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**TRENDS AND PATTERNS OF HIV/AIDS INFECTION
IN SELECTED DEVELOPING COUNTRIES**

**Country Profiles
November 1992 Update**

**Health Studies Branch
Center for International Research
U. S. Bureau of the Census
Washington, DC 20233**

**Research Notes
No. 8
December 1992**

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Preface

The Center for International Research conducts specialized studies of population, economics, labor force, health and aging issues. However, the use of data not generated by the U.S. Bureau of the Census precludes performing the same statistical reviews normally conducted on Census Bureau data.

This research note is a compilation of briefing materials by country resulting from analysis conducted in the Health Studies Branch. This research note is intended for a rapid dissemination of results to a specialized audience, highlighting recent developments and emerging trends. Reports containing a more thorough presentation and discussion of research findings will continue to be issued in the Center for International Research Staff Paper series.

The preparation of this report was supported by funding from the U.S. Agency for International Development.

This briefing was compiled by the staff of the Health Studies Branch, including Jinkie Corbin, Blanche Lewis, and Edith Robinson. Comments and questions regarding this study should be addressed to: Karen Stanecki or Peter Way, Health Studies Branch, Center for International Research, U.S. Bureau of the Census, Washington, D.C. 20233-3700; telephone (301)763-4086.

TRENDS AND PATTERNS OF HIV INFECTION IN SELECTED DEVELOPING COUNTRIES

Introduction

A critical issue for policy makers and program planners in the development assistance community is current status and trends over time in the spread of HIV infection and the AIDS epidemic in developing countries. The identification of "hot spots" of the spread of infection is important in decision-making regarding the allocation of scarce program funds.

Until recently, data on levels of HIV infection for developing countries were not sufficiently voluminous to allow any but a one-time snapshot of the situation in a particular region or country. However, this picture is rapidly changing as repeated surveys and sentinel surveillance projects established over the past several years begin to use consistent methods of HIV serologic data collection over a period of years. These data are being compiled by the Center for International Research and are the focus of this report.

The data presented in each country profile were drawn from the *HIV/AIDS Surveillance Database*, a compilation of HIV seroprevalence information contained in journals, articles and public presentations. The database was developed and has been maintained at the U.S. Bureau of the Census since 1987, with funding support from the Africa Bureau and the Office of Health AIDS Division, U.S. Agency for International Development. Currently, the database contains over 14,000 individual data records drawn from over 1,900 publications and presentations. Although every attempt has been made to present the most reliable data, given the quality of the original data, the trends and patterns described should be considered tentative indications, rather than precise estimates, of the problem. Therefore, caution should be used in drawing conclusions.

These country profiles examine the patterns and trends of the epidemic using the best of the imperfect data available. In order to minimize the biases and confusion in using current seroprevalence estimates, we have developed several criteria to select the most representative sample estimate: larger samples are generally favored over smaller samples; more recent estimates are selected over older estimates, and better documented data are usually selected over poorly documented data. Each briefing highlights patterns of infection within population subgroups, patterns of infection by age, by sex, by race, and recent time trends in infection levels.

This research note is an update of and a supplement to research note #5 - **Trends and Patterns of HIV/AIDS Infection in Selected Developing Countries – Country Profiles**. This update highlights the most recent information for countries reported earlier as well as additional profiles. We make no attempt to duplicate any country profiles that are available in research note #5. A copy of research note #5 can be obtained upon request.

As before, these profiles have been 3-hole punched for use in a loose leaf binder for ease of insertion or substitution of new profiles.

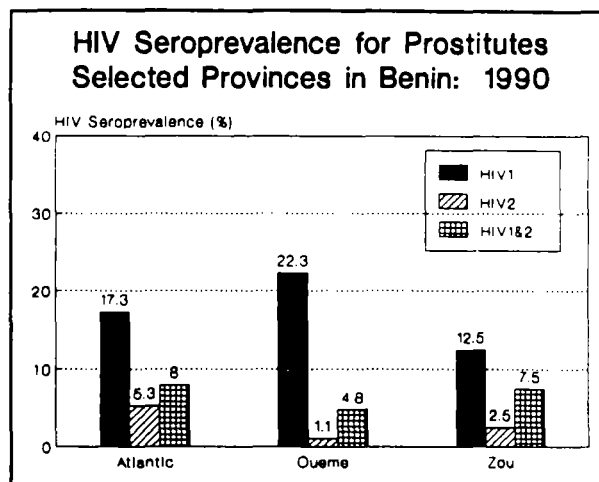
We welcome copies of articles or reference to information which may have been overlooked.

AFRICA

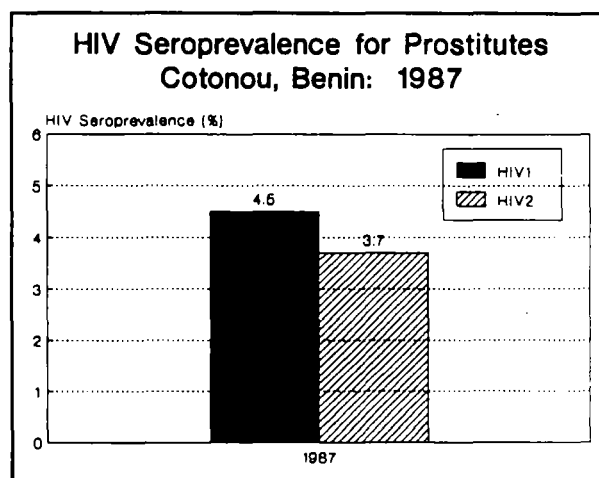
Benin

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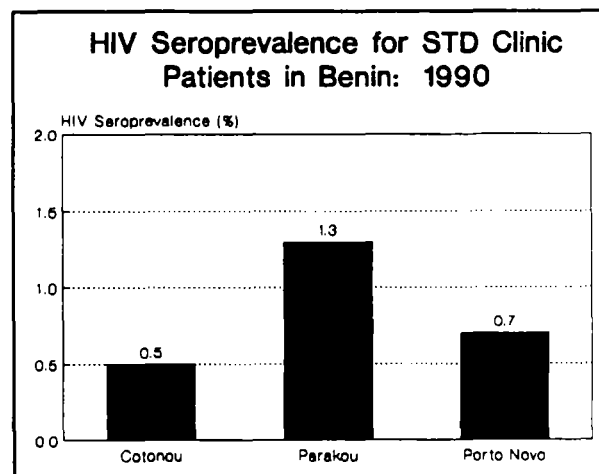
- The levels of HIV infection in prostitutes vary by province in Benin for 1990. In all cases, however, the level of HIV1 is much higher than HIV2 or dual infection levels. Female prostitutes appear to be at higher risk for infection with either virus than other groups in Benin.



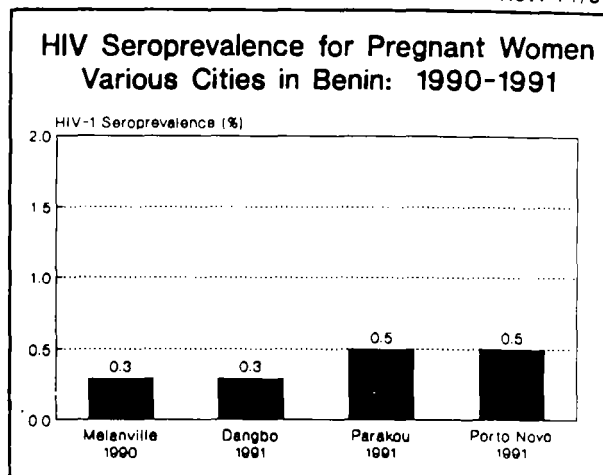
- In another study conducted among prostitutes in Cotonou for the year 1987 shows levels of HIV1 infection to be 4.5 percent and HIV2 infection, 3.7 percent. By now, HIV infection in this population group has likely reached levels several times higher than that recorded in 1987.



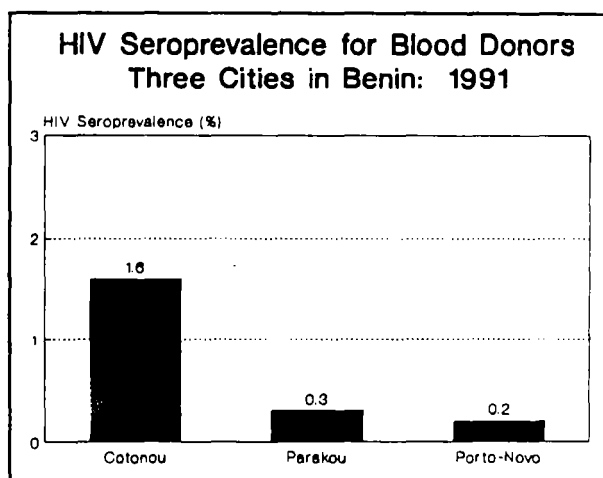
- A study of HIV seroprevalence among sexually transmitted diseases clinic attendees found relatively low HIV levels in 1990 although considerable regional variation exists.



- HIV infection levels among pregnant women from different cities of Benin are relatively low according to these studies. In 1990, Melanville had an infection level of 0.3 percent. In 1991, Dangbo showed HIV infection levels of 0.3 percent while Parakou and Porto Novo showed 0.5 percent infection among pregnant women.



- The levels of HIV infection among blood donors during the first semester of 1991 was low for two cities outside the capital, while it was several times higher in Cotonou.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

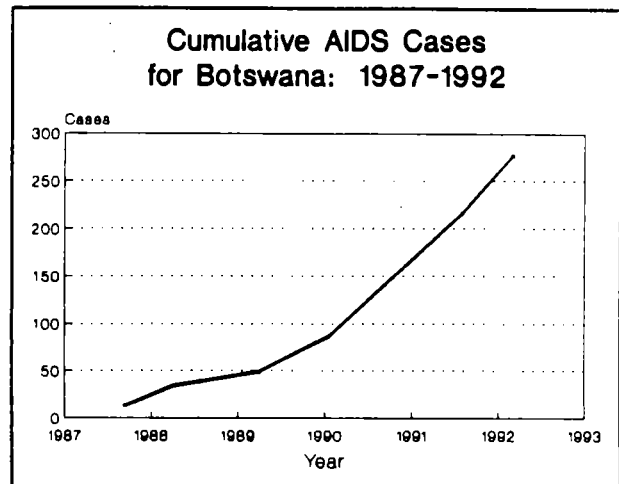
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Botswana

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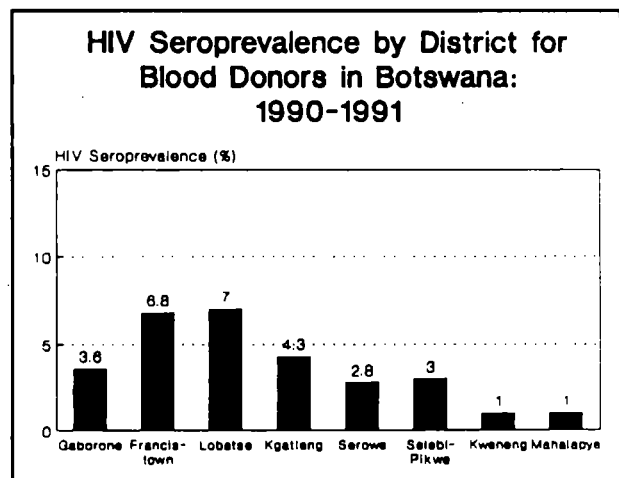
- Through 1992, Botswana has reported a total of 277 AIDS cases to the World Health Organization. The latest report was as of March 1, 1992. The reported data shows a steady increase of AIDS cases. This corresponds to a cumulative incidence of .22 per 1000 population.



Of all the Southern African countries, Botswana may be best able to respond to the AIDS epidemic. This is due to the fact that Botswana has one of the best medical systems in the region, thus most AIDS cases may be properly identified.

There have been few studies of HIV infection published in Botswana. Those studies reported between 1985-87 showed no evidence of HIV infection among general population, pregnant women and STD clinic patients.

- However, recent data for blood donors shows HIV infection ranging from 1 percent to 7 percent in various districts. Clearly, the HIV infection has made its presence known and preventive measures must be adapted to reduce the spread of the virus.



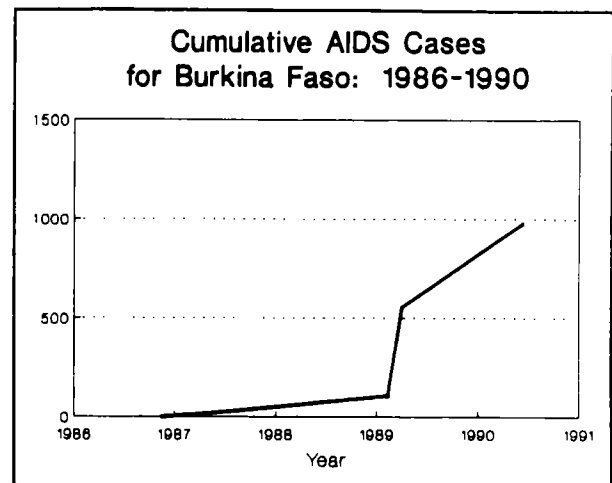
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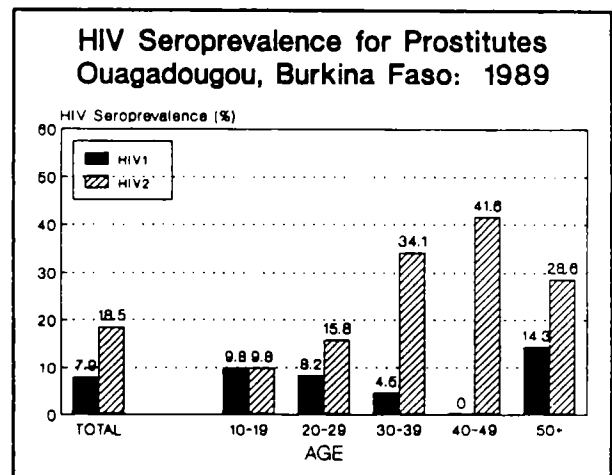
Burkina Faso

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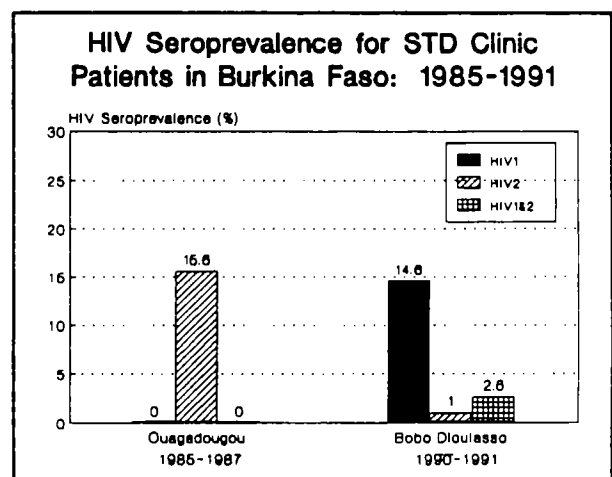
- Burkina Faso has reported only 978 cumulative AIDS cases to the World Health Organization. However, it has not updated its figures since June 11, 1990. Based on the last reported AIDS update, the cumulative AIDS incidence rate is .11 cases per 1,000 population for Burkina Faso.



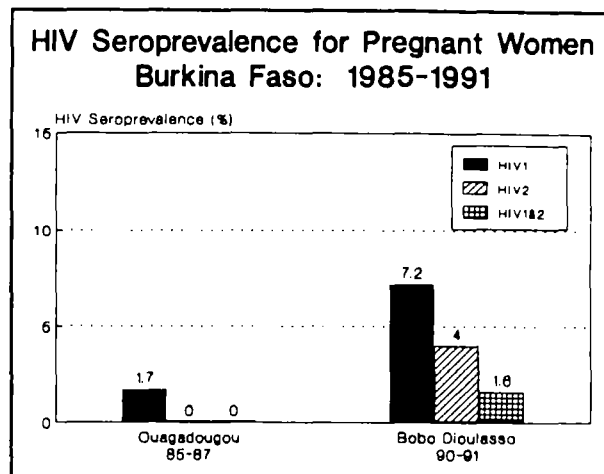
- Among groups who engage in high-risk sexual behavior, such as commercial sex workers, high levels of HIV infection have been reported. Evidence of this is shown in a study of prostitutes in Ouagadougou. By age, HIV-1 levels ranged from 0 to 14.3 percent with those 50+ most infected. HIV-2 levels ranged from 9.8 to 41.6 percent, with a maximum in ages 40-49.



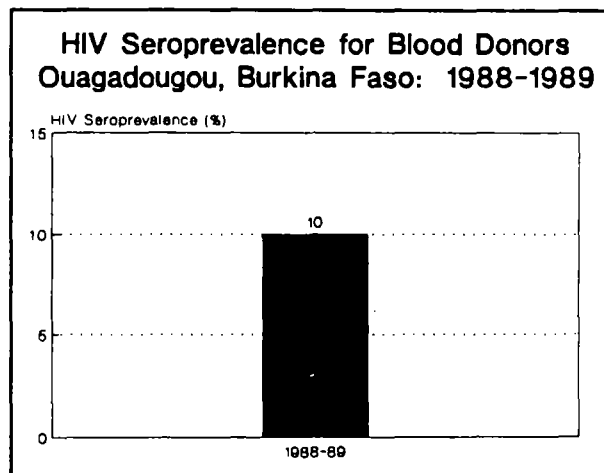
- Early studies among a small sample of sexually-transmitted disease patients in Ouagadougou showed evidence only of HIV-2 infection. In a more recent study in Bobo Dioulasso, HIV levels were 14.6, 1.0 and 2.6 percent for HIV-1, HIV-2 and dual infection, respectively. Both viruses are present in Burkina Faso as indicated in these studies.



- Early studies done among a small sample of pregnant women in Ouagadougou during February 1985 and January 1987 showed the HIV-1 infection level to be 1.7 percent, with no evidence of HIV-2 or dual infection. More recently, a study in Bobo Dioulasso reported HIV-2 and dual infection levels under 5 percent and an HIV-1 level of 7.2 percent. Thus, HIV has made substantial inroads into this population of relatively low risk.



- There have been very few studies published on HIV seroprevalence among blood donors in Burkina Faso. However, one study in the capital city, Ouagadougou, showed the overall HIV prevalence rate to be 10 percent among blood donors in 1988-89.



