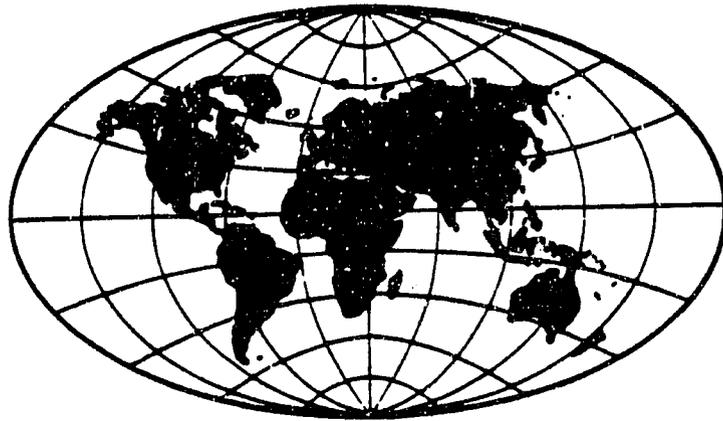


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**TRENDS AND PATTERNS OF HIV/AIDS INFECTION  
IN SELECTED DEVELOPING COUNTRIES**

**Country Profiles  
June 1994**



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

**Research Note  
No. 14  
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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.

This briefing was written and compiled by Jinkie Corbin and Anne Ryan with support from Peggy Seybolt and David Rudolph. This report was prepared under the supervision of Karen Stanecki, Chief, Health Studies Branch. Peter O. Way, Special Assistant, Center for International Research, also reviewed the report and provided comments. The preparation of this report was supported by funding from the U.S. Agency for International Development.

Comments and questions regarding this report should be addressed to: Karen Stanecki or Peter Way, Health Studies Branch, Center for International Research, U.S. Bureau of the Census, Washington, DC 20233-3700; telephone: (301)763-4086.

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# 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" in 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 June 1994 release of 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, HIV-AIDS Division, U.S. Agency for International Development. Currently, the database contains 20,312 individual data records drawn from nearly 2,773 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 Notes Nos. 5, 8, 10, and 12 - **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 Notes Nos. 5, 8, 10, and 12. A copy of these research notes 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 profile.

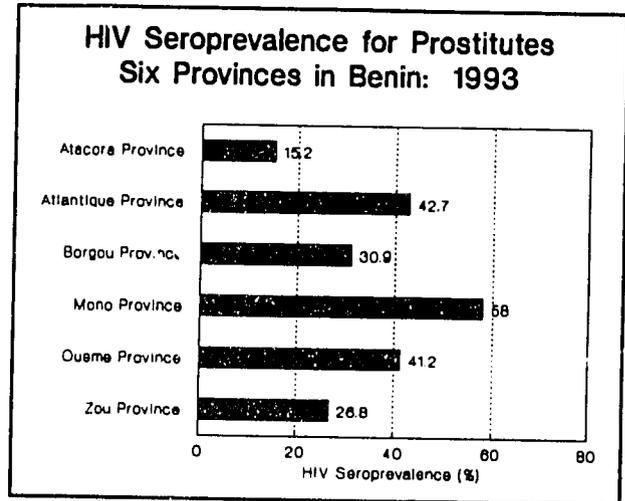
We welcome copies of articles or reference to information which may have been overlooked.

# AFRICA

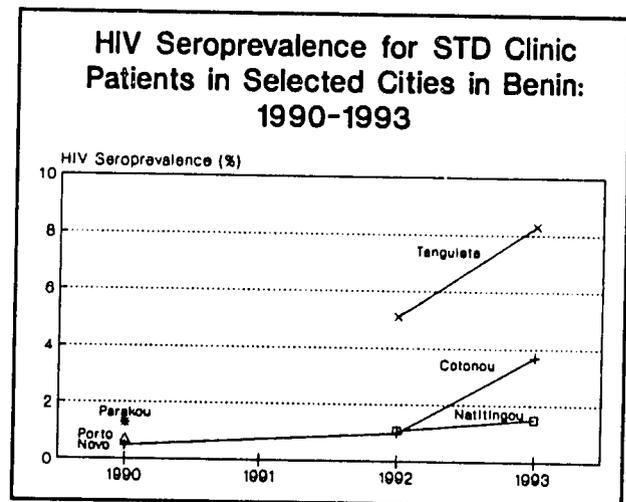
# Benin

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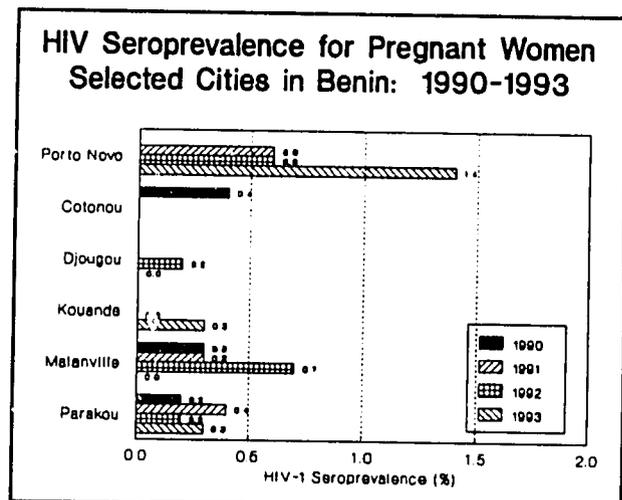
- Female prostitutes are at high risk for HIV infection in Benin. The levels of HIV infection in prostitutes vary by province. In 1993, the levels of HIV infection ranged from 15.2 percent to 58 percent.



