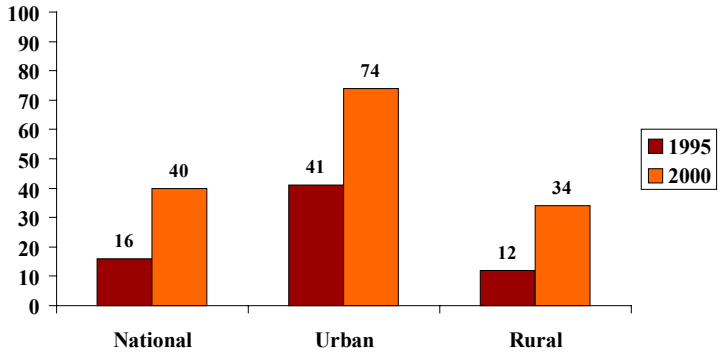


Figure 6.8
Condoms: ever use of condoms among men



so. While knowledge of a source of condoms has also increased for men, from 60% in 1995 to 77% in 2000, knowledge of a source is still not universal and lags behind in rural areas (Figure 6.6).

Ever Use of Condoms

Despite increases in awareness of condoms and knowledge of a source of condoms, use of condoms remains low. By 2000, only 15% of women had used a condom; however, this is an improvement over the one percent seen in 1989 (Figure 6.7). Men are much more likely to have used a condom than are women, 40% in 2000, up from 16% in 1995 (Figure 6.8). Urban-rural differentials are large, especially for women. Over three times as many urban as rural women have ever used a condom and over twice as many urban men have done so as compared to rural men. The GPA survey data also provide evidence for large increases in ever use of condoms among both men and women between the late eighties and mid-nineties, though the increase is somewhat greater than that reported in the DHS. As seen in Figure 6.9, ever use of condoms almost tripled for women and doubled for men in this largely urban population. It should be noted that the questions on ever use of condoms were asked in the context of family planning. As such, they are likely to underestimate use of condoms as they may not include condoms used for purposes other than family planning. These figures, however, are useful, as they do allow for an assessment of trends in condom use throughout the decade.

Figure 6.9
Ever use of condoms among women and men in the late eighties/early nineties in Uganda, GPA 1989 and 1995

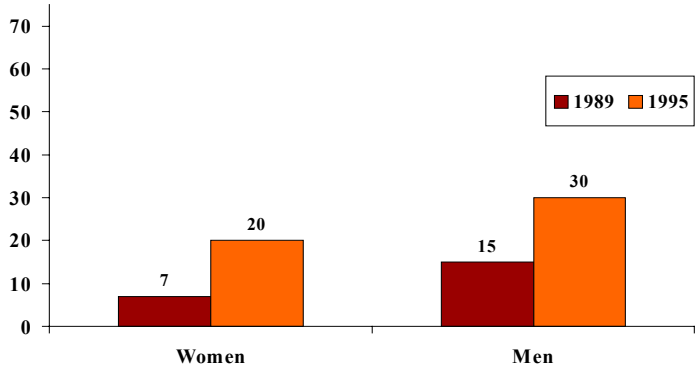


Figure 6.10
Condoms: used a condom at last sex with a non-regular (non-marital, non-cohabiting) partner, women

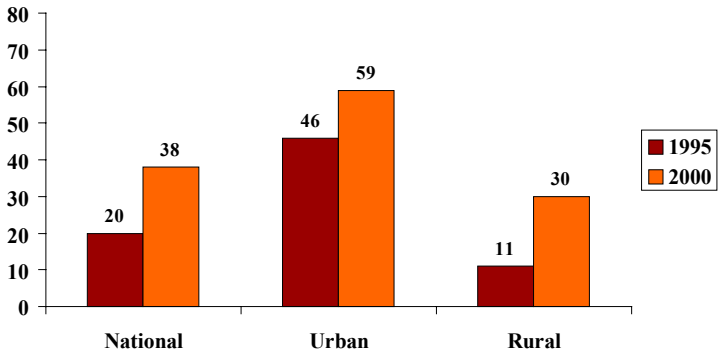
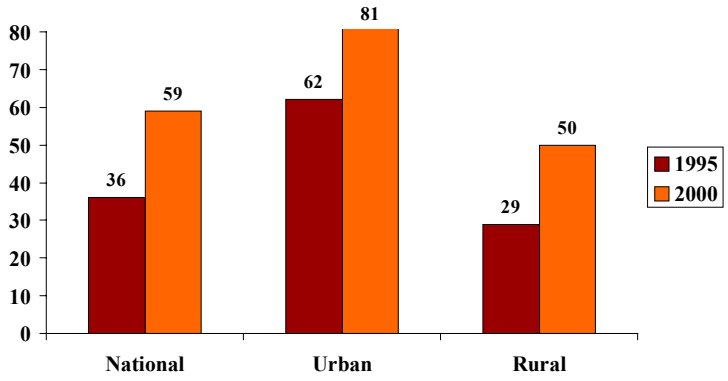