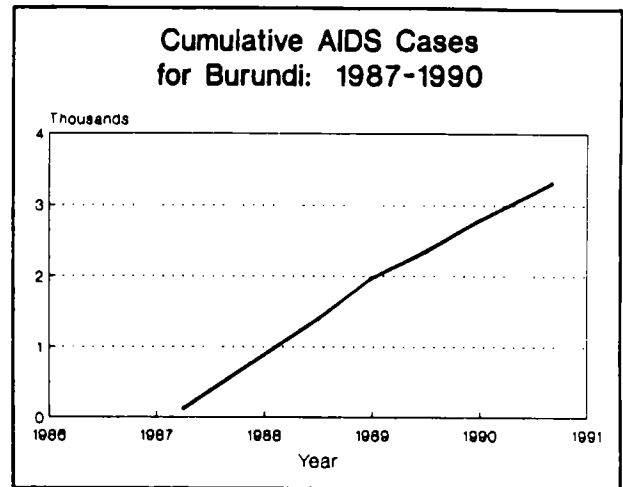
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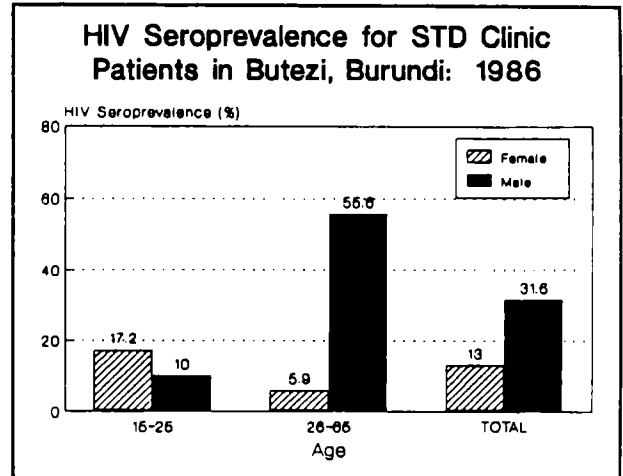
Burundi

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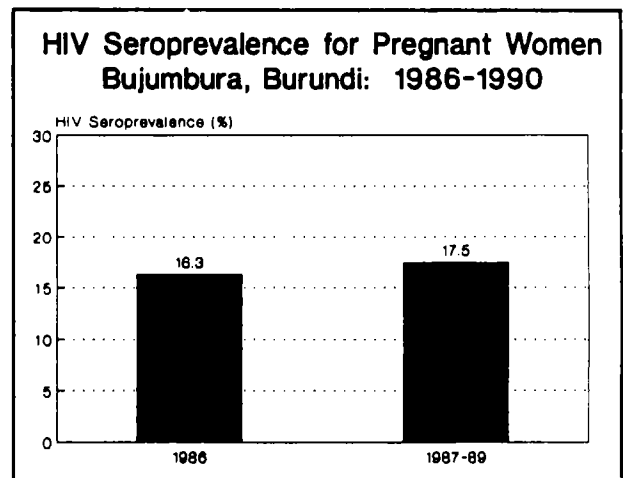
- The cumulative number of AIDS cases reported by Burundi to the World Health Organization has increased rapidly. The cumulative incidence rate of .58 per 1,000 population places Burundi among the highest rates within Africa.



- There is a limited amount of data on the prevalence of HIV infection in Burundi. However, a hospital-based survey in Butezi, a rural area in Ruyigi region, shows elevated levels of HIV infection among high risk groups. Among the STD clinic patients, 31.6 percent of males were infected, almost triple the HIV level for females, 13 percent.



- Two seroprevalence studies of pregnant women attending antenatal clinics in Bujumbura reported the levels of HIV infection to be 16.3 percent in 1986 and 17.5 percent in 1987-89.



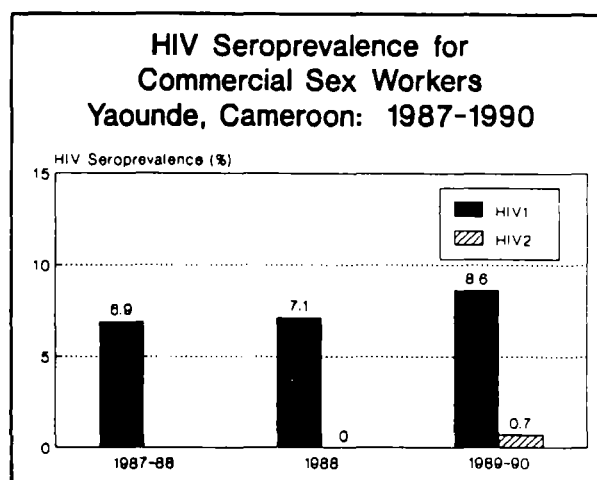
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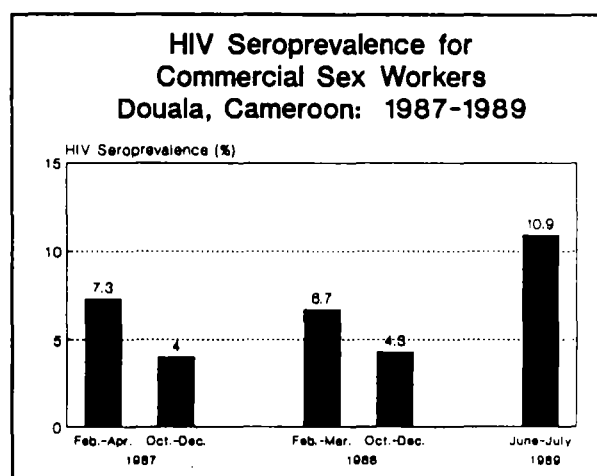
Cameroon

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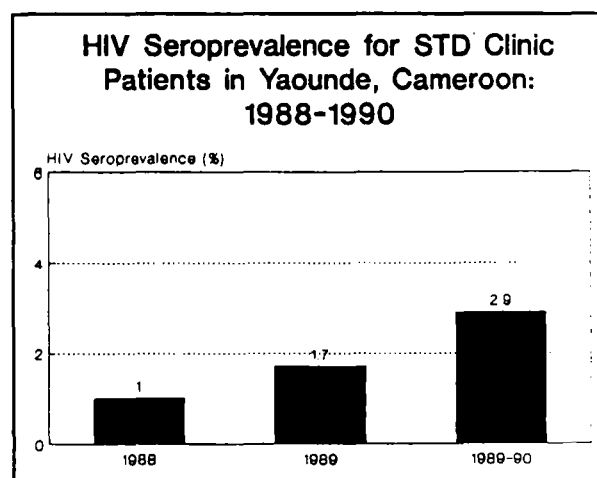
- In Yaounde, the HIV infection level among commercial sex workers increased from 6.9 percent in 1987-88 to 8.6 percent in the 1989-90 time period. HIV2 was absent in 1988 but was detected in 1989-90.



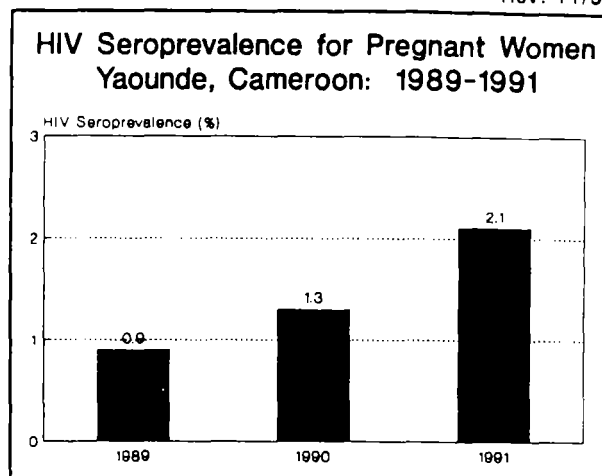
- The levels of HIV infection in commercial sex workers in Douala nearly doubled from 6 percent to 10.9 percent from 1987 to 1990.



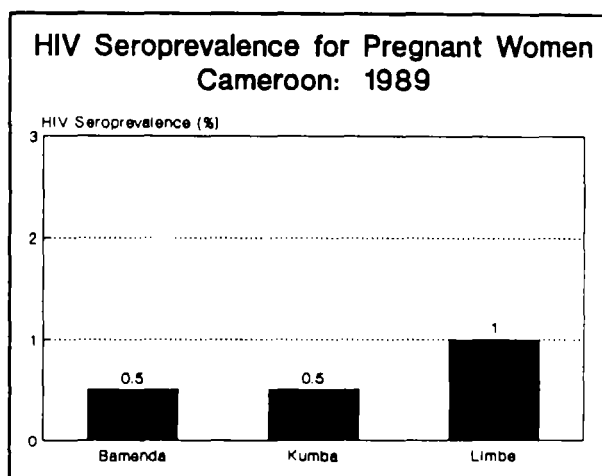
- Studies have shown that among sexually-transmitted disease patients in Yaounde, HIV-1 infection levels have been slowly increasing from 1 percent to 2.9 percent. There has been no evidence of HIV-2 infection.



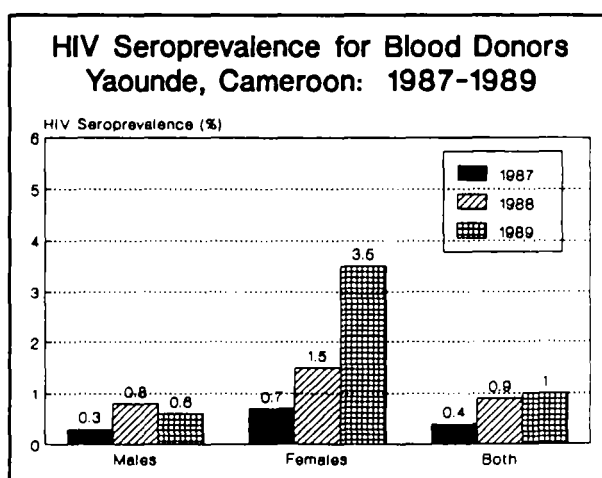
- Since 1989, the percent of HIV positive pregnant women in Yaounde has nearly tripled. The HIV rate increased from 0.9 percent to 2.1 percent.



- In 1989, in the Northwest Province capital, Bamenda, the HIV-1 infection level in pregnant women was 0.5 percent. Two large areas of the Southwest Province had HIV-1 infection levels of 0.5 percent in Kimba and 1.0 percent in Limba, the former capital. There was no evidence of HIV-2 among pregnant women found in these studies.



- In Cameroon the percent of HIV positive blood donors varies by sex. Between 1987 and 1989, the rate increased in women but not in men. The overall rate however has increased just slightly.



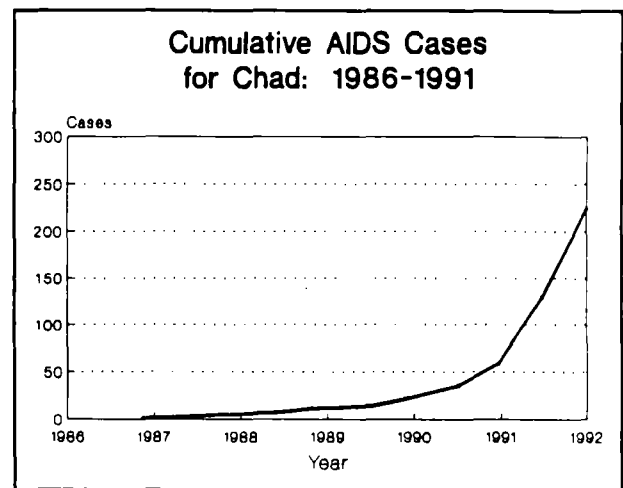
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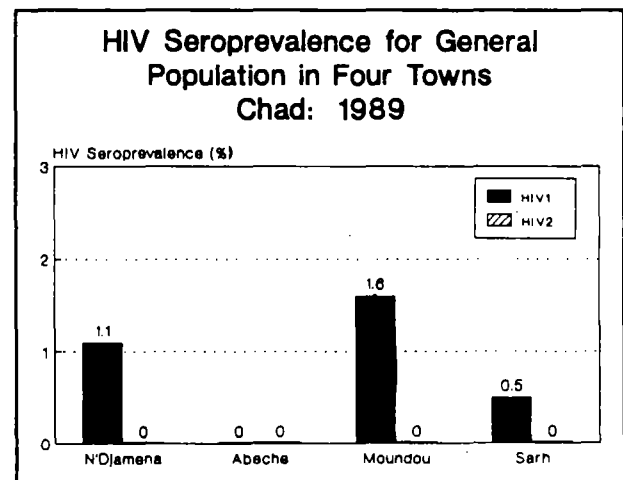
Chad

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- AIDS cases in Chad are slowly increasing. In 1990, Chad reported 59 cumulative AIDS cases to the World Health Organization. In December 1991, they reported an increase in cumulative AIDS cases to 224 cases.



- Seroprevalence data from Chad is very limited. However, a sero-epidemiological survey done in four Chadian towns in 1989 among adults from the general population found levels of HIV-1 infection varying from 0 to 1.1 percent. HIV-2 infection was not detected.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

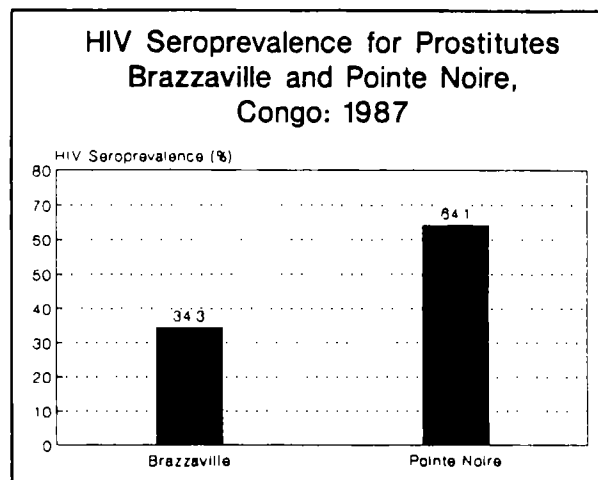
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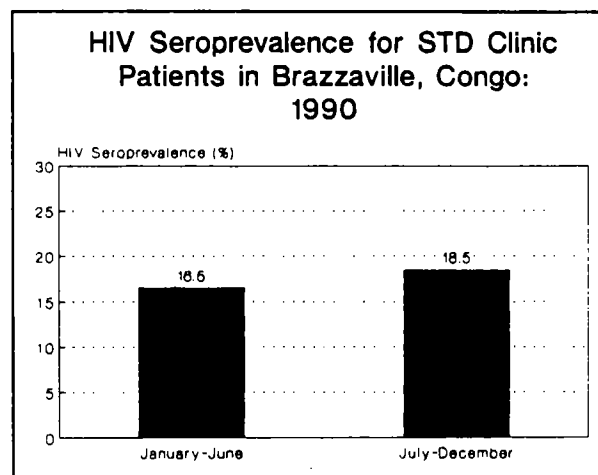
Congo

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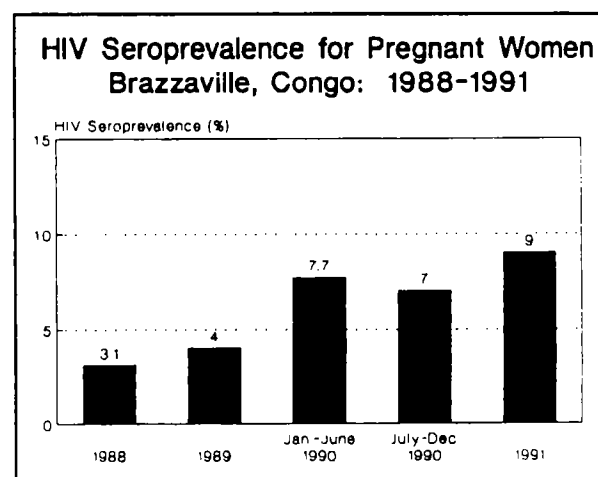
- In 1987, HIV infection was observed to be 34.3 percent among prostitutes in Brazzaville and 64.1 percent among prostitutes in Pointe Noire.



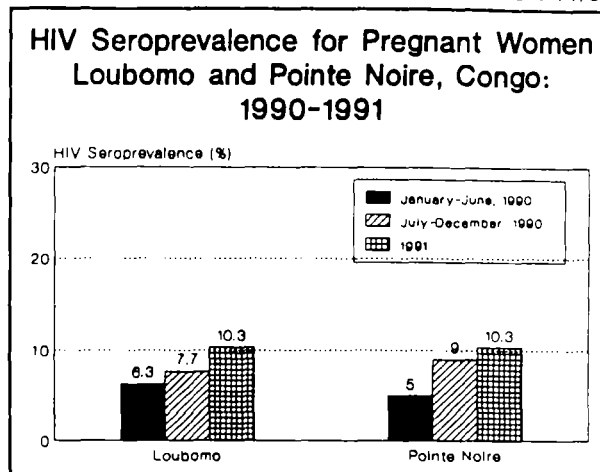
- In two successive 6-month periods in Brazzaville, HIV infection among STD clinic patients increased 2 percentage points from 16.5 to 18.5 percent in July-December 1990.



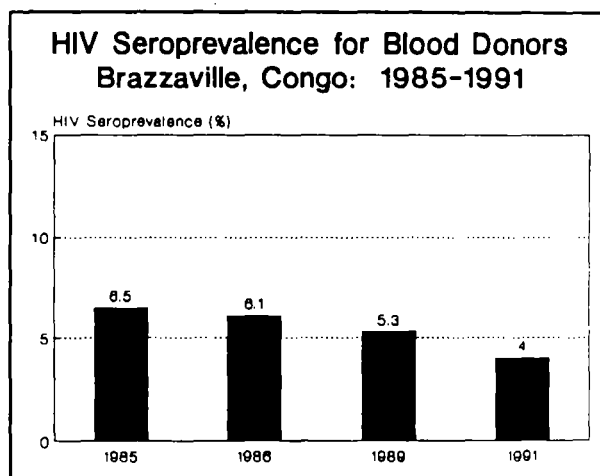
- The rate of HIV infection in pregnant women in Brazzaville tripled in recent years to around 9 percent in 1991.



- Recent studies conducted in Loubomo and in the port city of Pointe Noire have also found HIV infection rates ranging from 5 to 10.3 percent among pregnant women.



- In Brazzaville, studies show that among blood donors, HIV infection decreased over a period of time. This may be attributed to donors who feel they may have been exposed to the virus declining to donate or to donor screening programs.