- Studies of HIV levels among sexually transmitted disease clinic attendees found an increase in three cities. In Tanguieta, HIV levels rose from 5.1 percent in 1992 to 8.3 percent in 1993. In Cotonou, levels rose from 0.5 percent in 1990 to 3.7 percent in 1993 and in Natitingou from 1.1 in 1992 to 1.5 in 1993. In Porto Novo and Parakou, HIV infection levels were less than 2 percent in 1990.



- In Porto Novo, the capital city, HIV infection levels among pregnant women rose from 0.6 percent to 1.4 percent in the 1990-93 period. In other cities, HIV infection levels were less than 1 percent.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

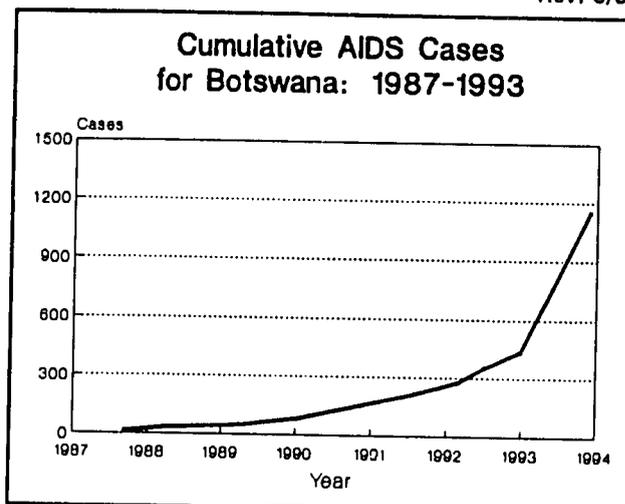
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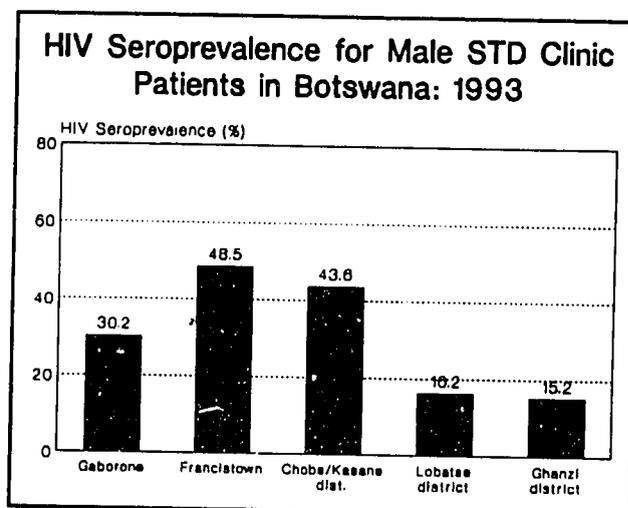
## Botswana

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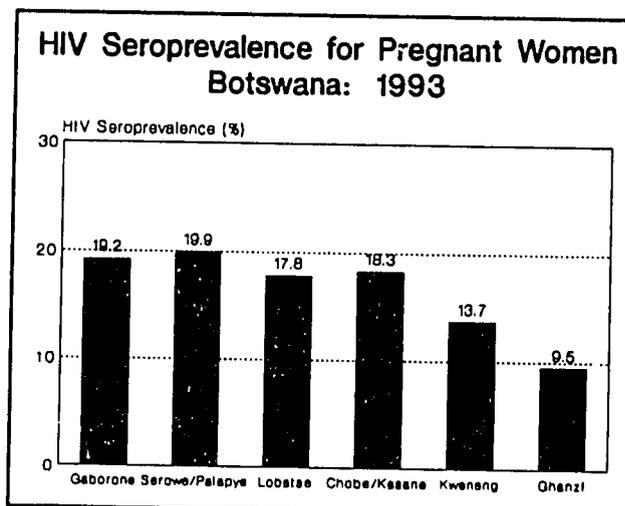
- Botswana has reported a total of 1,151 cumulative AIDS cases to the World Health Organization as of November 1993. This corresponds to a cumulative incidence of .86 cases per 1,000 population. Also, the reported data show a significant increase in cumulative AIDS cases from December 1992 (439 cases) to 1993 (1,151 cases).



- In 1993, the second HIV sentinel surveillance survey was carried out in Botswana. In this study, males attending sexually transmitted disease (STD) clinics in Gaborone, Francistown and Chobe/Kasane district have much higher HIV seroprevalence levels compared to male STD clinic patients in Lobatse district and Ghanzi district.