Figure 6.11
Condoms: used a condom at last sex with a non-regular (non-marital, non-cohabiting) partner, men



Condom Use at Last Sex

As sex with a non-regular partner is considered higher risk, condom use at last sex with a non-regular partner is a measure of HIV-prevention behavior. In 1995, 20% of women reported using a condom at last sex with a non-regular partner; this almost doubled to 38% in 2000 (Figure 6.10). Increases in condom use at last sex were seen among urban and rural women, with the greatest increase seen among rural women. Despite this increase, the level of condom use is still about half that of urban women. Overall 36% of men used a condom at last higher-risk sex in 1995, this rose to 59% five years later. Increases are seen for both urban and rural men (Figure 6.11).

Condom Uses Increases throughout the Nineties

Late Eighties/Early Nineties

In Kasangati, a semi-urban area about 15 kilometers north of Kampala, periodic surveys in 1987 and 1994 found an increase in ever use of condoms from (4% in 1987 to 27% in 1994) (Konde-Lule, Tumwesigye et al., 1997).

In a study of adolescents in Rakai in 1990 and 1992, the percentage of young men and women who had ever used a condom doubled over the two-year period (Konde-Lule, Wawer et al., 1997).

Later Nineties

Population-based surveys conducted in the districts of Kampala, Jinja, Lira, Soroti in 1995 and 1998 showed large increases in use of condoms with non-regular partners (MOH 2000).

In the predominantly rural districts of Mbarara, Mpigi, Masindi, Pallisa, there were large increases in reported use of condoms with use with regular (non-marital) and non-regular partners between 1997 and 1999 (MOH 2001).

Data from the population-based studies in Masaka district in southwestern Uganda indicate that use of condoms with last casual partner increased from 21% of respondents in the mid-nineties to 65% at the end to the decade (Kamali et al., 2003).

Chapter 7 The Impact of the Epidemic

- The number of reported AIDS cases continues to grow and patients with HIV infection and AIDS continue to be a large burden to the health care system.
- A doubling of adult mortality was seen in the late eighties and early nineties and studies indicate that adult mortality due to AIDS increased throughout the nineties. The greatest proportion of AIDS-related deaths are occurring among women and men during their most economically productive years.
- Infants and children of HIV-infected mothers have much higher mortality than do those of uninfected mothers, due to both direct and indirect effects of HIV.
- While the percent of children who are orphans has changed little during the second half of the decade, the number of orphans still well exceeds 2 million. About one-half of these are estimated to be AIDS orphans.

AIDS Cases

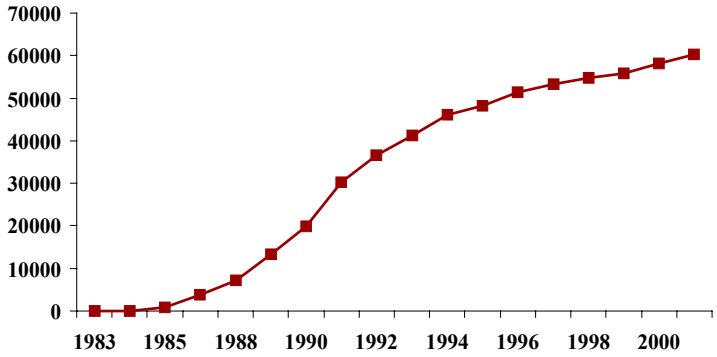
While AIDS case surveillance is undertaken by district health units, reporting of AIDS cases is grossly incomplete. The annual number of cases reported does not reflect the magnitude of the AIDS situation. However, AIDS cases do provide an indication of the increasing burden of AIDS cases on the health care system. As seen in Figure 7.1, the number of reported AIDS cases grew dramatically in the late 1980s and this rapid increase has continued into the 1990s. The largest number of AIDS cases reported for women are in the 20-24 and 25-29 age groups, whereas for men the age groups with the largest number of reported AIDS cases are 25-29 and 30-34. Over 54% of the AIDS cases reported to date are among women (MOH, 2001).