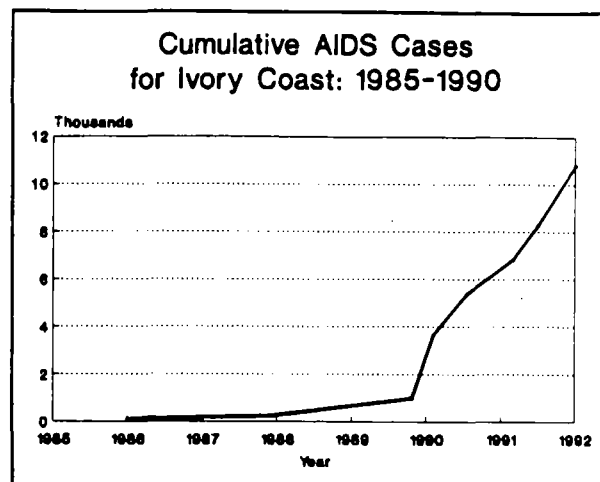
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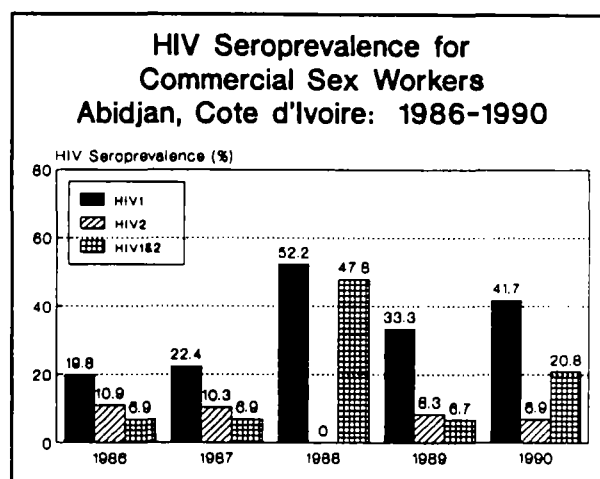
Côte d'Ivoire

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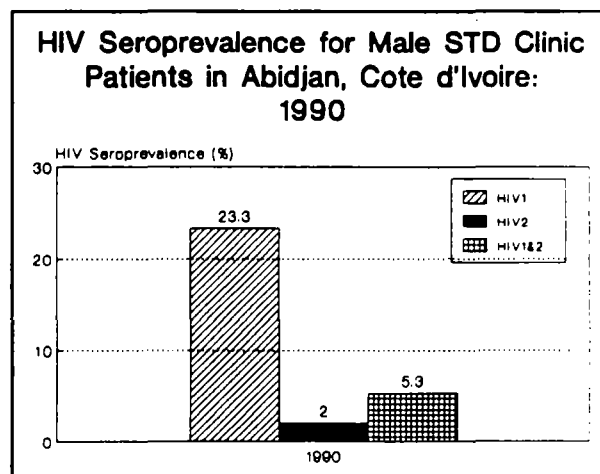
- The cumulative number of AIDS cases reported by Côte d'Ivoire to the World Health Organization has increased rapidly over the past year. This is due to better recognition of AIDS cases by health authorities as well as increasing numbers of cases occurring. By 1990, 0.8 cases were reported per 1,000 population.



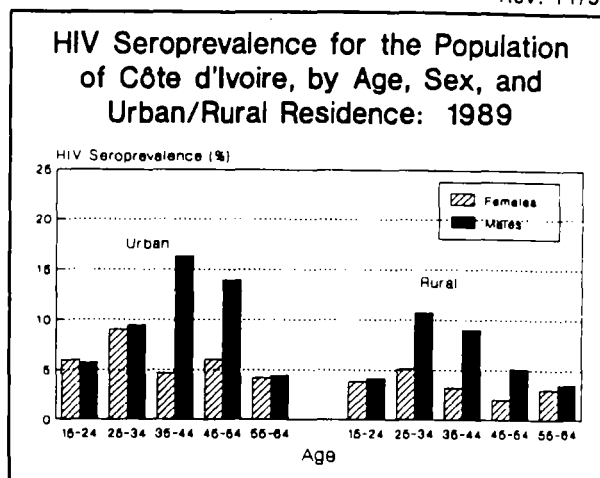
- The rates of HIV infection have increased dramatically in Abidjan between 1986 and 1990. In Abidjan, the rate of HIV-1 infection is higher than the rate of HIV2.



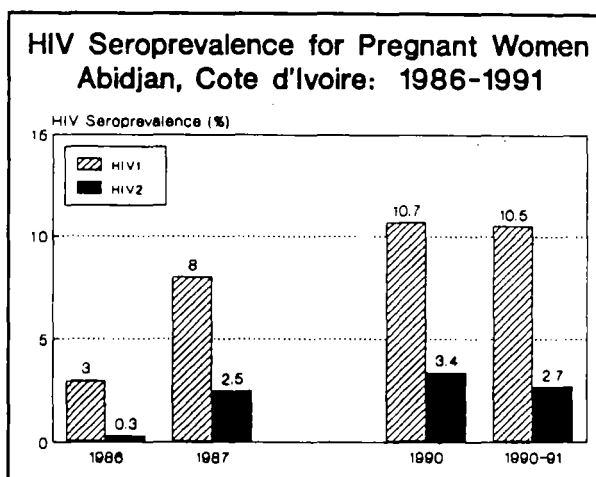
- Samples of males in STD clinics provides the best opportunity to study HIV infection among "high-risk" males. A recent study in Abidjan confirms the exposure of this group to the risk of infection.



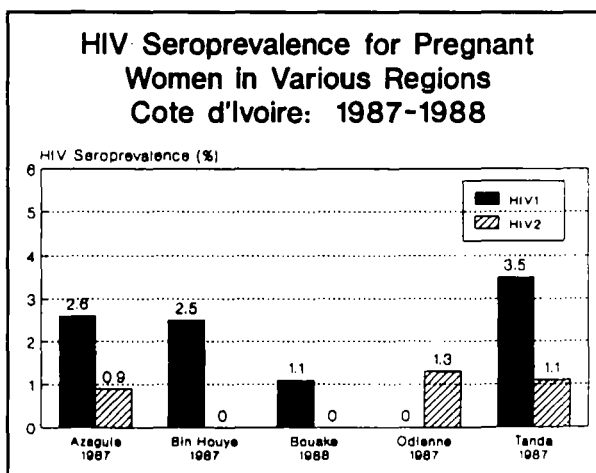
- Age and sex patterns show the HIV prevalence of males tending to be higher than females in the same age groups except for the urban age group 15-24, where females were slightly higher than males.



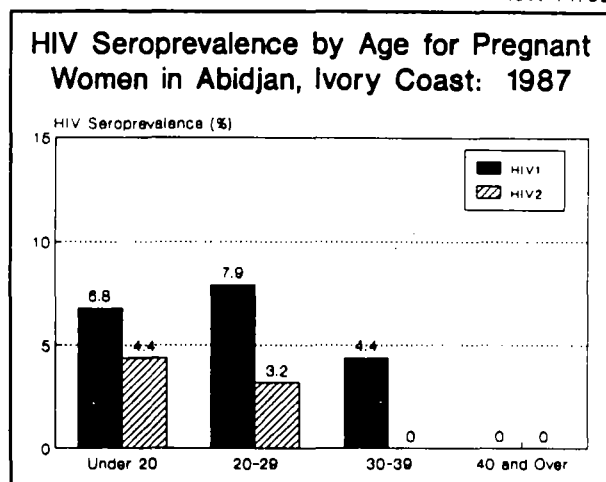
- HIV-1 infection has risen rapidly in pregnant women in Abidjan over the past several years. The rate of HIV-2 infection, however, has remained under 4 percent. Abidjan's infection level now places it among the more infected areas in Africa, surpassing areas which showed higher rates of infection in 1986.



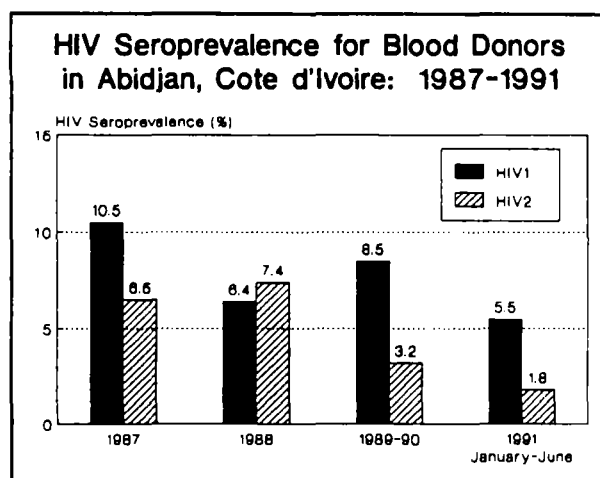
- These studies show that the levels of HIV seroprevalence in pregnant women in Cote d'Ivoire vary by regions. In 1987-88, HIV-1 infection levels ranged from 0 to 3.5 percent while HIV-2 levels varied from 0 to 1.3 percent.



- The pattern of infection by age in Abidjan is similar to that found in other countries, with peak infection levels for women in their twenties. HIV-1 infection in this population is greater than HIV-2.



- Patterns of HIV infection among blood donors in Abidjan over the last several years show a mixed trend. As awareness of AIDS grows in the population, those considering themselves at risk may be declining to donate. HIV-2 is generally found to be less than HIV-1 in this population group.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

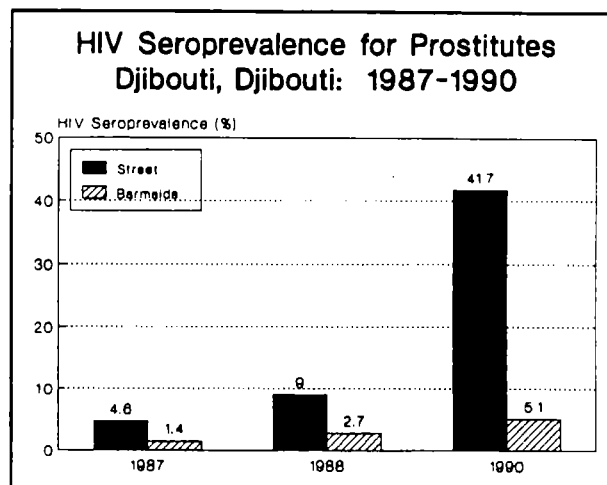
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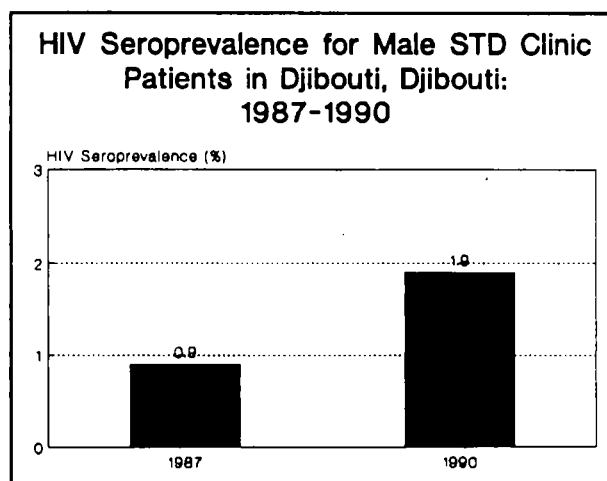
Djibouti

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- The prevalence of HIV infection among prostitutes in Djibouti has increased over the three year period from 1987 to 1990. HIV levels increased dramatically among street prostitutes from 4.6 percent in 1987 to 41.7 percent in 1990. Among barmaids, HIV levels increased moderately from 1.4 percent in 1987 to 5.1 percent in 1990, suggesting that street prostitutes are at greater risk for acquiring HIV.



- Studies conducted among sexually transmitted diseases patients in 1987 and 1990 showed seroprevalence levels of 0.9 percent and 1.9 percent respectively, in the capital city, Djibouti. Although levels of HIV infection vary considerably across Africa, the infection level observed in Djibouti within this risk group was lower than studies from other East African countries.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, 1992.

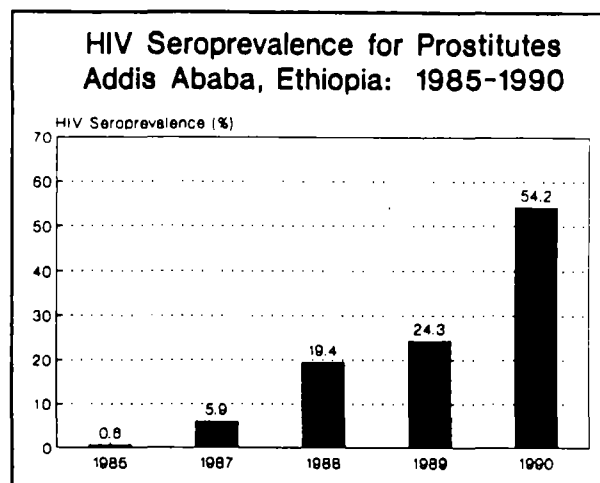
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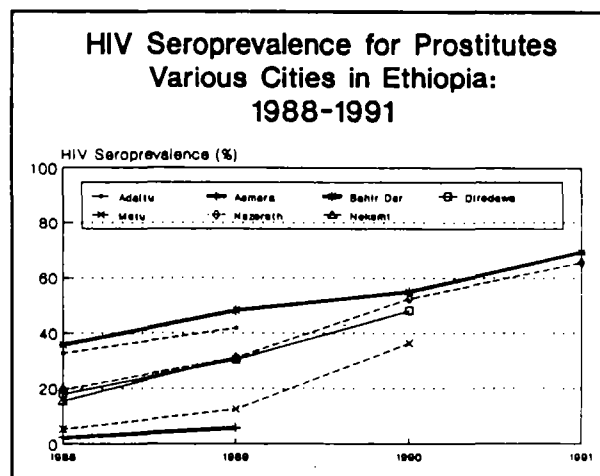
Ethiopia

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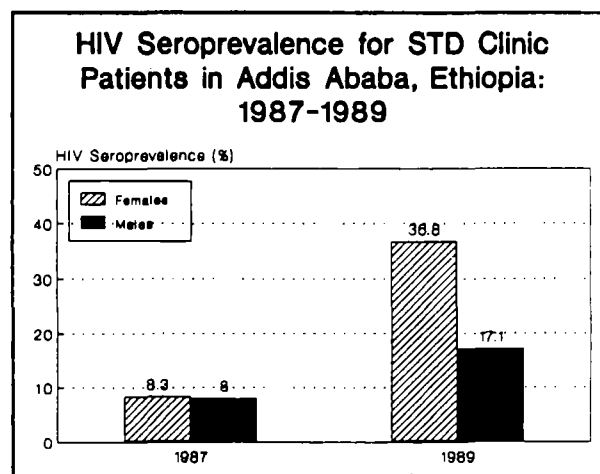
- In high risk populations, significant levels of HIV infection have been seen in Ethiopia. In Addis Ababa, the HIV infection level among prostitutes increased from 0.6 percent in 1985 to 54.2 percent in 1990.



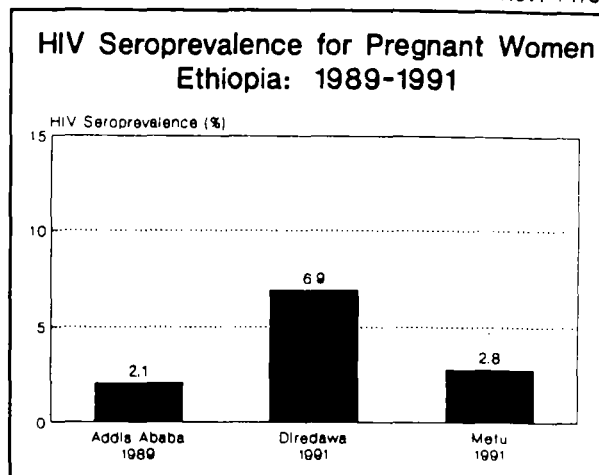
- Significant levels of HIV infection have also been observed outside of Addis Ababa. The level of HIV infection observed in Asmara's prostitutes was lower than any other city. However, all cities showed increasing levels of HIV infection.



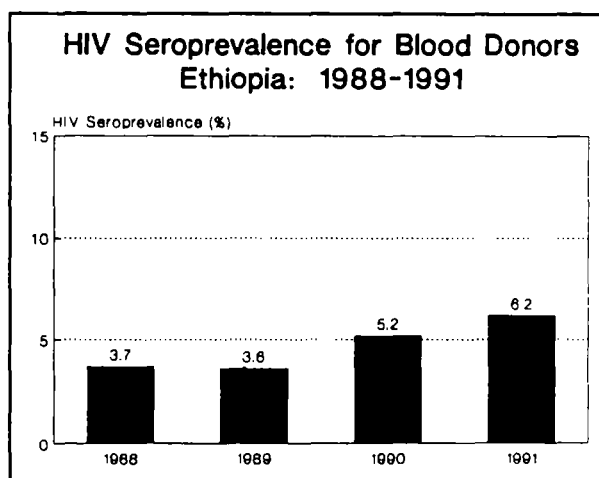
- Studies conducted in Addis Ababa in 1987 and 1989 show more than a quadrupling of HIV infection for female STD patients and a doubling for males during this two-year period.



- Very few studies of HIV infection in the general population of Ethiopia have been published. In 1989, a study conducted in the capital city, Addis Ababa, reported a level of HIV infection among pregnant women of 2.1 percent. While in another study, Diredawa and Metu reported 6.9 percent and 2.8 percent, respectively, in 1991.



- Seroprevalence data from different blood screening centers showed an increase of HIV infection levels among the blood donors. By 1991, the HIV infection level in blood donors was 6.2 percent.



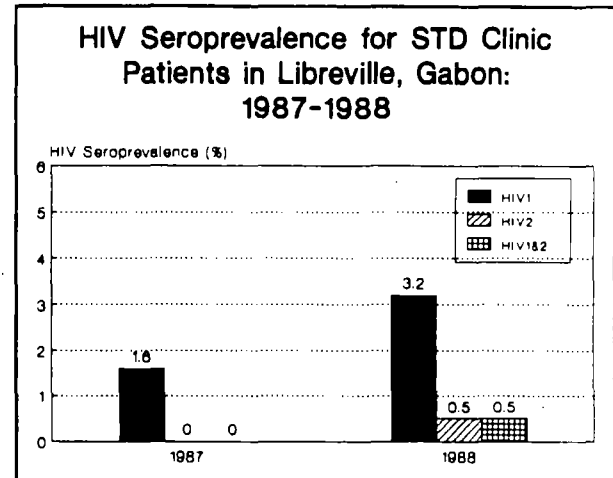
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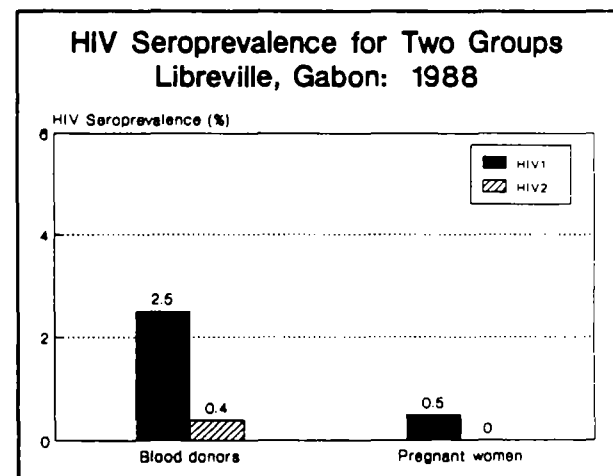
Gabon

11/92

- In the capital city, Libreville, HIV1 infection among sexually-transmitted disease clinic attendees doubled between 1987 and 1988. HIV2 and dual infections were absent in 1987, but were detected in 1988.



- Few studies of HIV infection in the low risk population of Gabon have been published. One study showed that HIV1 infection level in blood donors was 2.5 percent and the infection level in pregnant women, 0.5 percent. HIV2 was detected in the blood donors but not in pregnant women.