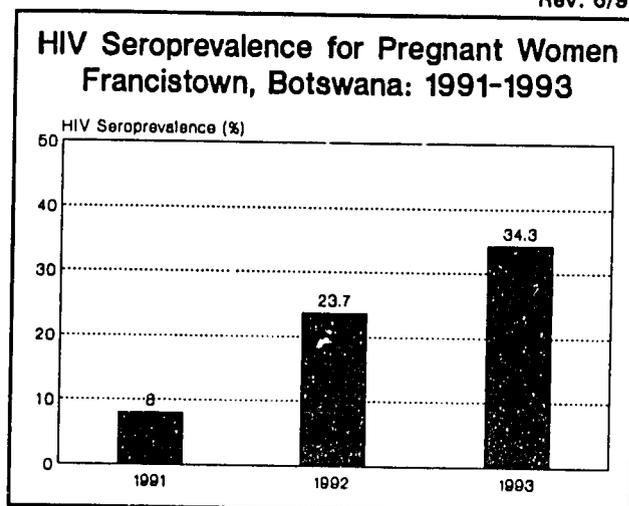


- Data from the second HIV sentinel surveillance among pregnant women show HIV seroprevalence levels ranging from 9.5 percent to 20.0 percent in various districts. In the capital city, Gaborone, the HIV seroprevalence level among pregnant women attending antenatal clinics is 19.2 percent.

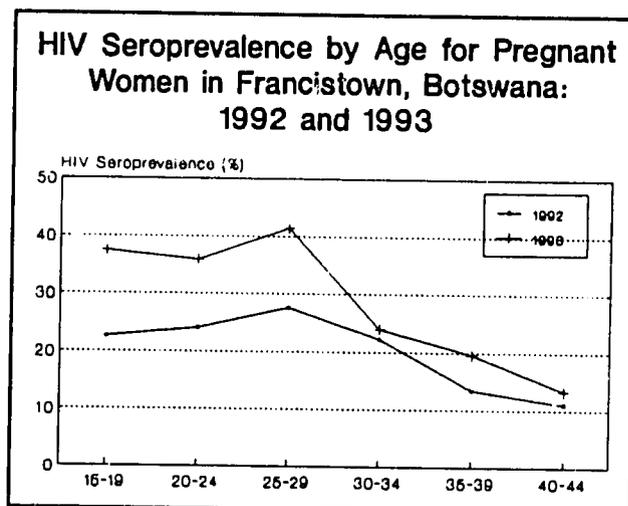


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

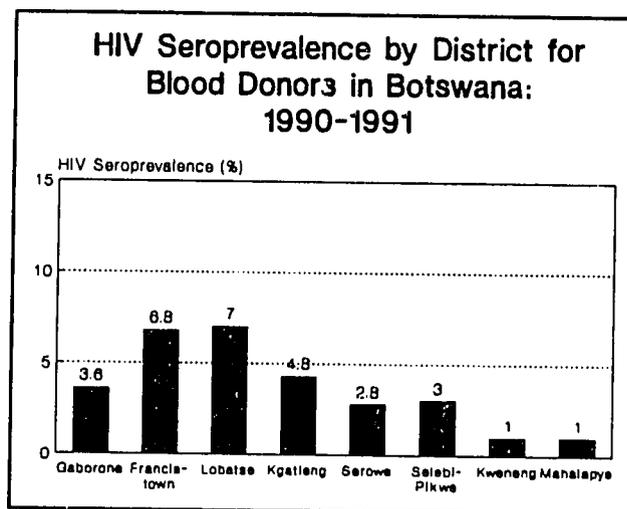
- The highest HIV prevalence level among pregnant women in Botswana is found in Francistown. The national HIV sentinel surveillance surveys show a steady increase in HIV infection levels, reaching 34.3 percent in 1993.



- From the same studies, the pattern of HIV infection level by age among pregnant women in Francistown is similar to that found in other countries, whereby the peak infection level for women is in their twenties. In addition, HIV seroprevalence for the age group of 15 to 29 years increased 50 percent in just one year.



- In another study, data for blood donors show 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.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

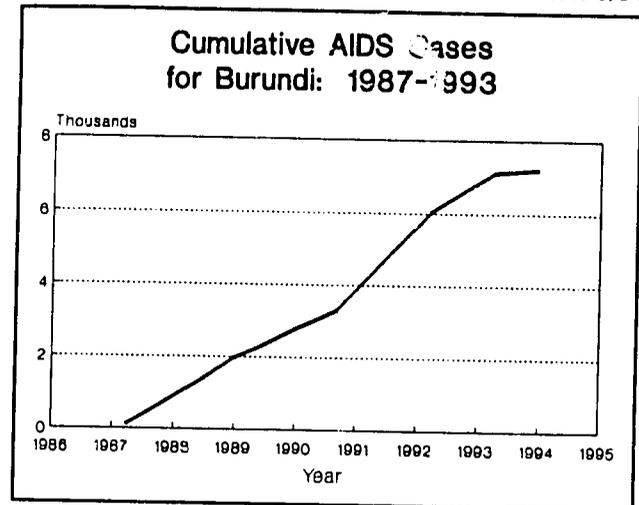
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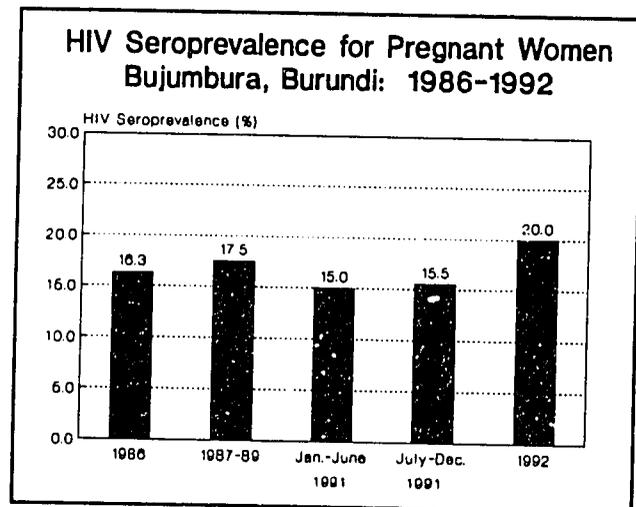
## Burundi