Studies indicate that a large proportion of hospital patients are HIV infected. A survey of Rubaga hospital, the third largest hospital in Kampala, found that 56% of the hospital beds during a two-month period in 1992 were filled with patients who were HIV positive. Over 22% of patients met the WHO case definition for AIDS (Tembo et al., 1994). More recent data from a hospital in Northern Uganda illustrate the continuing burden of HIV and AIDS in the health system. In 1999, HIV prevalence among patients admitted to the hospital ranged from 13% to 53%, with the highest rates found in the general medicine and TB wards. From 1992 and 1999, between 35% and 41% of bed-days were attributable to HIV infection (Fabiani et al., 2002).

Mortality

In 2001, UNAIDS estimates that there were 84,000 deaths due to AIDS in Uganda, a slight decline from two years earlier. AIDS has had a significant impact on mortality as the epidemic has progressed, and has led to significant reductions in life expectancy. Adult mortality in Uganda rose sharply in the late 1980s and early 1990s. In the six-year period from 1989 to 1995, men's death rates nearly doubled and women's death rates more than doubled. The probability of dying

Figure 7.1
Number of AIDS cases reported in Uganda from 1983-2001



Source: Data from Ministry of Health HIV/AIDS Surveillance Reports, June 2002.

between 15 and 60 years of age was 56% for women in 1995 as compared to 28% in 1989, just six years earlier. For men 15-60 years of age, the probability of dying increased from 37% in 1989 to 55% in 1995 (Timaeus, 1998). Life expectancy is currently estimated to be 43 years, 20% lower than a life expectancy of 54 years that would be expected in the absence of AIDS (U.S. Census Bureau, 2000).

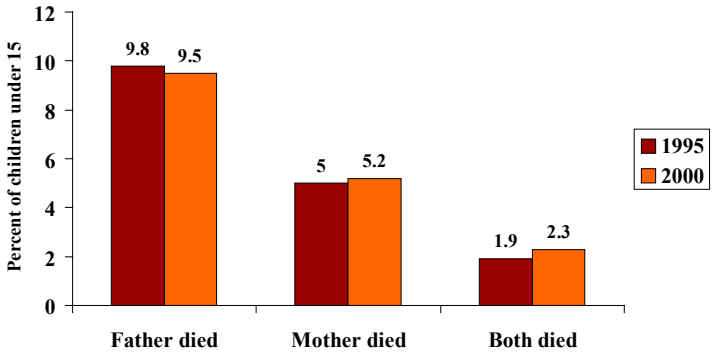
High adult mortality and lowered life expectancy have also been documented in a population-based study in Masaka in central Uganda. HIV prevalence was 8% in 1989 and over 40% of adult deaths in the study population over the next five years were attributable to AIDS. Among women aged 20-44 and men 25-44, over 70% of deaths were attributable to AIDS. Life expectancy in this population was estimated to be about 43 years (Nunn et al., 1997).

Similarly, in a 1990 study in Rakai district where HIV prevalence was estimated to be 13%, adult mortality attributable to HIV was 52% (Sewankambo et al., 1994). A study in the same cohort in the late 1990s found 74% of adult deaths to be attributable to HIV infection; HIV prevalence at the time of the second study was about 16% (Sewankambo et al., 2000).

The impact of the epidemic on child mortality is difficult to quantify as it is both direct and indirect. Because of transmission of HIV from mother to child during pregnancy and post-partum through breastfeeding, a significant number of children are born with HIV and their life expectancy is very short. Even if not HIV infected, children born into households affected by HIV may be at higher risk of death due to lack of proper care and poorer economic conditions.