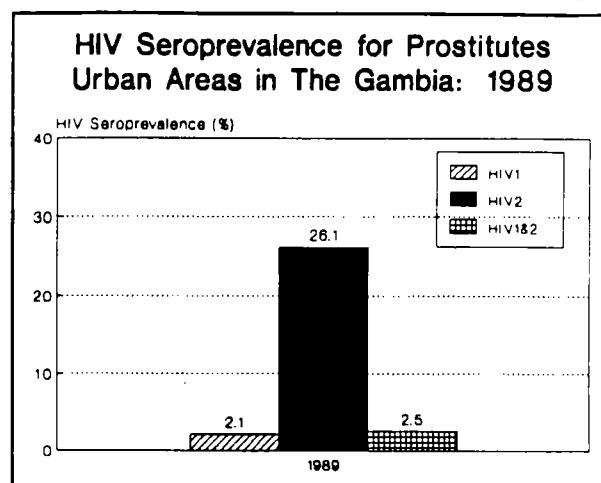
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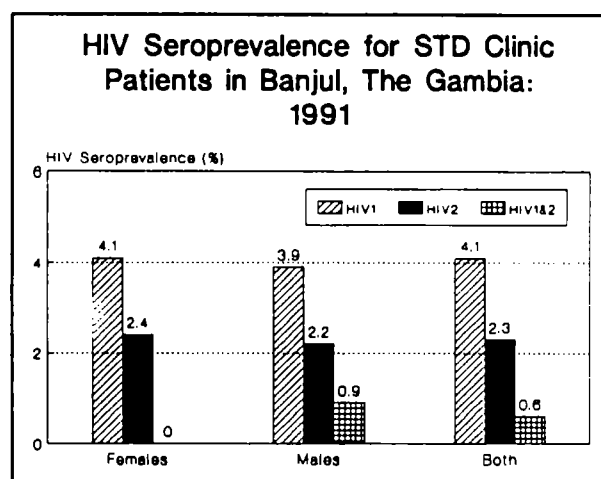
The Gambia

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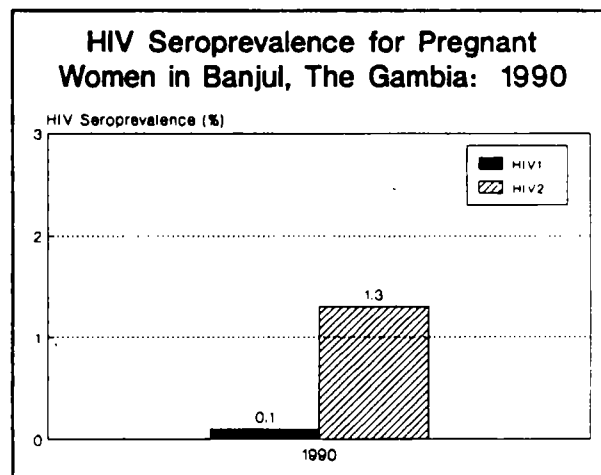
- It would be expected that The Gambia would have a higher HIV-2 level because of its location, surrounded by Senegal. Evidence of this is shown in this study conducted in various urban areas among prostitutes in The Gambia. The HIV-2 infection level is close to 30 percent while HIV-1 is under 3 percent.



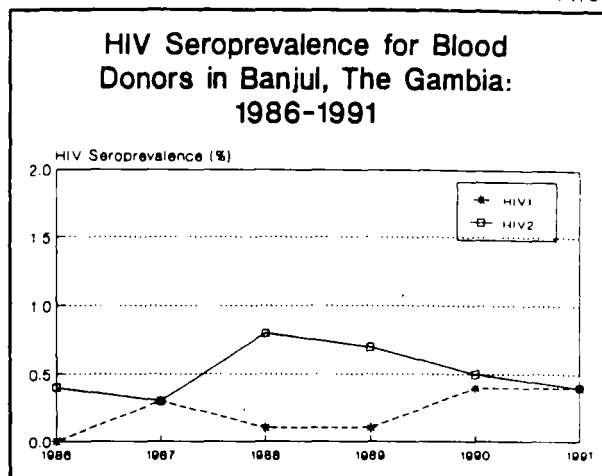
- In Banjul, the capital city, a seroprevalence study of STD patients found somewhat equal levels of infection in both sexes. The most noticeable deviation occurred with dual infection. None of the females showed dual infection, while nearly 1 percent of males were so infected.



- In Banjul, at the Royal Victoria Hospital, a study of pregnant women found a notable difference between HIV-1 and HIV-2 infection levels. HIV-1 seroprevalence was only 0.1 percent compared with 1.3 percent for HIV-2.



- HIV infection among blood donors has remained under 1 percent as indicated by this study from Banjul. HIV-1 has fluctuated between 0 and 0.4 percent of donors. On the other hand, HIV-2 appears to have peaked in 1988 and has gradually declined to around 0.4 percent in 1991.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

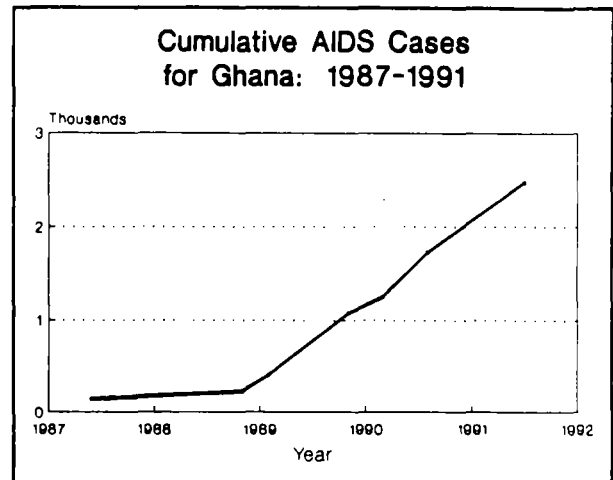
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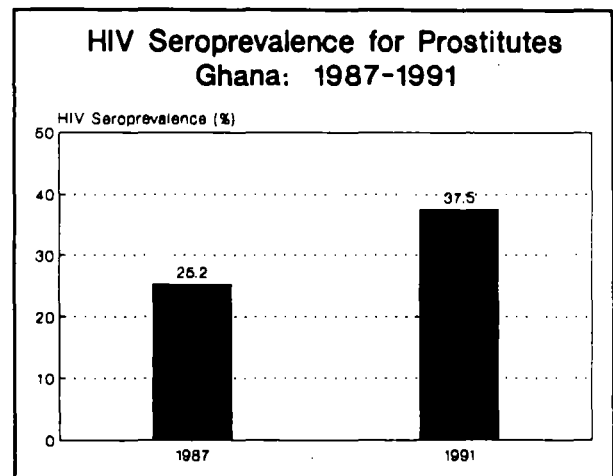
Ghana

5/92

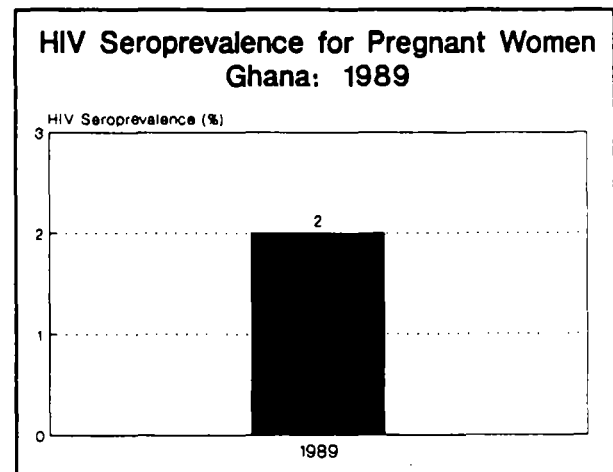
- The number of cumulative AIDS cases reported to the World Health Organization by Ghana, sharply increased in 1989 and continues to steadily increase. Although the cumulative number of cases is still under 3000, there is an increasing concern among the Ghanaian population.



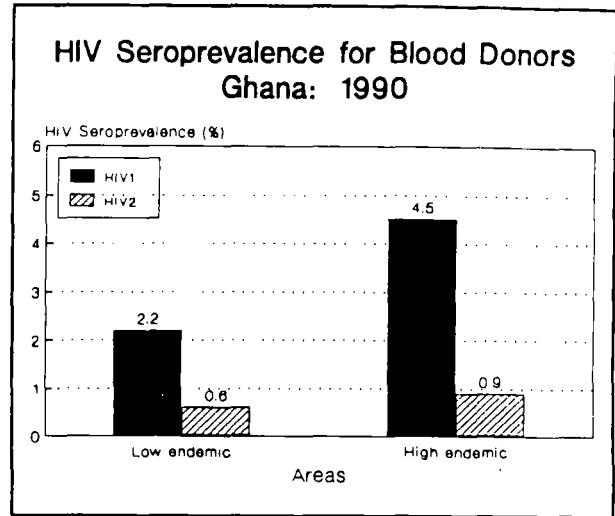
- In Ghana, the HIV infection level among prostitutes increased from 25.2 percent in 1987 to 37.5 percent in 1991.



- In a remote region of Ghana, HIV-1 infection level among pregnant women was found to be 2 percent. The report indicated that HIV testing in remote regions is sometimes hampered by insufficient testing capabilities. Testing was made possible in this area because of a donated test kit.



- A study of blood donors was conducted for two months in high endemic areas of Ghana (seven field sites where previous HIV serology has shown high reactivity). A study of blood donors in a low endemic area was done for a period of one year. HIV-1 seroprevalence level among blood donors in the high endemic area, 4.5 percent, was twice the HIV-1 level in the low endemic area, 2.2 percent. HIV-2 levels have remained under 1 percent in both areas.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, April, 1992.

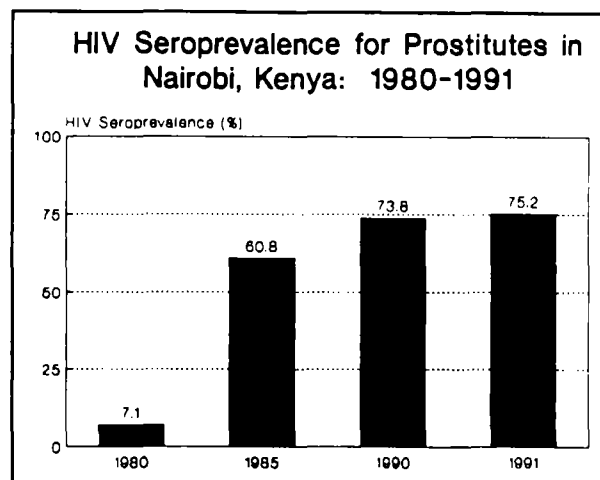
Sources for Ghana

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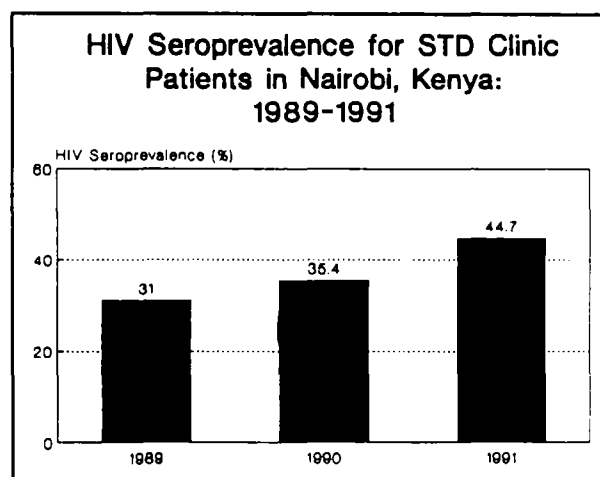
Kenya

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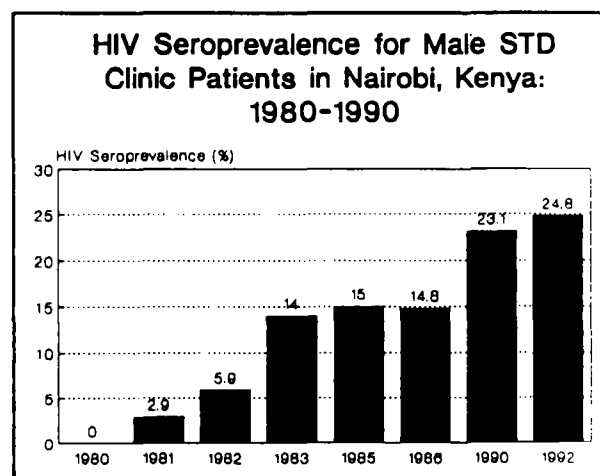
- The level of HIV infection has risen rapidly in prostitutes in Nairobi over the past 11 years. The level of infection has increased from 7.1 percent in 1980 to 75.2 percent in 1991.



- Those with sexually-transmitted diseases (STD's) continue to be at high risk for infection. The level of HIV infection over a three year period among the STD clinic patients in Nairobi has increased moderately from 31.0 percent in 1989 to 44.7 percent in 1991.

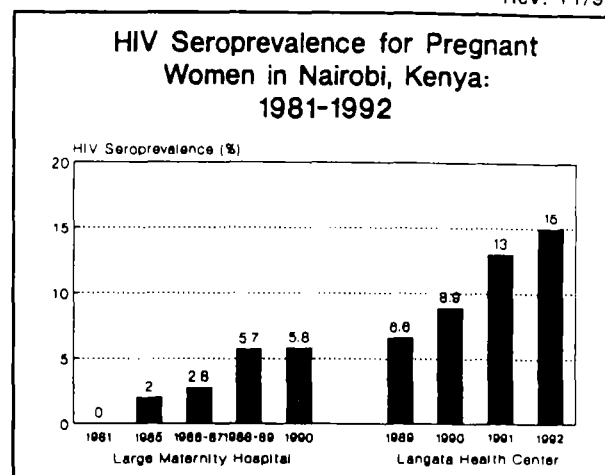


- According to this study conducted in Nairobi, the level of HIV infection among male STD clinic patients with genital ulcers has increased rapidly over the past 12 years. Nearly one quarter of the male STD clinic patients were infected by 1992.

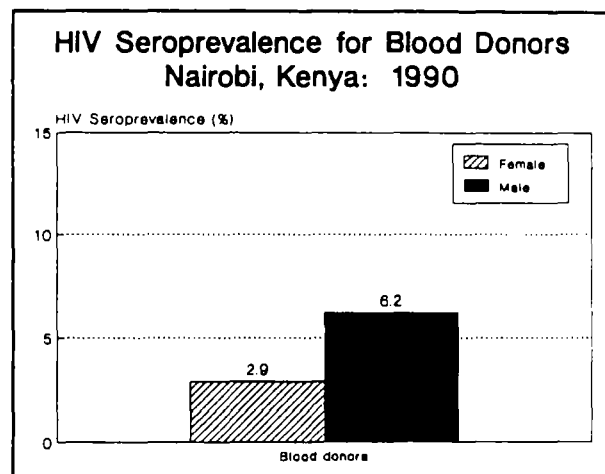


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

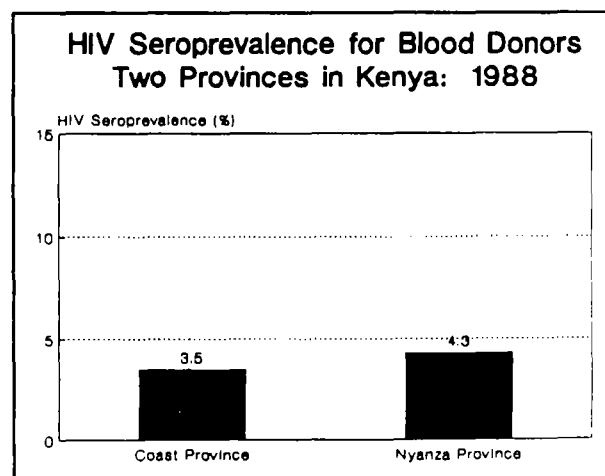
- Among pregnant women, in Nairobi, HIV infection was not detected until about 1985. HIV prevalence levels rose steadily at a large maternity hospital from 1985 to 1989, but leveled off in 1990, while levels at the Langata Health Center showed a strong continuous growth from 6.6 percent in 1989 to 15 percent in 1992.



- Very few studies of HIV infection in blood donors for the capital of Kenya, Nairobi, have been published. In this study, the male prevalence level (6.2) was more than double that of the females (2.9). The overall HIV level was 5.6 percent.



- Outside of Nairobi, the level of HIV infection in blood donors was 4.3 percent in Nyanza province and 3.5 percent in the Coast province in 1988.



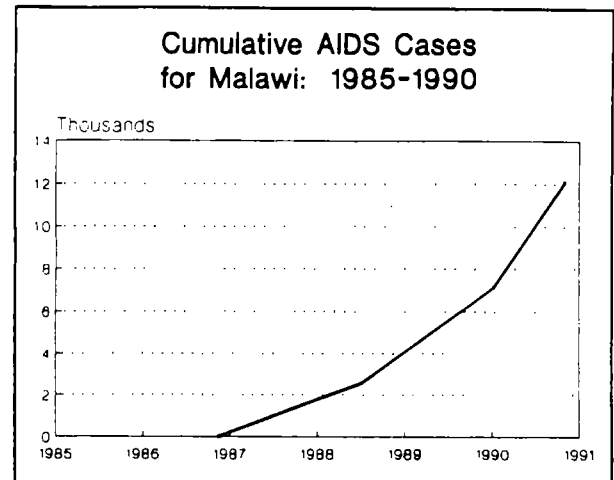
Sources for Kenya

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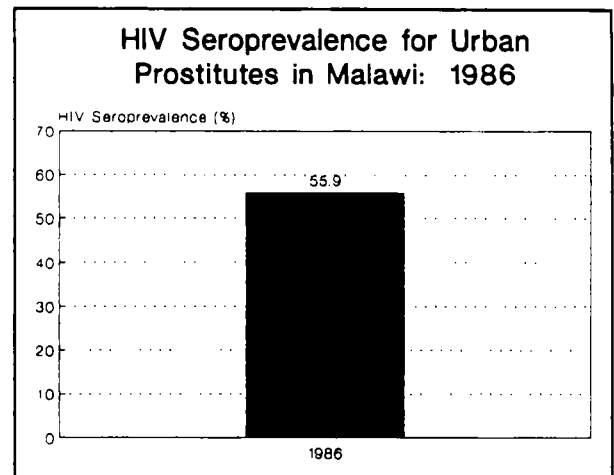
Malawi

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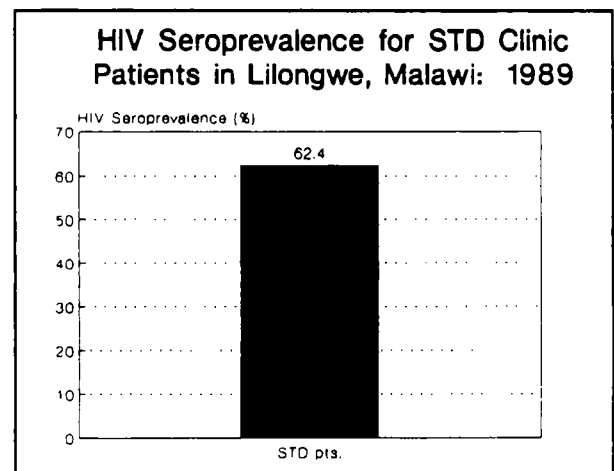
- Through October 1990, Malawi has reported 12074 AIDS cases to the World Health Organization. This corresponds to a cumulative incidence of 1.3 per 1,000 population. Among African countries, only Uganda, Zaire, and Kenya have reported more cases, and Malawi has the highest cumulative incidence rate among these countries.