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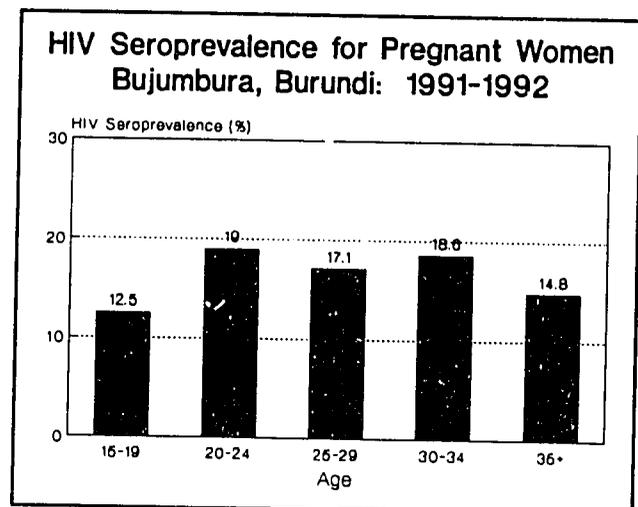
- The cumulative number of AIDS cases reported by Burundi to the World Health Organization has increased rapidly. The cumulative incidence rate of 1.19 per 1,000 population places Burundi among the highest within Africa.



- Seroprevalence studies of pregnant women attending antenatal clinics in Bujumbura reported the levels of HIV infection to be stable but over 15 percent since 1986.

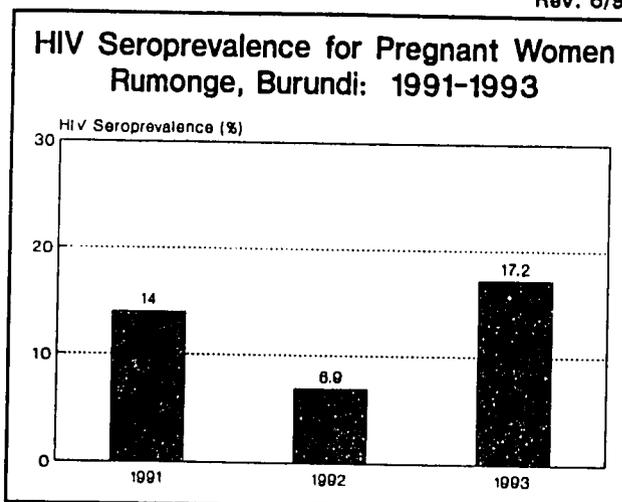


- Another study shows seroprevalence levels by age among pregnant women from three clinics in Bujumbura in 1991-1992. HIV level of infection was lowest among women age 15-19 years and highest among women age 20-24 years. This shows the same age pattern as seen in other African countries.

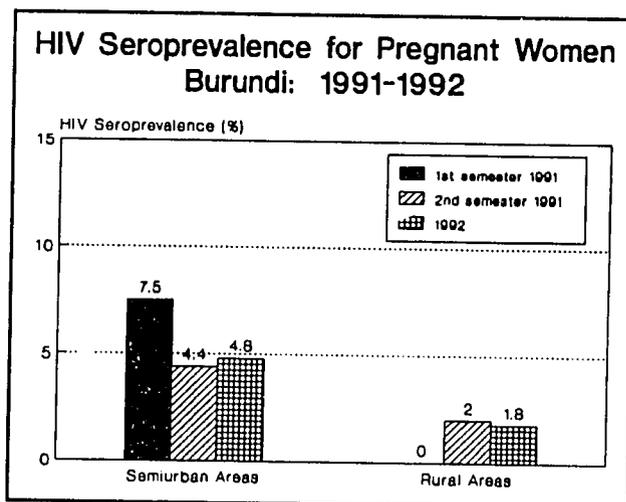


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

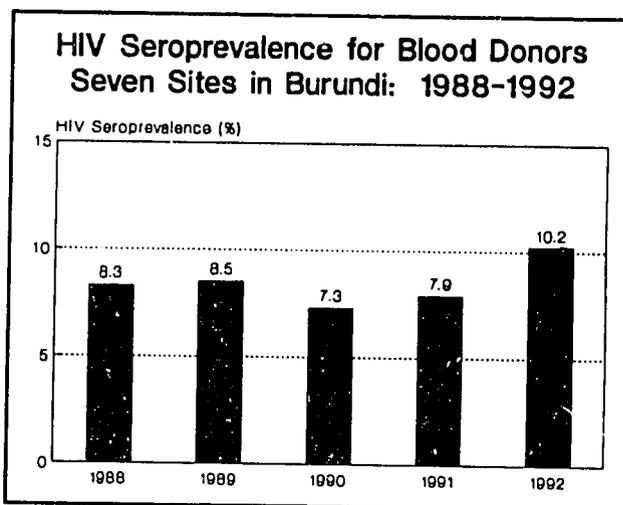
- Pregnant women visiting a prenatal clinic in Rumonge, a semiurban area, were tested for HIV infection during the 3-year period, 1991-93. The data show an infection level of 17.2 percent for this area by 1993.