Much higher levels of mortality among children of HIV-infected mothers have been found in both the Rakai and Masaka cohorts. In the Rakai district in the early 1990s, infant mortality was 209.4 per 1000 infants of HIV-infected mothers and 97.7 per 1000 of uninfected mothers (Sewankambo et al., 1994). More recent results from Masaka found infant mortality to be four times higher among infants of HIV-infected mothers (225/1,000 vs. 53/1,000) and child mortality was over twice as high (313 vs. 114/1,000) (Nakiyingi et al., 2002).

Figure 7.2
Orphanhood in Uganda, 1995-2000



Orphans

The increase in adult mortality results in an increasing number of children who are orphaned. Figure 7.2 presents the percent of children under 15 years of age whose parents have died. In 1995, 10%, of children under 15 years of age had lost their fathers, 5% had lost their mothers, and 2% had lost both their natural parents. In 2000, the percent of children who had lost their parents was similar (UDHS 1995 and 2000/01). These figures are higher than those seen in the neighboring countries of Tanzania in 1999 and in Kenya in 1998. While these figures do not include orphans living in group-settings such as orphanages, this number is likely to be quite small. Estimates of orphans based on data from several sources paint a similar picture. In both 1995 and 2000, it was estimated that over two million children under the age of 15 years had lost one or both parents. Almost one-half of these had lost a parent due to AIDS (USAID, 2000).

In Masaka district in the mid-nineties, 10% of children were found to have lost one or both parents. This study also found that the percent of children that were orphans increased with age with the highest rates of orphanhood (17%) in the in the 10-14 year age group (Kamali et al., 1996).

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Appendix A: DHS Tables

Table 1. Socio-demographic distribution of women and men in the surveys, Uganda 1989-2000.

	Women			Men	
	1989 DHS	1995 DHS	2000 DHS	1995 DHS	2000 DHS
Total sample	4730	7070	7246	1996	1962
Age					
15-19	24	23	22	19	22
20-29	39	40	39	36	32
30-39	23	25	25	26	27
40-49	14	12	14	19	18
Education					
None	38	31	22	12	6
Primary	52	56	60	63	65
Secondary or more	10	13	18	25	29
Marital Status					
Never married	20	16	20	30	34
In union	67	73	67	63	60
Divorced/Widowed	13	12	13	7	5
Residence					
Urban	11	15	17	14	17
Rural	89	85	83	86	83

Table 2A. Trends in knowledge about AIDS among women and men, Uganda 1989-2000.

	1989 DHS	1995 DHS	2000 DHS
Has heard of AIDS			
Women	u	99	100
Men	u	100	100
Knows HIV can be avoided			
Women	u	86	87
Men	u	91	95
Knows AIDS can be avoided by having one/ limiting partners			
Women	u	62	50
Men	u	58	46
Knows AIDS can be avoided by having only one partner			
Women	u	49	49
Men	u	43	43
Knows AIDS can be avoided by limiting partners			
Women	u	22	2
Men	u	24	11
Knows AIDS can be avoided by using a condom			
Women	u	21	54
Men	u	32	72
Knows both ways to avoid AIDS			
Women	u	13	28
Men	u	19	34
Knows HIV can be transmitted from mother to child			
Women	u	85	83
Men	u	84	83
Knows HIV can be transmitted during breastfeeding			
Women	u	61	46
Men	u	56	43
Knows infected person can appear healthy			
Women	u	82	77
Men	u	88	88
Knows HIV cannot be transmitted by mosquitoes			
Women	u	100	92
Men	u	99	100

u: unavailable

Table 2B. Trends in knowledge about AIDS among women and men by residence, Uganda 1989-2000.