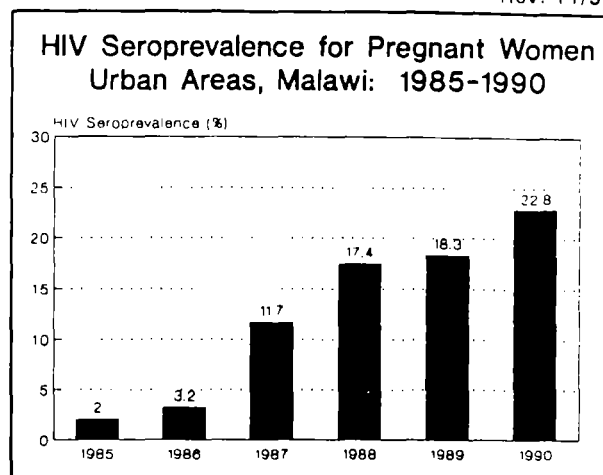
- Commercial sex workers are at particularly high risk of HIV infection, as suggested by this study of prostitutes in Blantyre several years ago.



- According to this study, levels of HIV infection among STD patients is very high in the capital, Lilongwe.



- HIV infection levels among pregnant women in Blantyre and Lilongwe have increased 10-fold over the past 5 years. Available data from rural areas suggests that current rural infection levels may approximate the urban infection levels of 5 years ago.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

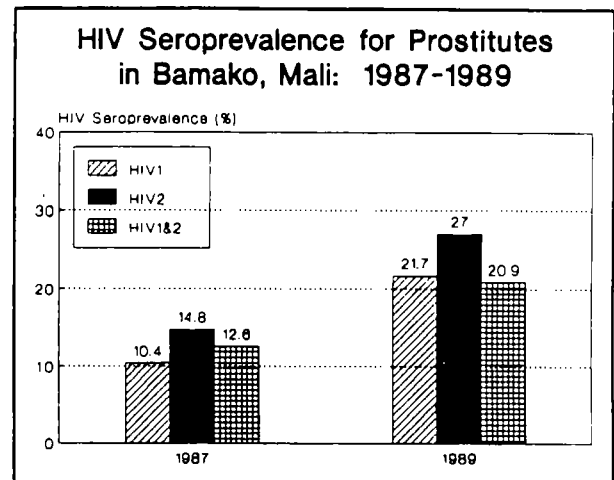
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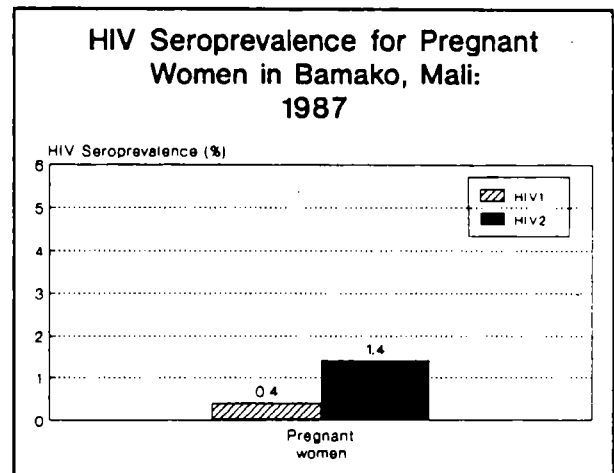
Mali

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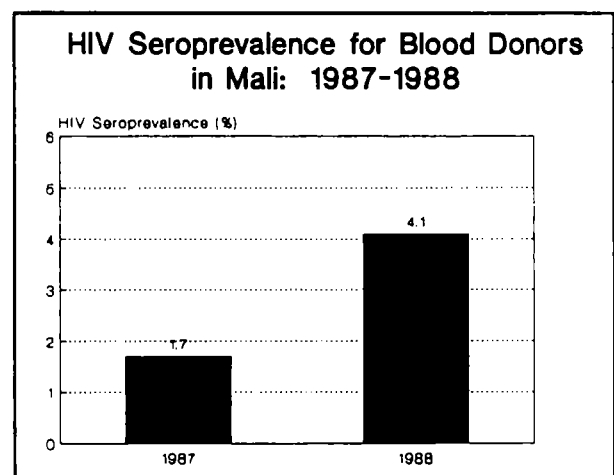
- HIV infection levels among prostitutes have doubled in the last two years for HIV-1, HIV-2 and dual infection in Bamako. The results of these studies demonstrate greatly increasing infection levels since 1987. Clients of prostitutes run a clear risk of exposure to infection.



- Both HIV-1 and HIV-2 are present in the general population of Mali as well. In 1987 a study found infection levels for pregnant women in Bamako to be 0.4 percent for HIV-1 and 1.4 percent for HIV-2.



- Data from blood donors suggests that infection is increasing rapidly in Bamako. In 1988 the overall HIV infection level was more than double that recorded in the previous year.



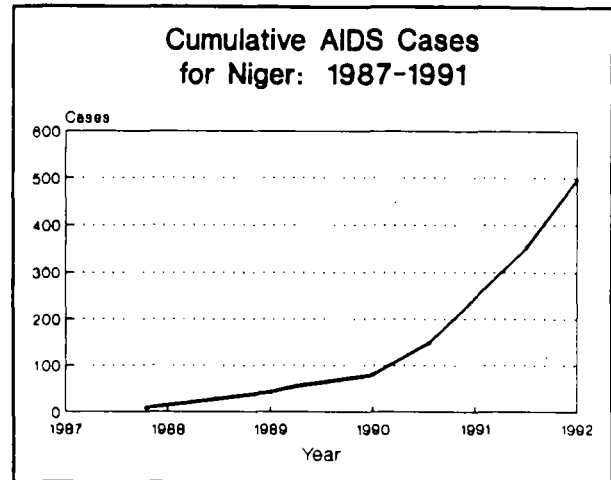
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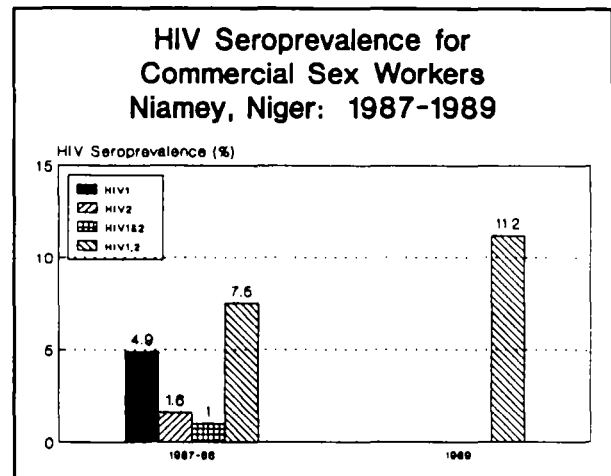
Niger

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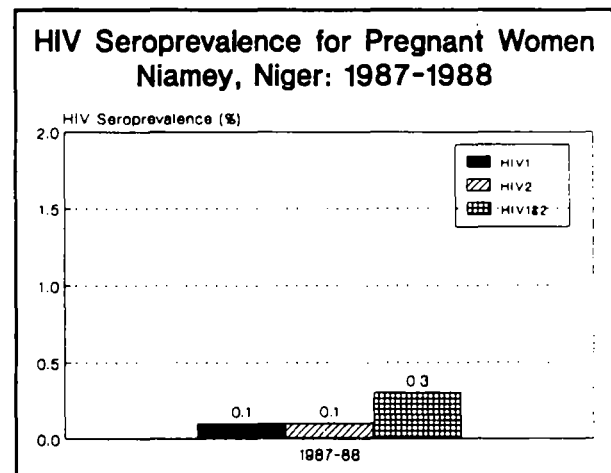
- In Niger, there were 497 cumulative AIDS cases reported to the World Health Organization as of December 31, 1991. This corresponds to the cumulative AIDS incidence rate of .06 cases per 1,000 population.



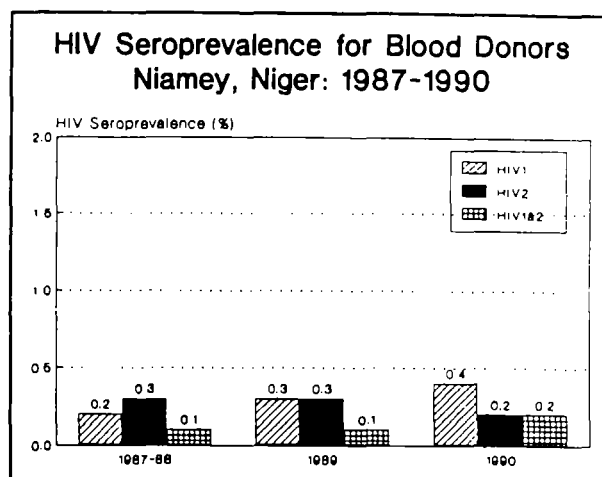
- Relatively little information is available for Niger, but a study conducted in the capital, Niamey, shows HIV seroprevalence levels among the prostitutes to be moderately high. The overall seroprevalence level over a three year period shows the year 1989, 11.2 percent, to be 50% higher than 1987-88, 7.5 percent.



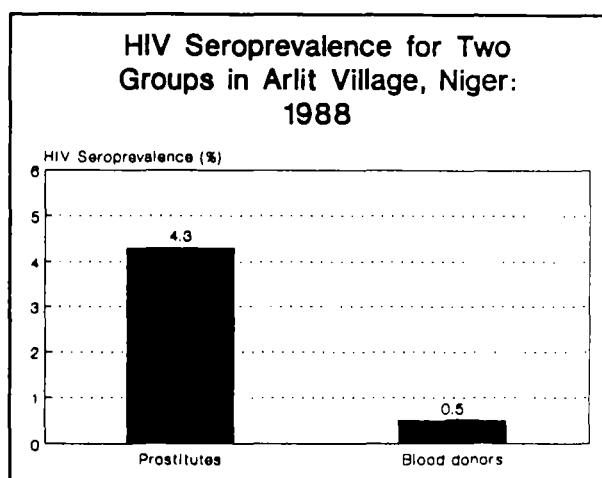
- According to the same study in Niamey, the levels of HIV seroprevalence among the pregnant women shows HIV-1 and HIV-2 rates to be 0.1 percent and the dual infection rate to be 0.3 percent. Clearly, the HIV infection has made its presence known in Niger.



- This same study conducted in Niamey, shows the levels of HIV seroprevalence in blood donors for a four year period to be relatively low. Keep in mind that preselection or prescreening of blood donors may affect the results.



- Another study was conducted during the last three months of 1988 in Arlit village, northern Niger. According to this study, the overall seroprevalence levels for a high risk group, prostitutes, was 4.3 percent. While in a low risk group, blood donors, the overall seroprevalence was 0.5 percent.



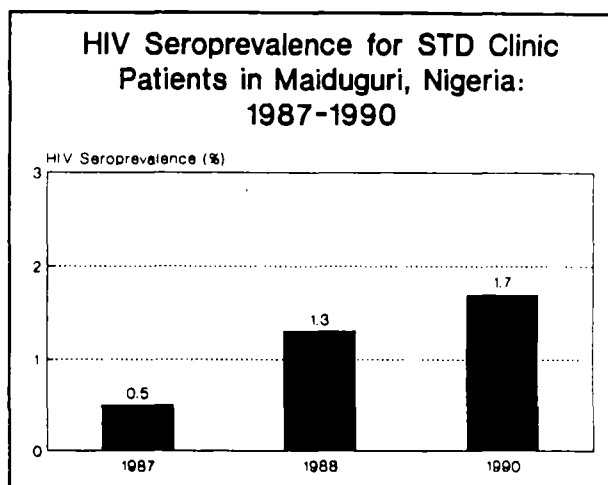
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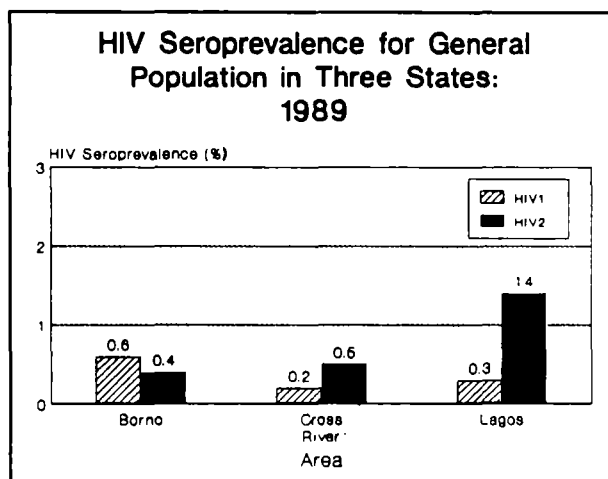
Nigeria

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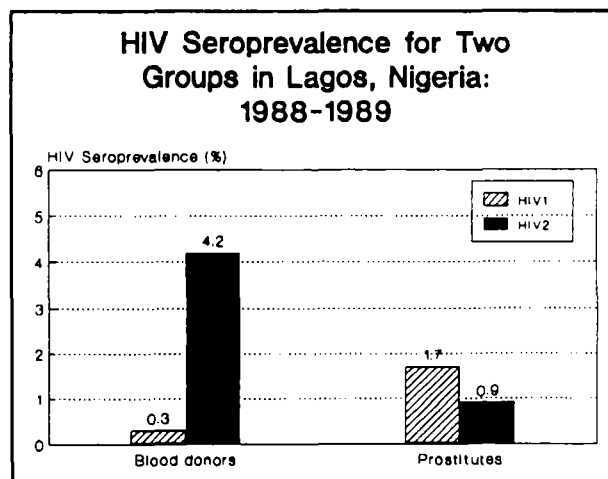
- Data from STD clinic attendees in Maiduguri, Nigeria show a steady increase in HIV infection between 1987 and 1990, reaching 1.7 percent of the sampled population in 1990.



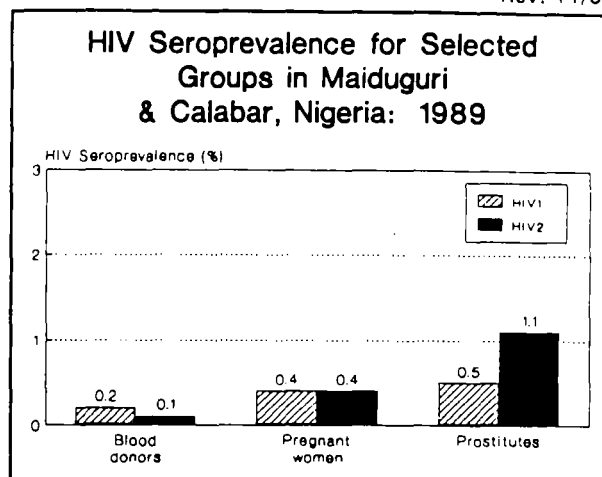
- Nigeria is a large and diverse nation and to date relatively few HIV seroprevalence studies have been conducted. One recent study in three states found HIV-1 infection levels in the general population below 1 percent. HIV-2, spreading from West Africa, was under 1 percent in Borno and Cross River, but nearly 1.5 percent in Lagos.



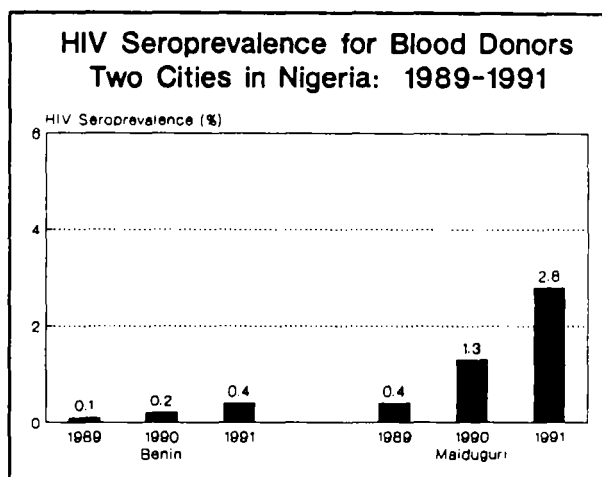
- Other studies in Lagos have found levels of HIV-1 infection among prostitutes to be several times that found among blood donors, although HIV-1 seroprevalence for prostitutes in these studies is much lower than in many other African countries. The level of HIV-2 infection in this small sample of blood donors may not be representative.



- In another area of Nigeria, studies among several groups show the presence of HIV-1 and HIV-2 in most groups. Although current infection levels are low by African standards, the experience of rapid increases in other African countries should motivate increased prevention efforts.



- Studies conducted between 1989 and 1991 showed an increase in the HIV infection levels among the blood donors. In Benin city, there was a slow but steady increase to 0.4 percent in 1991. Maiduguri city experienced a greater increase from 0.4 percent in 1989 to 2.8 percent in 1991.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

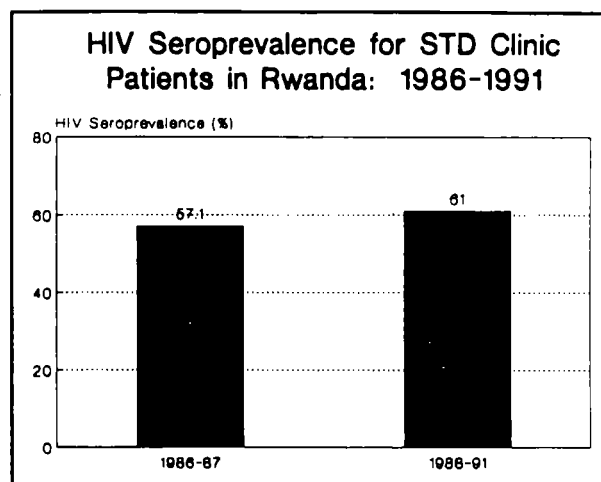
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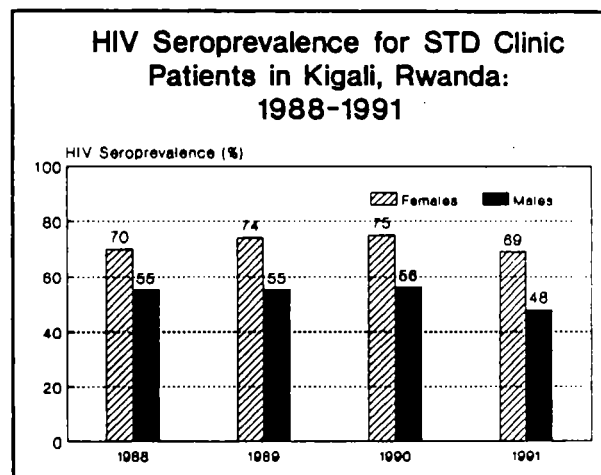
Rwanda

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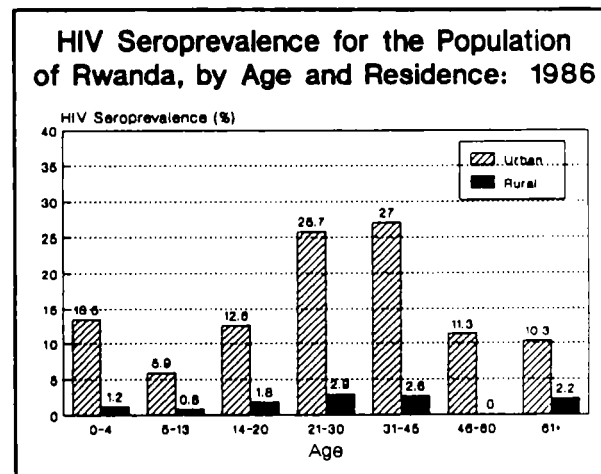
- A 1986-87 study in Rwanda reported a high level of HIV infection among STD patients, with nearly 3 out of 5 infected. A recent study done in 1988-91 shows the HIV infection level among STD patients remains at this high level.