- Urban/rural differentials in HIV infection levels exist within Burundi as elsewhere. Infection levels in semiurban areas (important commercial centers) are twice as high as those in rural areas.



- HIV seroprevalence levels among blood donors remained relatively stable from 1988 to 1991. However, by 1992, HIV levels of infection had increased to 10.2 percent.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

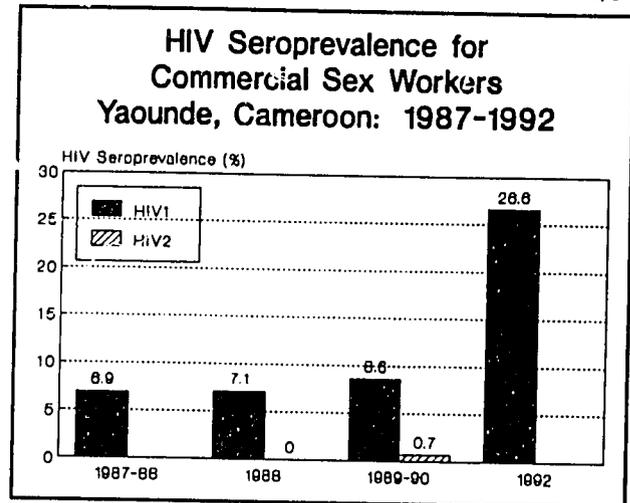
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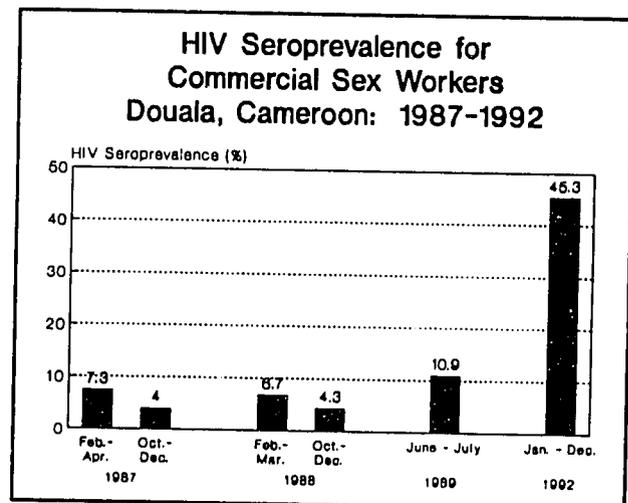
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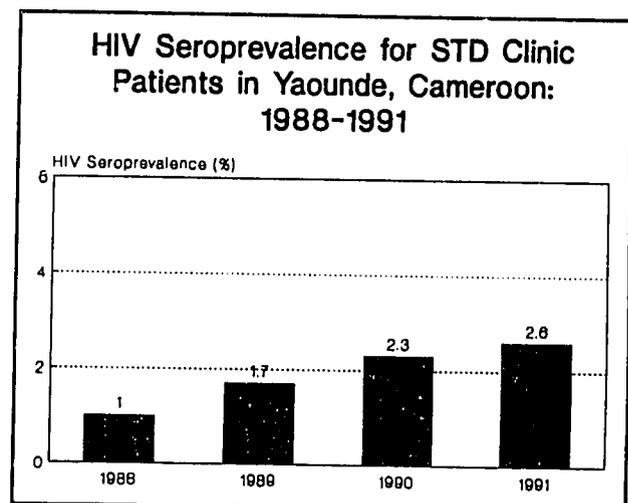
- In Yaounde, the HIV infection level among commercial sex workers increased from 6.9 percent in 1987-88 to 8.6 percent in 1989-90. HIV-2 was absent in 1988 but was detected in 1989-90. In 1992, a dramatic increase to 26.6 percent occurred in the HIV-1 infection level.



- The levels of HIV infection in commercial sex workers in Douala made a dramatic increase in 1992 to 45.3 percent.

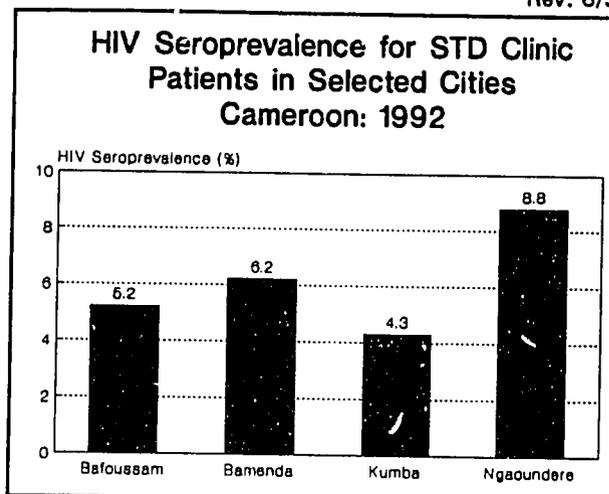


- Studies have shown that among sexually transmitted disease patients in Yaounde, HIV-1 infection levels have been slowly increasing, reaching 2.6 percent in 1991. There was no evidence of HIV-2 infection in this population over the 1988-91 period.