	1989 DHS		1995 DHS		2000 DHS	
	Urban	Rural	Urban	Rural	Urban	Rural
Has heard of AIDS						
Women	u	u	100	99	100	100
Men	u	u	100	100	100	100
Knows HIV can be avoided						
Women	u	u	95	84	95	85
Men	u	u	98	90	98	95
Knows infected person can appear healthy						
Women	u	u	91	81	91	74
Men	u	u	93	87	96	86
Knows HIV can be transmitted from mother to child						
Women	u	u	89	84	93	81
Men	u	u	92	83	90	81
Knows HIV can be transmitted during breastfeeding						
Women	u	u	52	63	48	46
Men	u	u	43	58	40	44
Knows HIV cannot be transmitted by mosquitoes						
Women	u	u	100	99	97	91
Men	u	u	99	99	99	100
Knows HIV can be avoided by limiting/having one partners						
Women	u	u	58	62	47	50
Men	u	u	56	59	48	45
Knows HIV can be avoided by limiting partners						
Women	u	u	22	22	5	2
Men	u	u	24	24	6	11
Knows HIV can be avoided by having only one partner						
Women	u	u	44	50	47	50
Men	u	u	38	44	46	42
Knows HIV can be avoided by using a condom						
Women	u	u	44	17	78	50
Men	u	u	58	28	84	70
Knows both ways to avoid HIV						
Women	u	u	23	11	38	26
Men	u	u	29	17	42	32

u: unavailable

Table 3A. Trends in attitudes about AIDS among women and men, Uganda 1989-2000.

	1989 DHS	1995 DHS	2000 DHS
Knows someone with HIV or who has died of AIDS			
Women	u	85	90
Men	u	91	90
Would care for a family member with AIDS[1]			
Women	u	83	84
Men	u	76	88
Feels that they are at risk for HIV transmission			
Women	u	78	u
Men	u	61	u

1. among respondents who have heard of AIDS
u: unavailable

Table 3B. Trends in attitudes about AIDS among women and men by residence, Uganda 1989-2000

	1989 DHS		1995 DHS		2000 DHS	
	Urban	Rural	Urban	Rural	Urban	Rural
Knows someone with HIV or who has died of AIDS						
Women	u	u	94	84	95	90
Men	u	u	96	91	97	89
Would care for a family member with AIDS[1]						
Women	u	u	89	82	88	84
Men	u	u	88	74	93	87
Feels that they are at risk for HIV transmission						
Women	u	u	86	77	u	u
Men	u	u	77	58	u	u

1. among respondents who have heard of AIDS
u: unavailable

Table 4A. The proportions of men and women engaging in recent sexual behavior, Uganda 1989-2000.

	1989 DHS	1995 DHS	2000 DHS
Sexual Abstinence			
No sex during the past month			
Women	41	40	44
Men	u	42	44
No sex during the past year			
Women	18	23	23
Men	u	25	26
Never had sex, youth 15-19			
Women	38	38	48
Men	u	52	61
Premarital Sex			
Premarital sex during past month[1]			
Women	13	7	9
Men	u	13	12
Premarital sex during past year[1]			
Women	36	22	27
Men	u	33	31
Multiple partnerships			
One or more non-regular partners in the past year[2, 6]			
Women	u	12	14
Men	u	29	28
Two or more non-regular partners in the past year[3, 6]			
Women	u	2	1
Men	u	9	8
Sex with person other than spouse in past year[4]			
Women	u	2	3
Men	u	14	12
Two or more partners in the past year, sexually active singles[3,5]			
Women	u	11	6
Men	u	29	31

1. Includes never married men and women aged 15-24 years
2. A non-regular partner is defined as a non-marital/non-cohabiting sexual partner
3. In the 1995 survey, the time frame was the past six months
4. Includes respondents in marital or cohabiting unions
5. Includes non-married respondents who had sex in the past year
6. Includes respondents who had sex in the past year

u: unavailable

Table 4B. The proportions of men and women engaging in recent sexual behavior by residence, Uganda 1989-2000.

	1989 DHS		1995 DHS		2000 DHS	
	Urban	Rural	Urban	Rural	Urban	Rural
Sexual Abstinence						
No sex during the past month						
Women	46	41	47	39	51	42
Men	u	u	43	42	54	42
No sex during the past year						
Women	19	17	31	22	28	22
Men	u	u	23	25	27	26
Never had sex, youth 15-19						
Women	34	38	41	38	46	48
Men	u	u	42	54	52	63
Premarital Sex						
Premarital sex during past month[1]						
Women	18	12	10	6	13	8
Men	u	u	20	12	19	10
Premarital sex during past year[1]						
Women	50	33	27	21	37	24
Men	u	u	45	31	47	27
Multiple partnerships						
One or more non-regular partners in the past year[2, 6]						
Women	u	u	22	10	25	12
Men	u	u	43	28	49	24
Two or more non-regular partners in the past year[3, 6]						
Women	u	u	3	2	2	1
Men	u	u	13	8	16	6
Sex with person other than spouse in past year[4]						
Women	u	u	4	2	3	2
Men	u	u	20	13	19	11
Two or more partners in the past year, sexually active singles[3,5]						
Women	u	u	9	11	7	5
Men	u	u	28	29	35	29