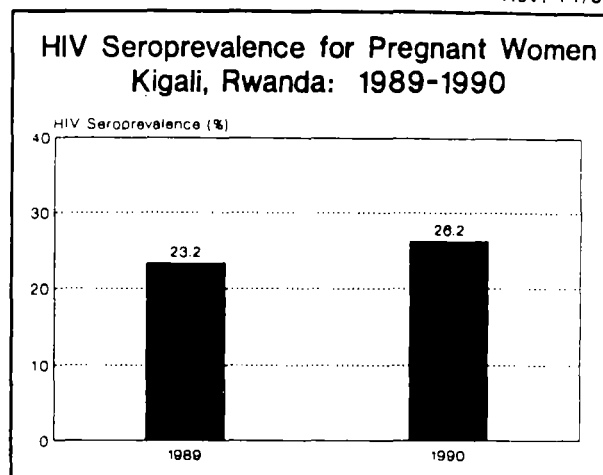
- A survey conducted at the Health Center of Biryogo, located in the heart of Kigali, showed high levels of HIV infection among the STD clinic patients. Women visiting this STD clinic had levels of HIV infection higher than men.



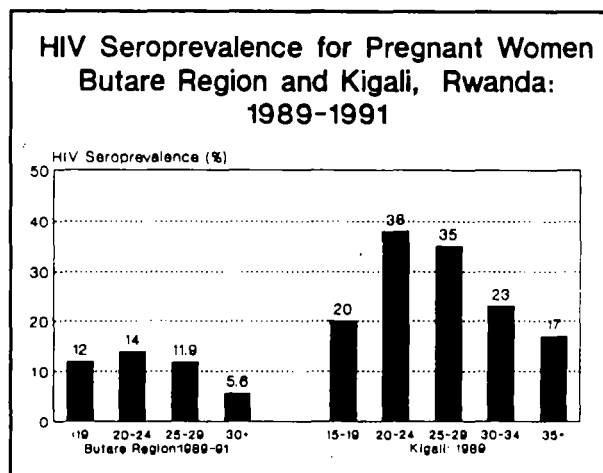
- A representative population survey in Rwanda in 1986 showed a large differential in HIV infection levels between urban and rural areas. In Kigali, a study found 17 percent of the adult population to be infected, while only 2.1 percent of the rural population sampled were HIV positive.



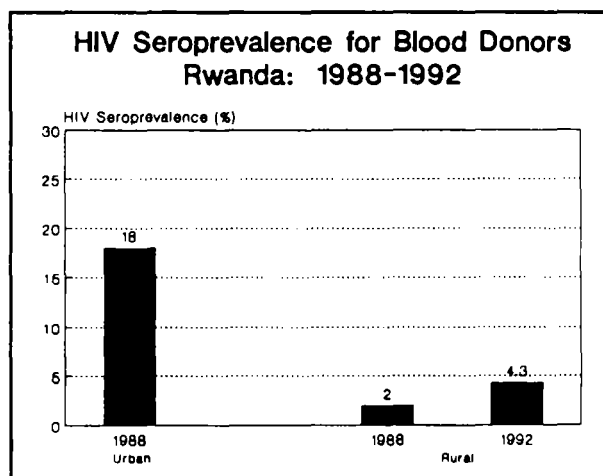
- HIV infection levels for two sectors, Muhima and Gikondo, of Kigali, show a increase from 23.2 percent in 1989 to 26.2 percent in 1990.



- In the Butare region from mostly rural areas, the HIV infection levels in pregnant women showed a peaked age pattern, reaching a maximum of 14 percent for ages 20-24 years. A similar age pattern is seen in a study of pregnant women in Kigali. HIV seroprevalence levels peaked in ages 20-24 at 38 percent.



- In 1988, the HIV seroprevalence for blood donors in the urban areas of Rwanda was much higher than the seroprevalence of blood donors in the rural areas (18 percent compared to 2 percent). However, by 1992, the HIV infection level in blood donors in the rural area had doubled to 4.3 percent.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

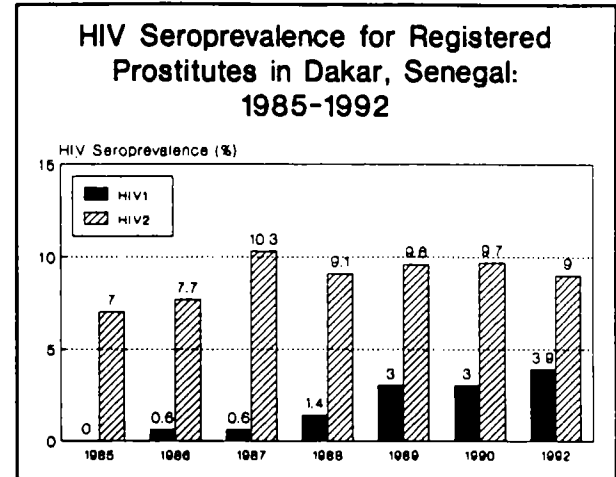
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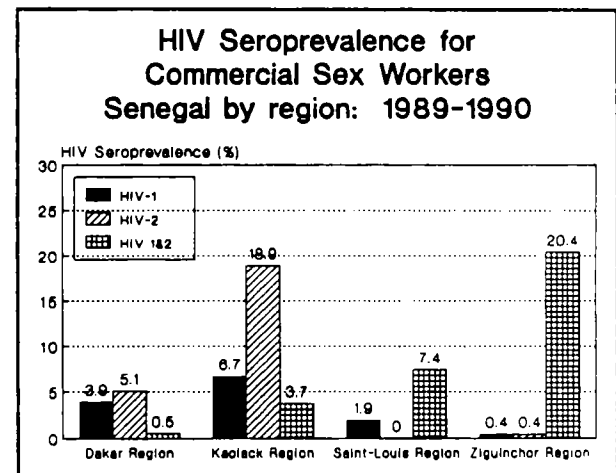
Senegal

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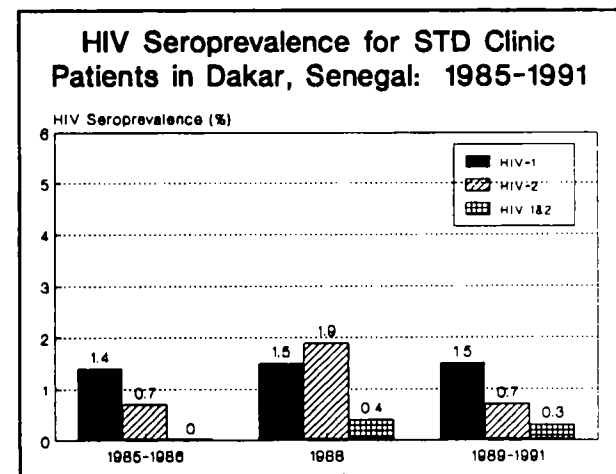
- In studies of registered prostitutes in Dakar over the past 7 years, HIV-1 infection levels have increased from 0 in 1985 to 3.9 percent in 1992. Over the same period, infection levels of HIV-2 have increased from 7.0 percent in 1985 to 9 percent in 1992. Studies in other cities in Senegal among registered prostitutes show a similar pattern.



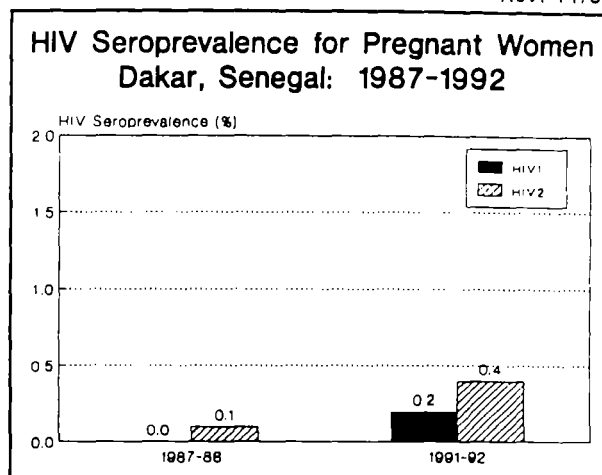
- The levels of HIV infection in commercial sex workers vary by region in Senegal. In all cases however, the rate of HIV-2 or the rate of dual infection (HIV-2 and HIV-1) is higher than the rate of HIV-1.



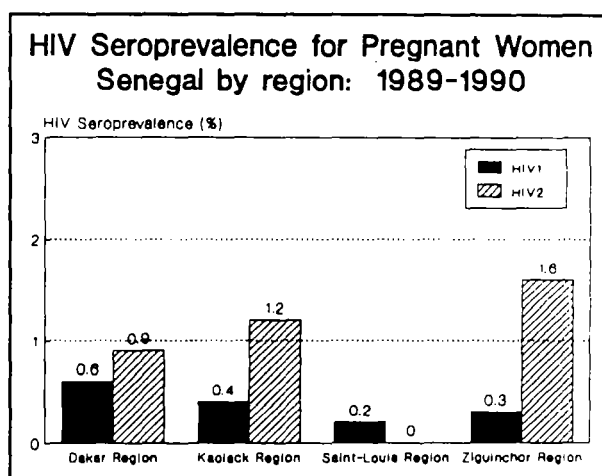
- Since 1985 in Dakar, levels of HIV-1 infection among STD clinic attendees have remained relatively steady, while there has been some fluctuation in HIV-2 and dual infections. Other studies in Senegal over this period document the gradual spread of HIV-1 to other regions of the country.



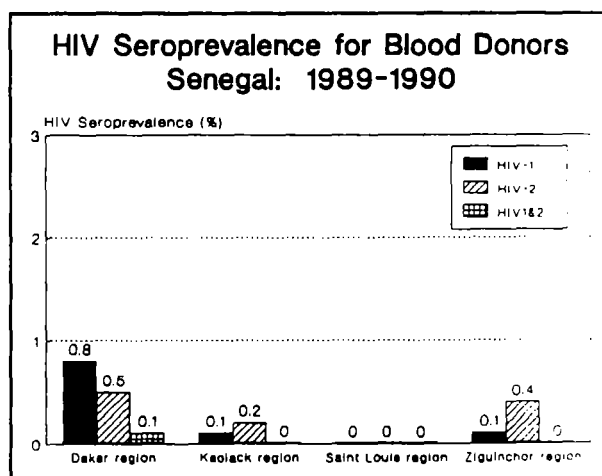
- In a 1987-88 study of pregnant women in Dakar, no evidence of HIV-1 was found and HIV-2 had a prevalence of 0.1 percent. However, in a more recent study during 1991-92, the HIV-2 levels increased to 0.4 percent and HIV-1 was found to be 0.2 percent.



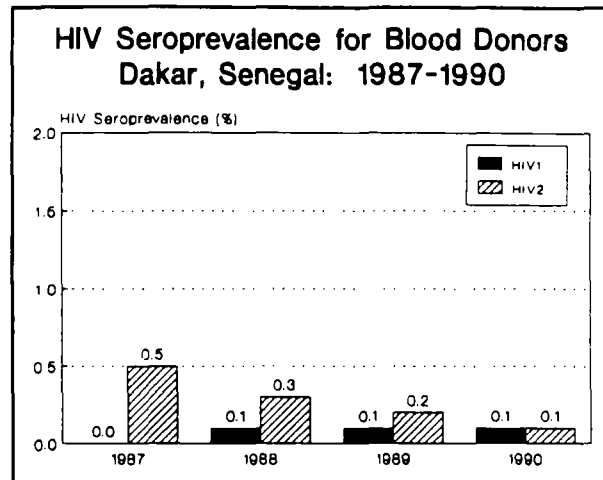
- The HIV infection level among pregnant women varied by region. This study found that HIV-2 was more dominant than HIV-1 except for in the Saint-Louis region whereas there was no evidence of HIV-2.



- The levels of HIV seroprevalence in blood donors are low in several regions of Senegal. In the Dakar region in 1989-1990, 0.8 percent of the blood donors were positive for HIV-1, 0.5 percent for HIV-2 and 0.1 percent for dual infection (HIV-1 and HIV-2).



- Analysis of data for blood donors from November 1987 to March 1990 shows that HIV-2 seroprevalence declined over the study period. HIV-1 was evident in 1988 and has been constant throughout the study period.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

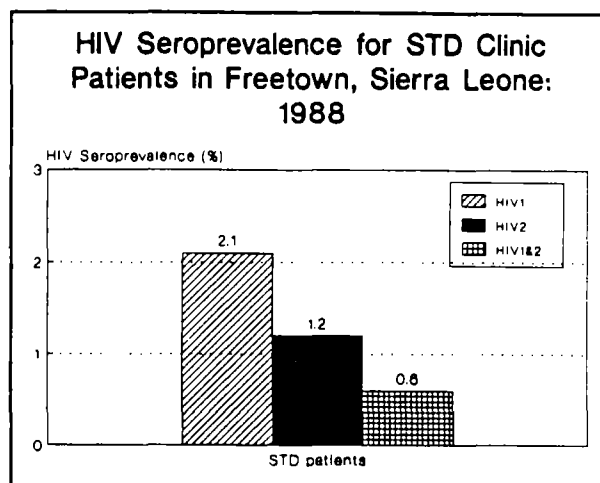
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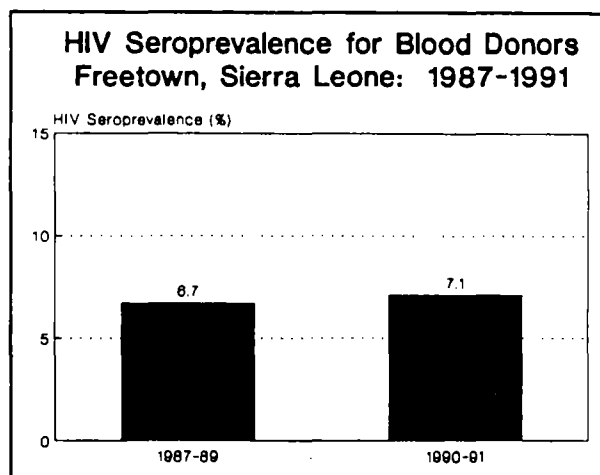
Sierra Leone

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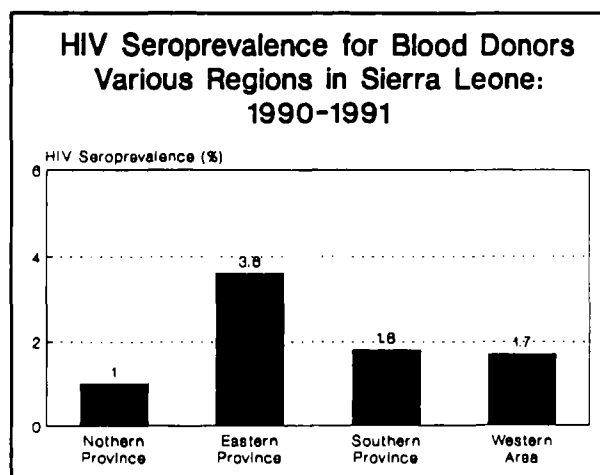
- There have been few documented studies done on the HIV seroprevalence among STD clinic patients in Sierra Leone. However, one study conducted in the capital city, Freetown, found the total HIV infection to be 4.5 percent in 1988, over one-half attributable to HIV1 or dual infection.



- Studies conducted in Freetown among blood donors showed a slight increase in the level of HIV infection, 6.7 percent to 7.1 percent between 1987-89 and 1990-91. These studies have indicated that recipients of transfused blood are at risk of contracting the HIV virus.



- A regional analysis of HIV infection level among blood donors showed HIV infection present in the Western area (1.7 percent), Northern Province (1.0 percent), Eastern Province (3.6 percent) and Southern Province (1.8 percent). Although the capital city is located in the Western area, the Eastern Province has the highest HIV level.



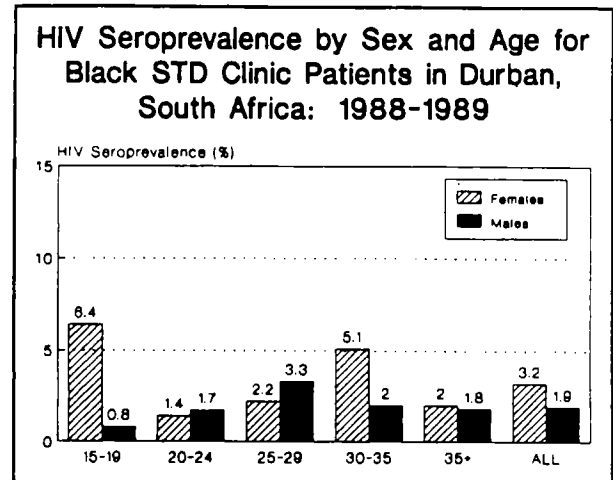
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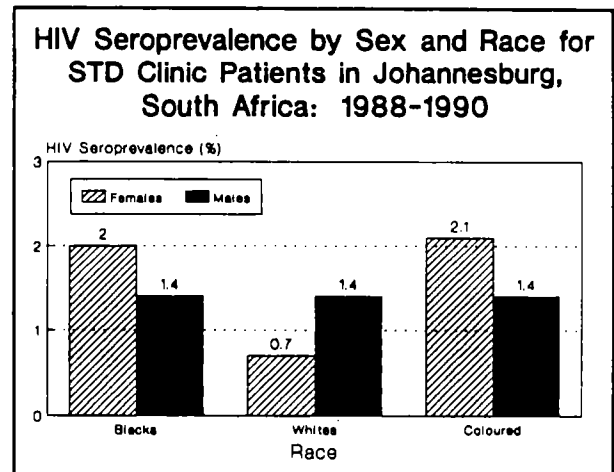
South Africa

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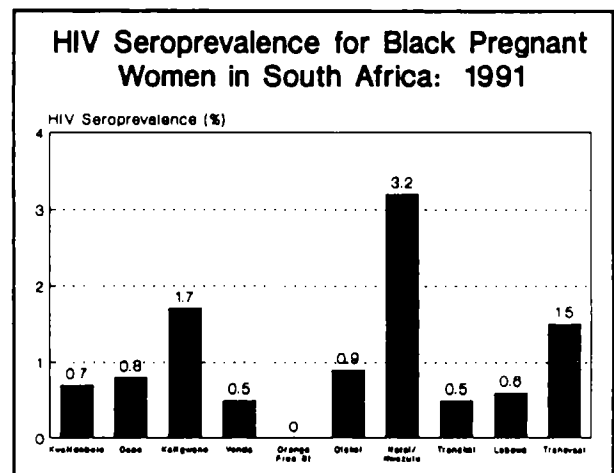
- According to this study conducted among Black STD patients in Durban at King Edward VIII Hospital women, age 15-19 years, were at greater risk of HIV1 infection than women of other age groups. Among men, the highest rate was in the age range 20-29 years.