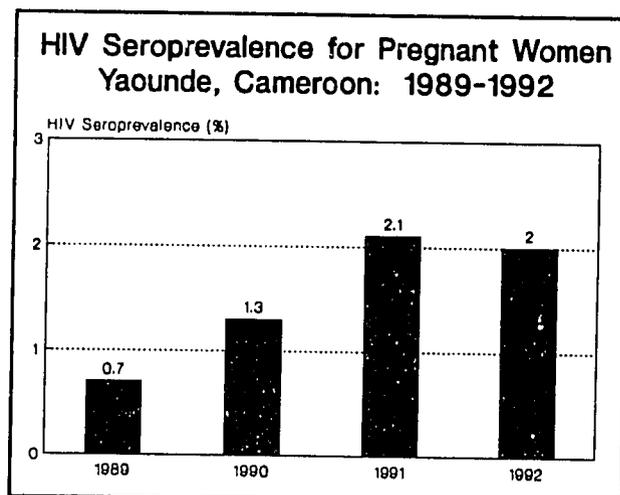


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

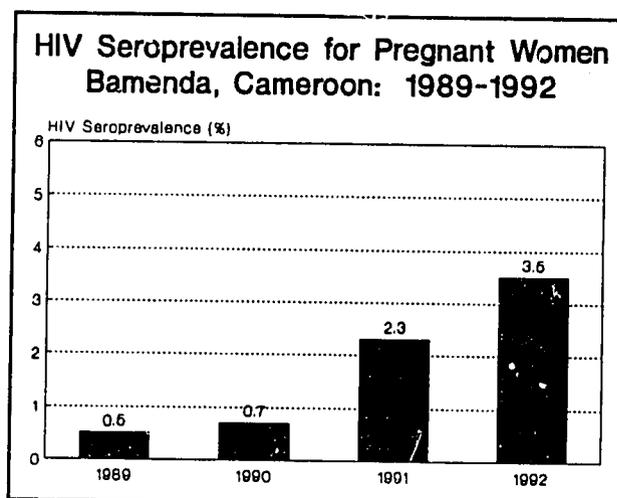
- In selected cities, HIV seroprevalence among STD clinic patients in 1992 ranged from 4.3 percent in Kumba to 8.8 percent in Ngaoundere.



- Since 1989, the percent of pregnant women HIV positive in Yaounde has more than doubled. HIV prevalence increased from 0.7 percent in 1989 to 2 percent in 1992.

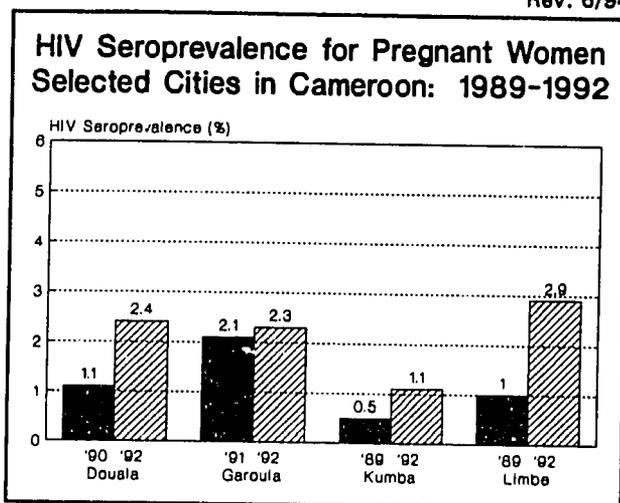


- In the Northwest Province capital, Bamenda, HIV infection levels among pregnant women more than tripled from 0.7 percent in 1990 to 2.3 percent in 1991. The HIV levels continued to increase to 3.5 percent in 1992.