1. Includes never-married men and women aged 15-24 years
2. A non-regular partner is defined as a non-marital/non-cohabiting sexual partner
3. In the 1995 survey, the time frame was the past six months
4. Includes respondents in marital or cohabiting unions
5. Includes non-married respondents who had sex in the past year
6. Includes respondents who had sex in the past year

u: unavailable

Table 5A. Proportion of women and men reporting knowledge and use of condoms, Uganda 1989-2000

	1989 DHS	1995 DHS	2000 DHS
Aware of condoms			
Women	33	76	88
Men	u	89	97
Knows where to get condoms			
Women	22	32	53
Men	u	60	77
Has ever used condoms[1]			
Women	1	6	16
Men	u	16	40
Used condoms during last sex with non-regular partner[2]			
Women	u	20	38
Men	u	36	59

1. includes respondents who have had sex in the past year
2. includes respondents who reported having at least one non-regular partner during the last year. Non-regular partners were those with whom the respondent had sex but who were not spouses or in cohabiting unions.
u: unavailable

Table 5B. Proportion of women and men reporting knowledge and use of condoms by residence, Uganda 1989-2000

	1989 DHS		1995 DHS		2000 DHS	
	Urban	Rural	Urban	Rural	Urban	Rural
Aware of condoms						
Women	62	29	92	76	97	86
Men	u	u	97	87	99	97
Knows where to get condoms						
Women	48	18	59	28	85	47
Men	u	u	85	55	96	73
Has ever used condoms[1]						
Women	4	1	24	3	40	11
Men	u	u	41	12	74	34
Used condoms during last sex with non-regular partner [2]						
Women	u	u	46	11	59	30
Men	u	u	62	29	80	50

1. Includes respondents who had sex in the past year
2. Includes respondents who reported having at least one non-regular partner during the last year. Non-regular partners were those with whom the respondent had sex but who were not spouses or in cohabiting unions
u: unavailable

Appendix B: GPA Tables

Table 1. Socio-demographic distribution of women and men in the 1989 survey of 8 districts and 1995 survey of 4 districts, WHO/GPA surveys.

	Women		Men	
	1989	1995	1989	1995
Total sample	1429	3089	1649	2277
Age				
15-19	19	23	13	18
20-29	44	39	36	36
30-39	24	26	25	27
40-49	11	12	16	18
50+	2	0	10	0
Marital Status				
Never Married	u	20	u	27
Married	65	68	62	67
Divorced/Widowed	u	12	u	6
Residence[1]				
Urban	39	36	34	35
Rural	61	64	66	65
Education				
No formal education	27	29	12	9

1. All cities, towns and trading centers are considered urban, while villages are considered rural.

Table 2. Proportion of women and men with knowledge of AIDS, 8 districts of Uganda, 1989 WHO/GPA Survey.

	Total	Urban	Rural
Has heard of AIDS			
Women	97	99	95
Men	97	98	97
Knows HIV can be avoided			
Women	84	88	83
Men	88	91	88
Knows infected person can appear healthy			
Women	50	64	41
Men	54	67	48
Knows HIV cannot be transmitted by mosquitoes[2]			
Women	21	27	18
Men	30	38	27
Knows HIV can be transmitted from mother to child			
Women	83	90	79
Men	86	93	84
Knows someone with HIV or who has died of AIDS			
Women	54	65	46
Men	60	74	53
Feels that they are at risk for HIV transmission[1]			
Women	52	55	49
Men	54	62	51

1. An additional 23% of women and 17% of men respondent that they were unsure if they were at risk.
2. Based on responding "no" to a probed question as to whether you can get AIDS from being bitten by a mosquito.