- All population groups should be considered to be at risk if they are engaging in high-risk behavior. A study of STD clinic patients in Johannesburg showed similar levels of infection-- 1 to 2 percent--among the Black, White and Coloured populations visiting the clinic.

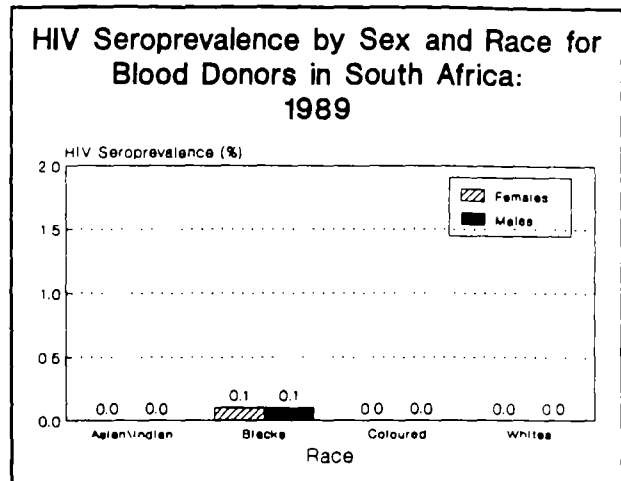


- In 1991, the second national HIV seroprevalence survey was done in South Africa among pregnant women. Based on this study, Black pregnant women had the highest level of infection in comparison to other races. HIV infection among Blacks varied from 0.5 in Venda to 3.2 percent in Natal/KwaZulu. Johannesburg reported 2.8 percent among Black pregnant women in another study.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

- National data from 1989 from the blood banks shows 0.1 percent infection for blood from black donors and lower levels for other groups. Potential blood donors, however, may choose not to donate if they consider themselves to be at risk of infection.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

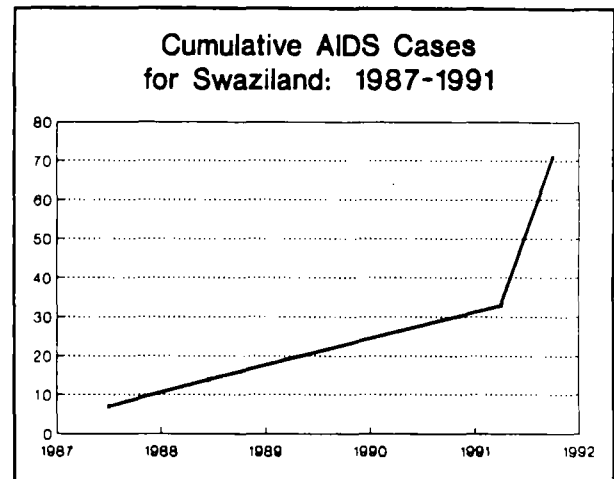
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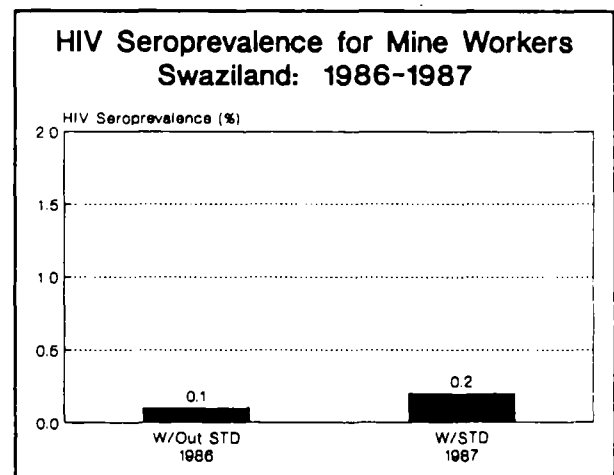
Swaziland

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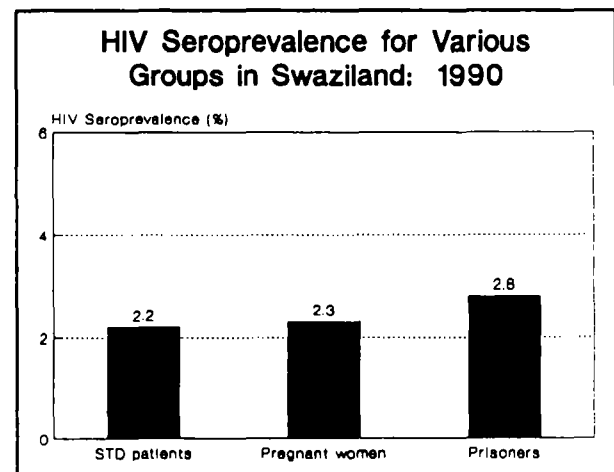
- Swaziland reported to the World Health Organization 71 cumulative AIDS cases as of September, 1991. This corresponds to a cumulative incidence rate of .08 cases per 1,000 population. Even though there has been an increase of AIDS cases since 1987, the incidence rate places Swaziland among the lowest within Africa.



- Studies dating from 1987 already showed low levels of HIV infection among Swazi mine workers with and without STD's in South Africa. These mine workers travelling back and forth from South Africa contributes to an increase in HIV seroprevalence in Swaziland.



- There have been very few studies on HIV seroprevalence in Swaziland. However, a recent report on HIV seroprevalence found HIV infection among pregnant women (2.3 percent), STD patients (2.2 percent) and prisoners (2.8 percent). This indicates that the virus is indeed present and could lead to a serious crisis in years ahead.



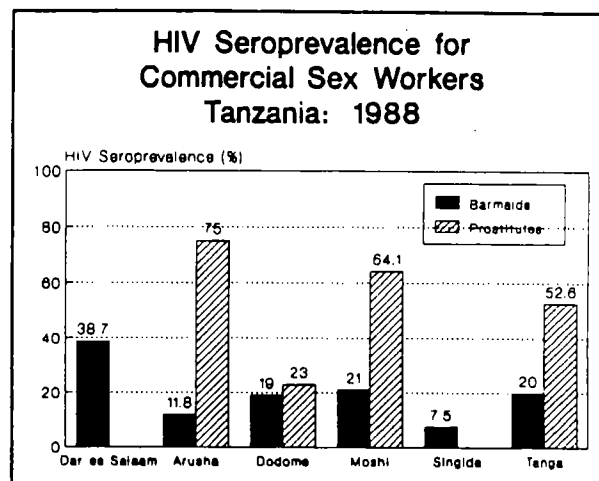
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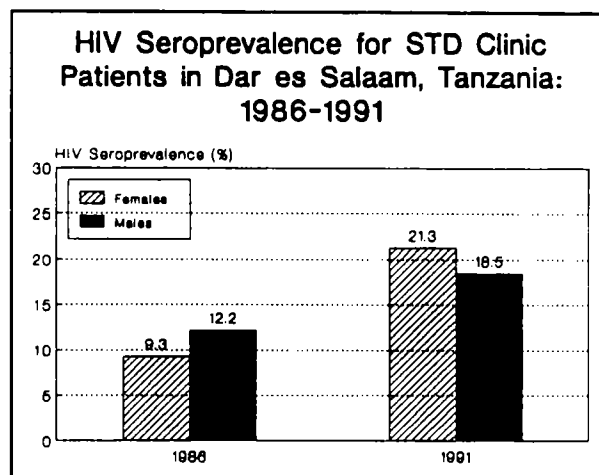
Tanzania

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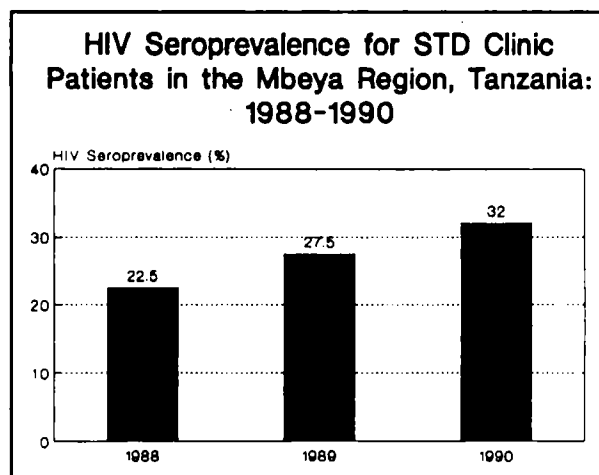
- The level of HIV infection varies by region and by type of commercial sex worker. Prostitutes generally have higher seroprevalence than barmaids, probably due to differences in the number of sexual partners.



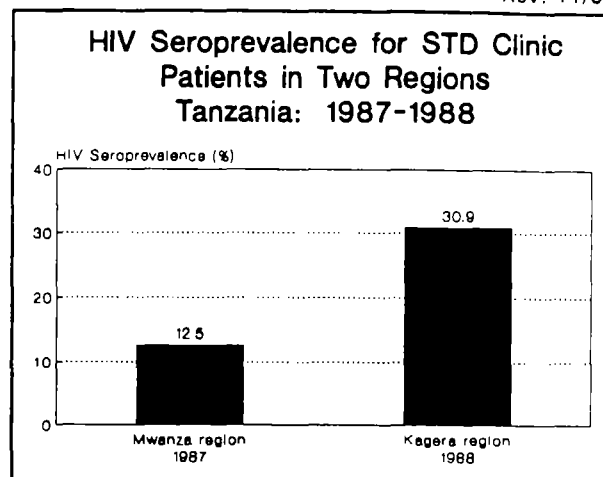
- A study conducted among STD clinic patients in Dar es Salaam during 1986 showed that HIV seroprevalence levels were slightly higher in males than in females. However, a more recent study showed the reverse. From 1986 to 1991, the seroprevalence levels for females doubled from 9.3 percent to 21.3 percent.



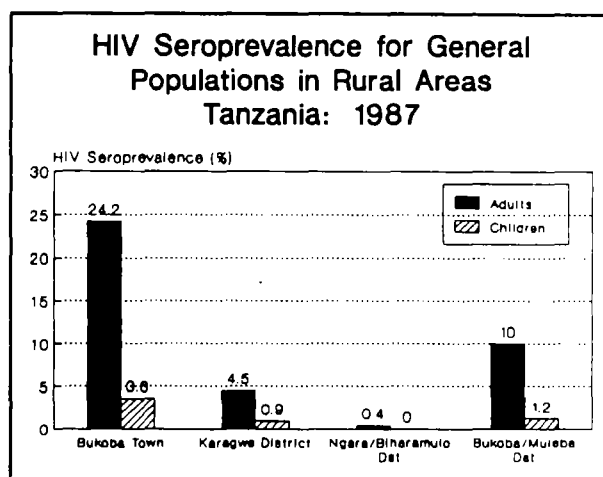
- In the Mbeya region, the HIV infection level among STD clinic patients has shown a steady increase over a 3 year period from 22.5 to 32 percent.



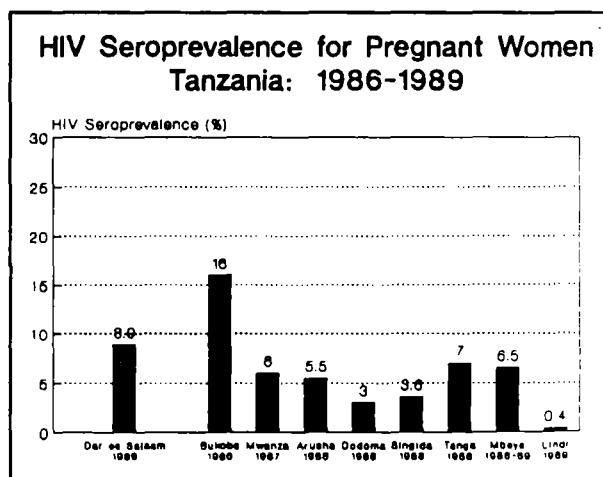
- Studies among STD clinic patients show the level of HIV infection in Mwanza region for 1987 to be 12.5 percent and for Kagera region in 1988 to be 30.9 percent.



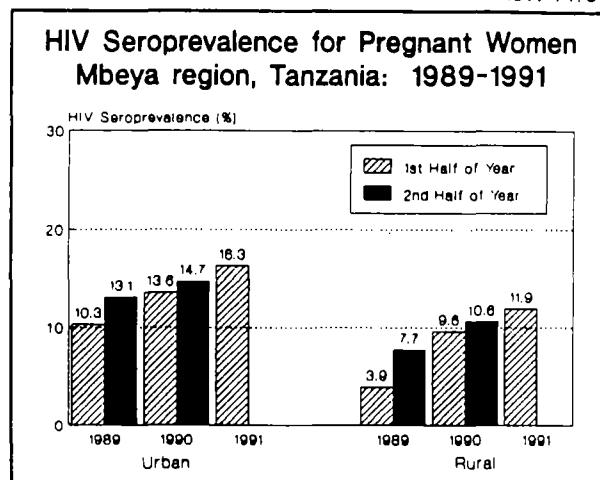
- A population-based survey in the Kagera region in northwest Tanzania was carried out in 1987. The prevalence of HIV infection within the region differed considerably from one area to another. HIV seroprevalence levels of the selected population were higher in Bukoba, the regional capital, than in other areas in the region.



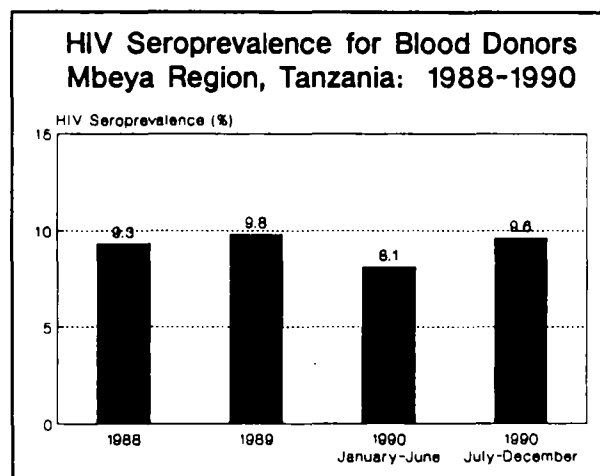
- In different areas of Tanzania, the level of HIV infection among pregnant women varies greatly. The levels of infection in Dar es Salaam and Bukoba town are high, while in other regions levels of infection range from 0.4 percent to 7.0 percent.



- This study describes the urban/rural differentiation in HIV infection levels for the Mbeya region. In both areas, HIV infection in pregnant women is increasing. From early 1989 to 1991, HIV infection levels in rural pregnant women tripled from 3.9 percent to 11.9 percent. The HIV infection levels in urban pregnant women increased from 10.3 percent to 16.3 percent for this same period.



- In the Mbeya region in the southwest of Tanzania, HIV seroprevalence among blood donors remained the same from 1988 to 1990.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

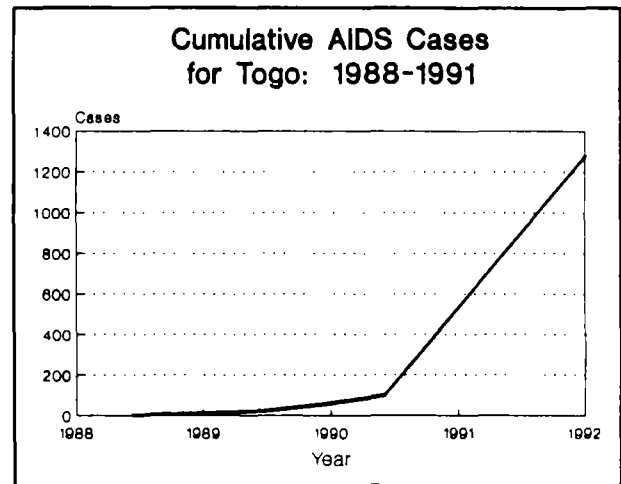
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Togo

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- The cumulative AIDS cases reported by Togo to the World Health Organization was 1,278 AIDS cases as of December 31, 1991. This corresponds to a cumulative incidence of .33 cases per 1,000 population. Also, the reported data shows a significant increase in AIDS cases from 1990 (100 cases) to 1991 (1,278).



At this time, there have not been any studies published on the HIV seroprevalence in Togo.

Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

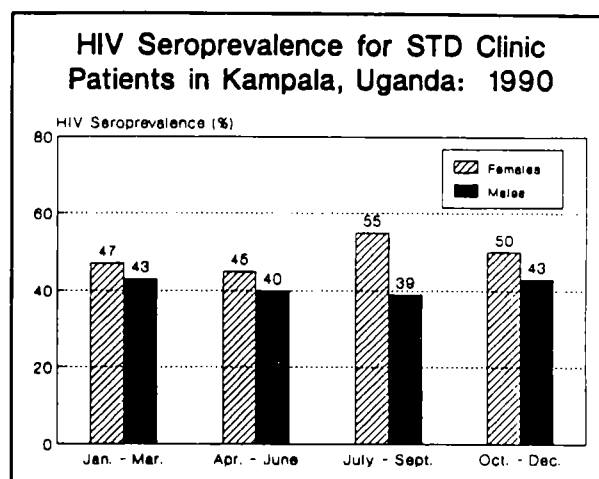
Sources for Togo

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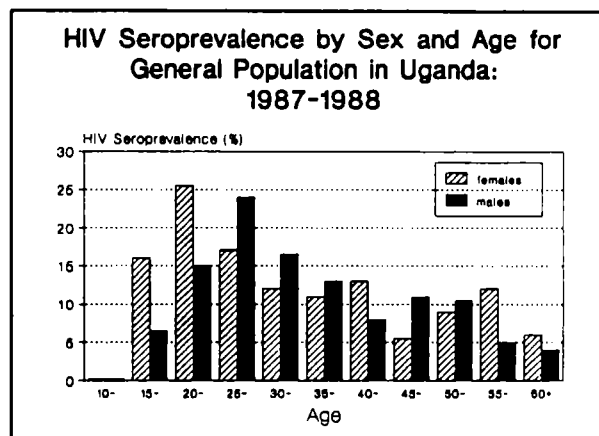
Uganda

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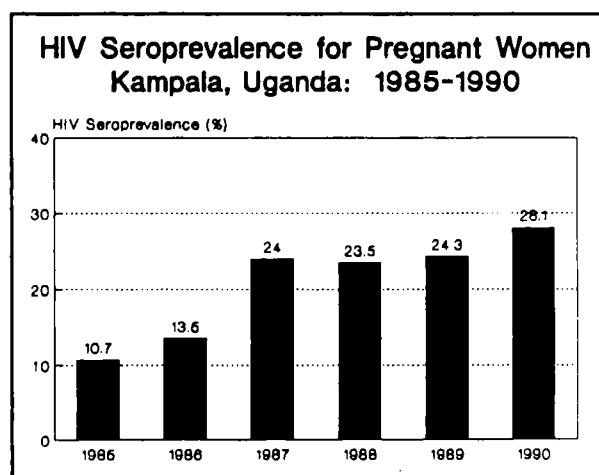
- The AIDS epidemic in Uganda is probably as severe as anywhere in the world. Those with sexually-transmitted diseases continue to be at high risk for infection. The combination of high-risk behavior and increased susceptibility are considered to contribute to their high levels of infection. In this study in Kampala, females visiting STD clinics had levels of HIV infection higher than the males.