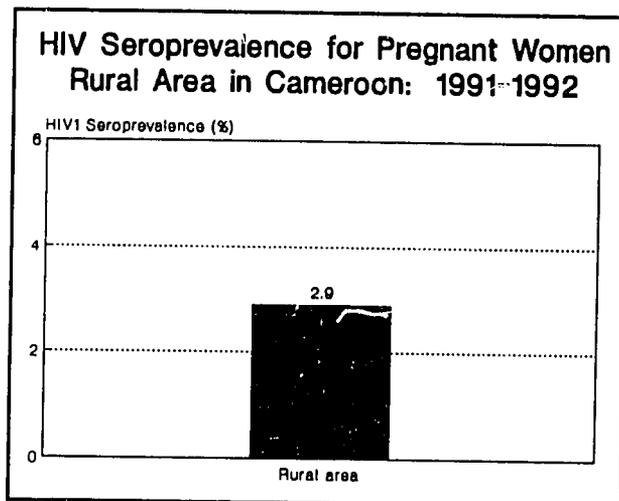


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

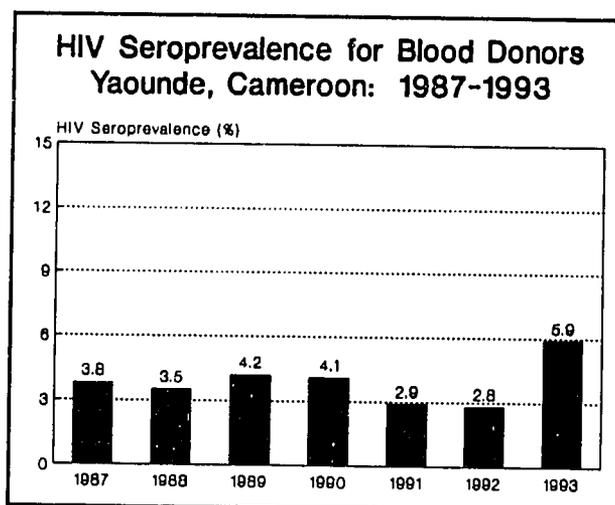
- The HIV-1 infection levels among pregnant women for Douala, Garoula, Kumba and Limbe show an increase. In a 2-year period, Douala more than doubled to 2.4 percent. While Kumba and Limbe, two larger areas of the South West Province, more than doubled in a 3-year period. In addition, studies in 1992 indicated HIV levels ranging from 1 percent in Efoulan to 7.9 percent in Bertoua.



- In a rural area located in South West Province, the HIV-1 infection level among pregnant women was just as high as HIV levels in some cities of Cameroon. There was no evidence of HIV-2 among these rural pregnant women.

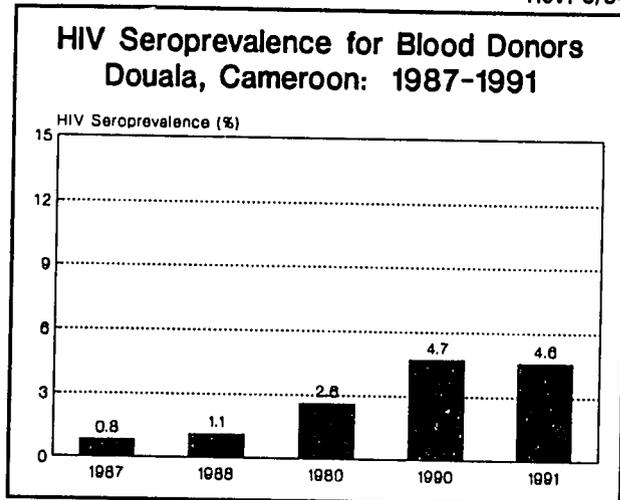


- The level of HIV infection among blood donors has remained virtually the same over the 6 year period 1987-92, fluctuating around 2-4 percent. In 1993, HIV prevalence increased to 5.9 percent.

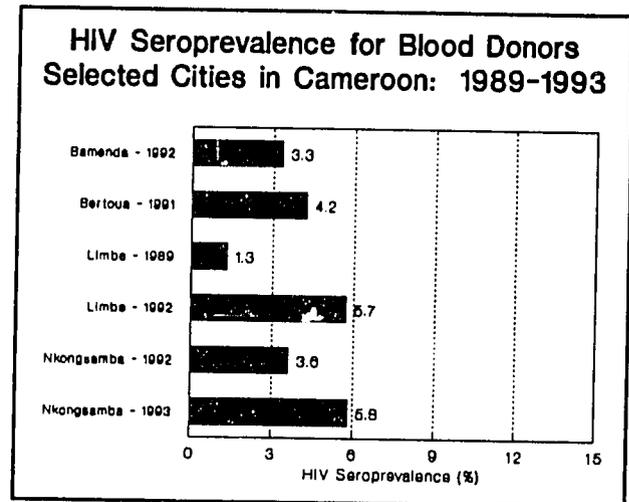


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- The percent of blood donors HIV positive in Douala increased from less than one percent in 1987 to nearly 5 percent in 1990 and 1991.



- According to a variety of studies, the HIV infection level among blood donors varies by area. In Limbe and Nkongsamba, HIV levels increased to nearly 6 percent. Bamenda in 1992 and Bertoua in 1991 show HIV levels of 3.3 percent and 4.2 percent, respectively. Data from Batouri in 1991 and Bafoussam in 1992 show no evidence of HIV infection.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