Table 3. The percent of women and men engaging in recent sexual behavior, 1989 survey of 8 districts and 1995 survey of 4 districts, WHO/GPA surveys.

	1989 GPA			1995 GPA		
	Total	Urban	Rural	Total	Urban	Rural
Sexual Abstinence						
No sex during the past year						
Women	17	15	17	26	34	21
Men	15	15	14	23	27	21
Never had sex, youth 15-19						
Women	26	19	31	49	56	44
Men	32	27	35	58	63	57
Premarital Sex						
Premarital sex during past year[1]						
Women	53	65	46	16	25	6
Men	60	61	59	23	30	18
Multiple partnerships						
One or more non-regular partners in the past year						
Women	23	29	20	9	12	18
Men	41	45	39	21	32	15
Sex with person other than spouse in past year[2]						
Women	6	6	6	6	7	6
Men	23	26	21	16	24	12
Two or more partners in the past year, sexually active singles[3]						
Women	22	20	25	17	22	9
Men	54	52	55	33	36	28

1. Includes men and women 15-24 years who are not currently married.
2. Includes respondents in marital or cohabiting unions.
3. Includes non-married respondents who had sex in the past year.

Table 4. Proportion of women and men reporting knowledge and use of condoms, 1989 survey of 8 districts and 1995 survey of 4 districts, WHO/GPA surveys.

	1989 GPA			1995 GPA		
	Total	Urban	Rural	Total	Urban	Rural
Aware of condoms						
Women	49	66	38	87	95	83
Men	65	81	57	94	98	93
Knows where to get condoms						
Women	14	21	9	28	59	15
Men	27	40	20	48	79	33
Has ever used condoms[1]						
Women	7	8	5	20	42	10
Men	15	19	13	30	59	15

1. Has ever used a condom with a regular or marital partner among respondents who had sex in the last year.

Appendix C: Comparability of Uganda GPA and DHS Surveys

The Global Programme on AIDS (GPA) Surveys were conducted in many countries throughout the late 1980s and early 1990s before other large surveys had begun to focus on HIV/AIDS and respondents' knowledge of it. Thus, for some countries, these surveys provide the only source of data on knowledge, attitudes, behaviors, and practices related to HIV/AIDS at a time when the epidemic was emerging. While certain indicators calculated from these data are useful, the methodology, the questionnaire design, and the wording of the questions differ from those of later surveys making it difficult to compare some indicators across time. Samples coverage also varied and was not always nationally representative even in surveys with broad national coverage.

In Uganda, GPA surveys were conducted in 1989 and 1995 though sample coverage and questionnaires differed substantially. While the 1989 survey is often referred to as a national survey, it was conducted in 8 districts and was designed to over-represent Kampala, the capital. The 1995 survey covers four districts. As detailed information on the sampling procedures are not available, and sample weights were not calculated, it is not possible to adjust for the non-representativeness of the sample. This has implications when assessing trends across GPA surveys as well as between GPA and later surveys such as the DHS.

Table C1 presents a comparison of background characteristics of the female samples included in the 1989 and 1995 GPA surveys and the 1989 and 1995 DHS. The distribution of the women by age across surveys is very similar, as is the distribution of women by current marital status. The greatest differences are in the geographic representations of the samples. Thirty-one percent of the respondents in the 1989 GPA survey reside in Kampala as do 27% in the 1995 GPA survey. This compares to 6% and 7% in the DHS surveys conducted the same years. As a result, 39% of the 1989 GPA respondents and 36% of the 1995 GPA respondents are considered to be urban dwellers as compared to 12% and 15%, respectively, of the DHS respondents. Definitions of residence also differ between the GPA and DHS surveys. In the GPA, residents of all cities, towns, and trading centers are considered urban while residents of villages are considered to be rural. In the DHS, women living in clusters located in localities with a population size greater than 1,000 are considered to be urban. As indicators of sexual behavior vary by urban-rural residence as well as by region, comparison of indicators between the surveys can be problematic. For example, data from both the GPA and DHS surveys indicate that higher-risk sexual behavior is most common in the central region (which includes Kampala) and in the eastern region of the country, and least common in the southwest.