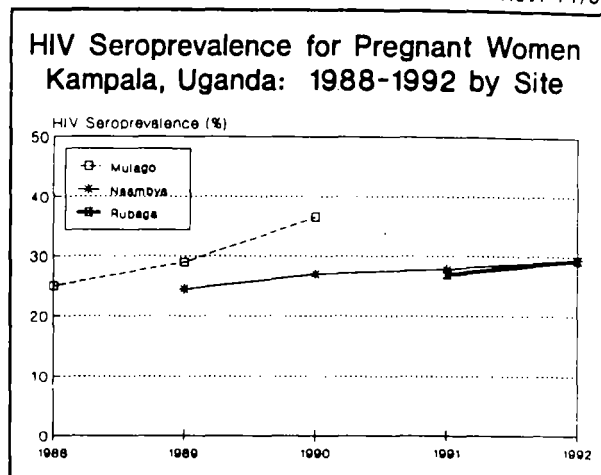
- A nationwide survey in the late 1980's documented the pattern of infection by age and sex. Young women and men in their twenties and thirties had the highest levels of infection, but infection is widespread through most adult ages. Subsequent mortality will also affect nearly all ages.



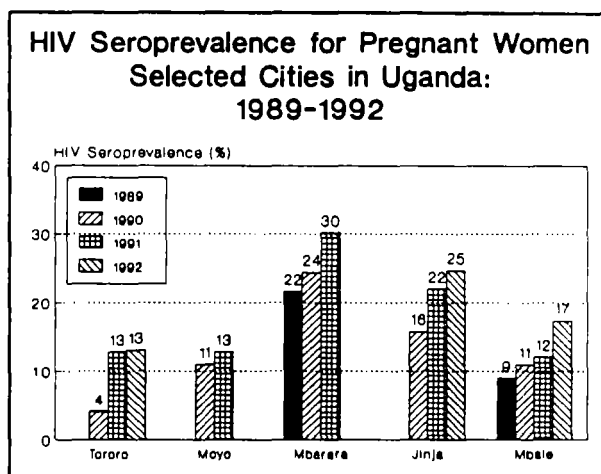
- HIV infection levels for pregnant women in Kampala were already high in the mid-1980s and have increased to about one-quarter of the population. Infection levels for pregnant women nationwide may be 10 percent or more. Perinatal transmission and orphanhood are important issues anywhere infection reaches such levels.



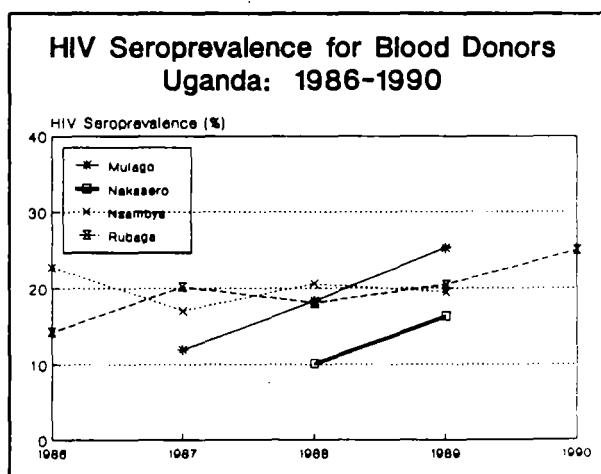
- Studies from different sentinel surveillance sites in Kampala show an increase in the HIV seroprevalence level among pregnant women over time. HIV infection levels in Nsambya and Rubaga increased slowly but steadily, while in Mulago the increase was more rapid.



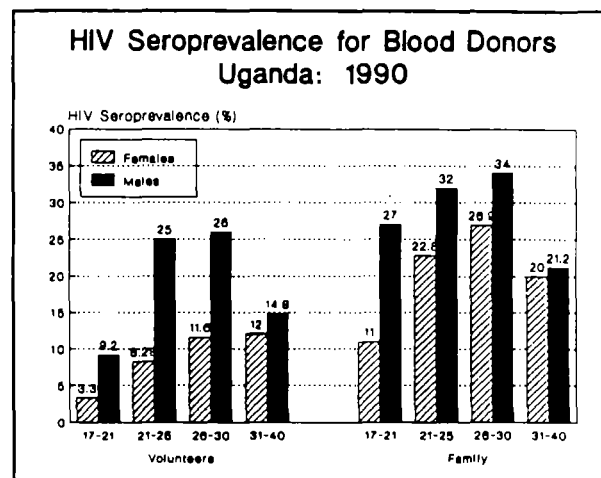
- HIV infection levels in cities throughout Uganda have increased over the 1989-92 time period. Mbarara, the western region capital, had the highest HIV level among these sites, 30.2 percent in 1991. While Jinja, another large city, is next with 24.7 percent for 1992. Mbale, a semi-rural eastern region capital, shows trends similar to the larger cities with increasing HIV infection levels.



- In sentinel surveillance studies, HIV infection levels in blood donors vary among the different sites. These sites showed an increase in HIV levels during the period of time. Nsambya is the exception, which has a mixed trend.



- In Uganda, the HIV seroprevalence in blood donors varies by age, sex and type of donor. In this study, female blood donors have higher rates of HIV seroprevalence, the highest being in the 21-30 age group. Family members have higher rates of HIV infection than volunteer blood donors.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

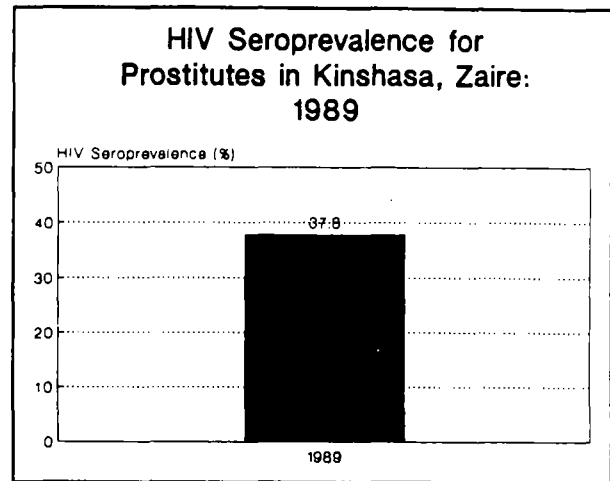
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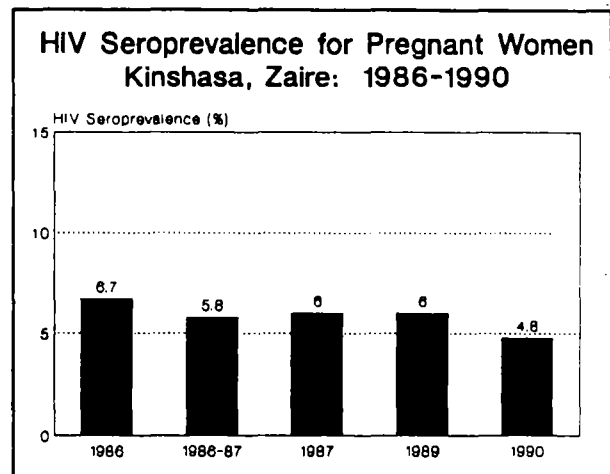
Zaire

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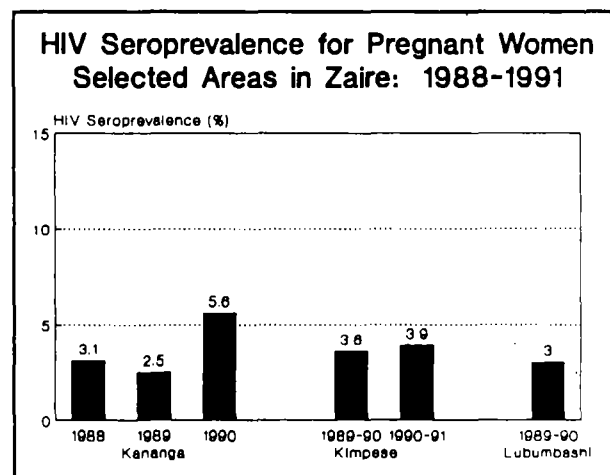
- In the capital city of Zaire, Kinshasa, the HIV infection level for prostitutes was reported to be nearly 40 percent in 1989.



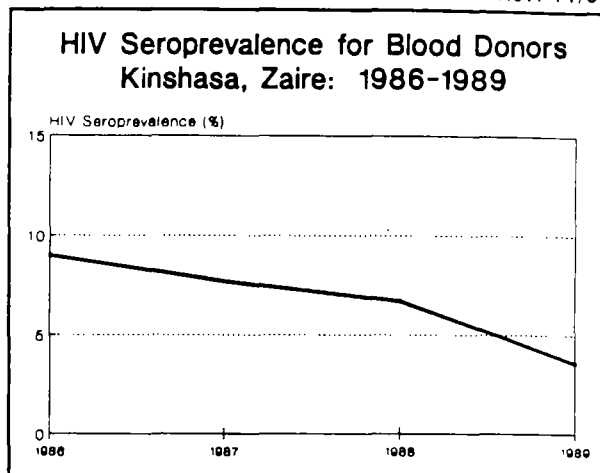
- Also, in Kinshasa, the level of HIV infection in pregnant women has remained virtually the same over the past 5 years, fluctuating around 5 - 6 percent.



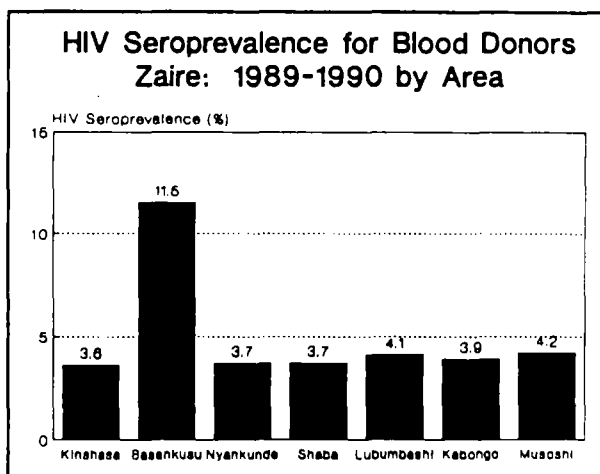
- In Kananga, the capital city of the west Kasai Region, HIV infection levels reached 6 percent among pregnant women in 1990. Data for 1990-91 in Kimpese found HIV levels to be 3.9 percent and in Lubumbashi for 1989-90, 3 percent of pregnant women were found to be infected.



- In Kinshasa, HIV seropositive levels for blood donors underwent a statistically - significant decline between 1986 and 1989. In 1986, the seroprevalence of donors was 9.0 percent, dropping to 3.6 percent in 1989. This may be due to reduced donations from high risk individuals.



- Several studies of blood donors have been carried out in various regions of Zaire. Kinshasa and Lubumbashi are major urban areas, while Nyankunde is a rural area in the northeast. Shaba province is in the south and includes Lubumbashi and the rural areas Kabongo and Musoshi. Basankusu shows strikingly elevated infection levels, perhaps due to its situation on the Zaire River, a major travel route.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

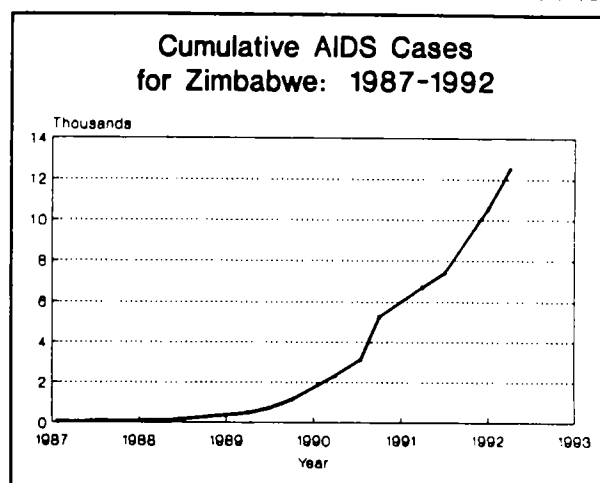
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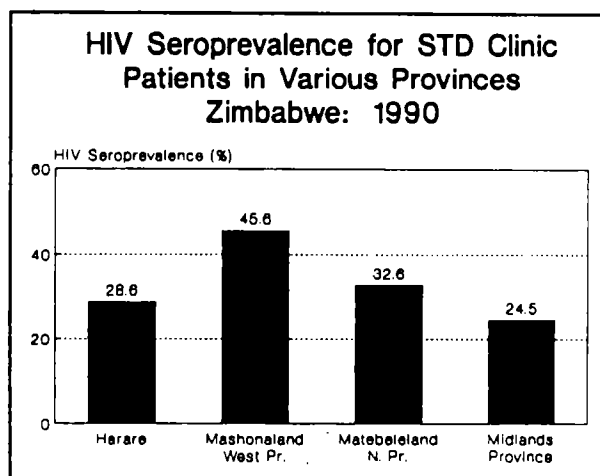
Zimbabwe

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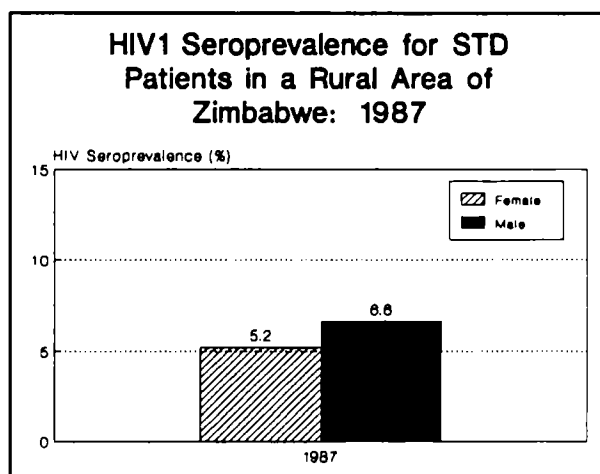
- Through 1992, Zimbabwe has reported a total of 12,514 AIDS cases to the World Health Organization. The latest report was as of March 31, 1992. This corresponds to a cumulative incidence of 1.2 per 1,000 population.



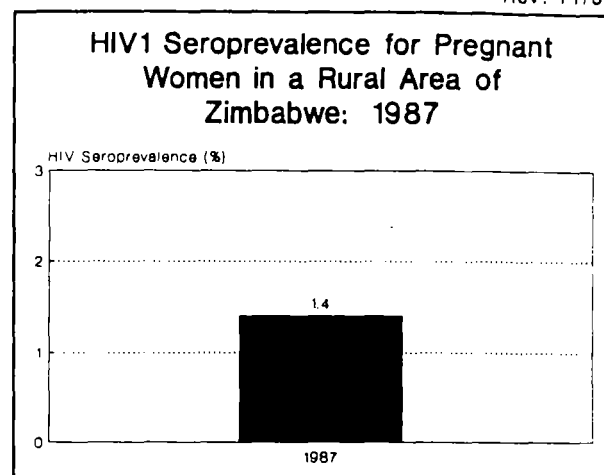
- In Harare, the capital city, the Herald (a local newspaper) reported that among STD patients, 28.6 percent of unskilled workers were HIV positive. In a sentinel survey conducted among STD patients in three Provinces, HIV level in Mashonaland West Province was found to be 45.6 percent, Metebeleland North Province, 32.6 percent, and Midland Province, 24.5 percent.



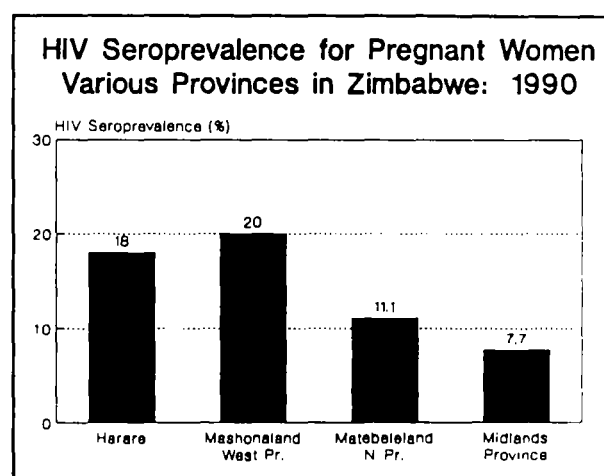
- The rural population of Zimbabwe is also at risk of infection. Zimbabwe's well-developed roads facilitate communication and the spread of infection. In a study conducted in 1987, STD patients in one rural area showed a significant level of infection among both males and females.



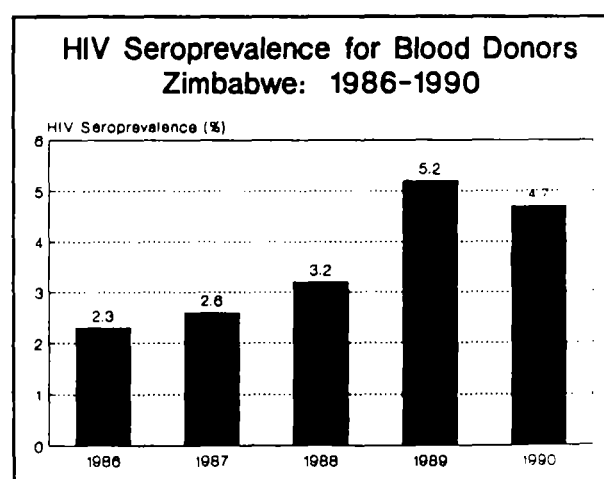
- In this same rural area, pregnant women were several times less likely to be infected than the STD patients.



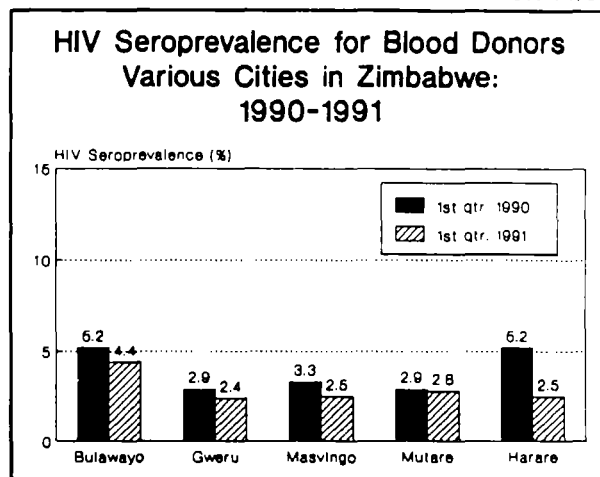
- The Herald newspaper reported that 18 percent of expectant mothers in Harare tested positive for the HIV virus. Another study, conducted among the Provinces, found Mashonaland West Province to have the highest level of HIV infection, 20 percent, in pregnant women.



- Very few studies of HIV infection in the general population of Zimbabwe have been published. This study, from the National Blood Transfusion Service, showed that the HIV infection among blood donors was steadily increasing from 1986 to 1989 but declining slightly in 1990.



- Study of blood donors in various urban centers was conducted in 1990 and 1991. All of the urban centers showed a slight decline in the HIV infection levels between 1990 and 1991.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Nov., 1992.

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