The differences in urban-rural residence are reflected in the distribution of female respondents with respect to education and household amenities, a measure of socio-economic status. In 1989, a larger percentage of women in the DHS had no formal education as compared to the GPA. No such differences exist between the 1995 surveys. Respondents in the 1989 GPA were also much more likely to have amenities in the household such as electricity, radios, and television than were respondents in the DHS that same year. Even when stratified by residence, respondents in the GPA survey were more likely to have these amenities than their counterparts in the DHS. Unfortunately, the 1995 GPA collected little background information on respondents so comparisons with the 1995 DHS are not possible on these variables. The percent of women with no formal education is smaller in the GPA than in the DHS in 1989. What is interesting is that the percent of women with no formal education is similar in the 1995 GPA and DHS surveys, despite large differences in distribution on respondents by urban-rural residence. (Thus, if one were interpreting changes in education status of women based on GPA data, one would conclude that there was no change in the percent of women receiving formal education between 1989 and 1995.

Yet based on DHS data over the same five-year period, more women are receiving formal schooling.)

A comparison of indicators of sexual activity among young women between the GPA and DHS surveys yielded some interesting findings. The 1989 GPA reported higher levels of sexual activity among adolescent females than did the 1989 DHS. This may be attributable in part to the urban bias in the GPA as sexual activity appears to start slightly earlier in urban areas. This difference remains, however, when stratified by urban-rural residence. Unfortunately, no other indicators for women and none for men can be compared across surveys in 1989.

When comparing the 1995 surveys, the GPA survey reports lower levels of sexual activity among adolescent men and women as compared to the DHS, the reverse of what was found when comparing the 1989 surveys. Differences are apparent when comparing the urban and the rural samples in each survey. Among women, overall estimates of sexual activity in the past 12 months, sex with non-regular partners, and casual sex are similar between the two surveys though differences are apparent when stratified by residence. In contrast, ever use of condoms by women is three times higher in the GPA than in the DHS. For men, however, the GPA survey appears to underestimate sexual activity as compared to the DHS. A much larger percent of men report non-regular partners and casual partners in the DHS and the differences are apparent among both urban and rural residents. Levels of extramarital sex, however, are similar. As with women, ever use of condoms is much higher among men in the GPA survey (a two-fold difference). It is not clear why levels of sexual activity are lower (and condom use is higher) in the GPA than in the DHS conducted the same year.

An assessment of trends in sexual activity among youth in the early nineties using the GPA data would yield much larger reductions in sexual activity than would similar comparisons using the DHS. While it is not possible to assess differences in trends across surveys of sexual partnerships, the lower levels of non-regular and casual partnerships among men in the 1995 GPA indicate that the same may be true. Differences between surveys may be related to differences in questionnaires (there are large differences between the 1989 GPA and the 1995 GPA and DHS questionnaires), sample coverage, or survey implementation. While the GPA data are valuable in helping to understand the changes that occurred in Uganda during the early nineties, these limitations should be considered when interpreting the findings.

Table C1. Comparison of demographic characteristics of female samples in 1989 and 1995 Uganda DHS and 1989 and 1995 WHO/GPA surveys.

	GPA 1989	UDHS 1989	GPA 1995	UDHS 1995
Total sample	1429	4730	3089	7070
Age				
15-19	19	25	23	23
20-24	21	21	21	22
25-39	46	41	44	43
40-49	11	13	12	12
50+	2	0	0	0
Marital Status				
Currently Married	65	67	68	73
Formerly Married	u	13	12	12
Never Married	u	20	20	16
Region[1]				
Kampala	31	6	27	7
Eastern	20	28	u	25
Central	26	25	u	21
Western	23	36	u	28
Northern	0	6	u	20
Residence[2]				
Urban	39	12	36	15
Rural	61	88	64	85
No formal education	27	38	29	31
Amenities in HH				
Electricity	24	7	u	9
Radio	53	28	u	44
Television	7	2	u	5

u: unavailable

1. Based on district groupings from 1989 UDHS.

2. Definitions of urban-rural residence differ between GPA and DHS surveys. In the GPA surveys, all cities, towns and trading centers are considered urban, while villages are considered rural. In the DHS, all clusters located in localities with a population size of greater than 1000 are considered urban.