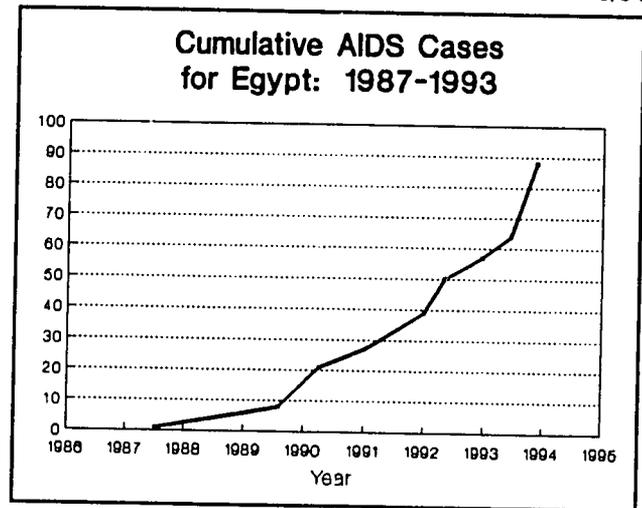
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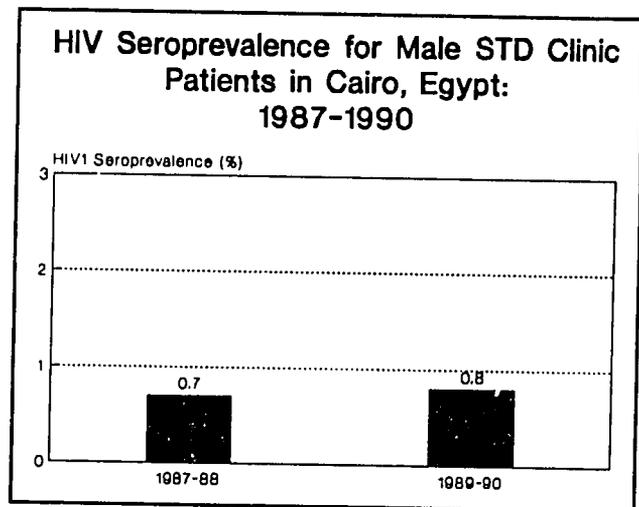
## Egypt

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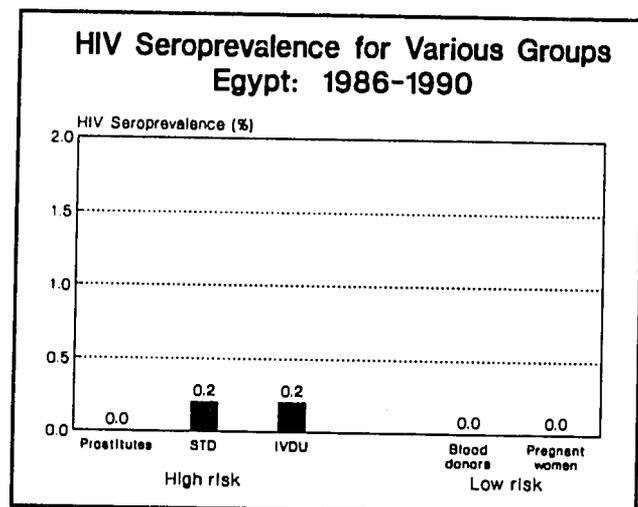
- Egypt reported 88 cumulative AIDS cases to the World Health Organization as of November 14, 1993. Even though there has been an increase in AIDS cases since 1987, the incidence rate places Egypt among the very lowest within Africa. The cumulative incidence rate was less than 0.01 cases per 1,000 population.



- A 1987-88 study among male STD clinic patients attending an STD clinic in Cairo found the HIV-1 infection level to be 0.7 percent. More recent data from the same STD clinic show the prevalence of HIV-1 to have remained low, 0.8 percent.



- Serosurveys were conducted from April 1986 to March 1990 among high-risk groups and low-risk groups. Results from these studies show low or no evidence of HIV prevalence among high-risk groups. In the low-risk groups, i.e., blood donors and pregnant women, there was no evidence of HIV infection.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

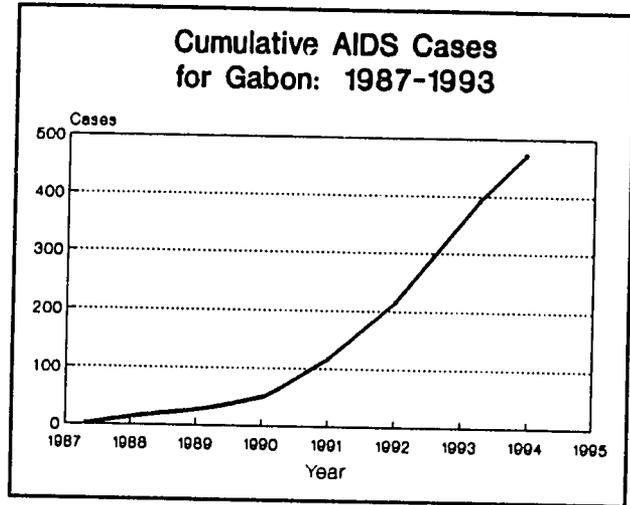
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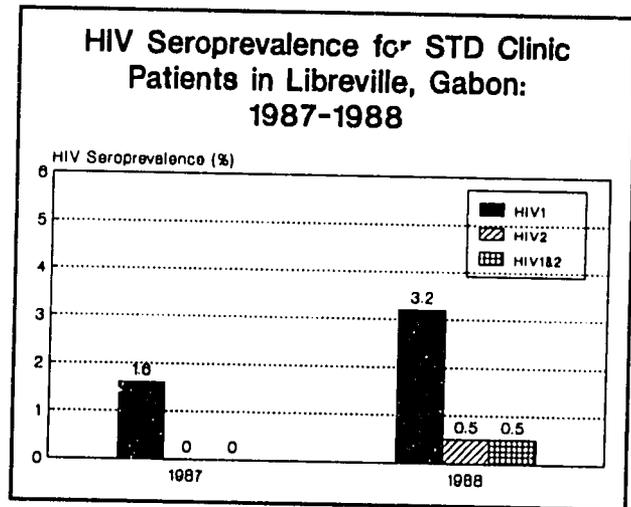
# Gabon

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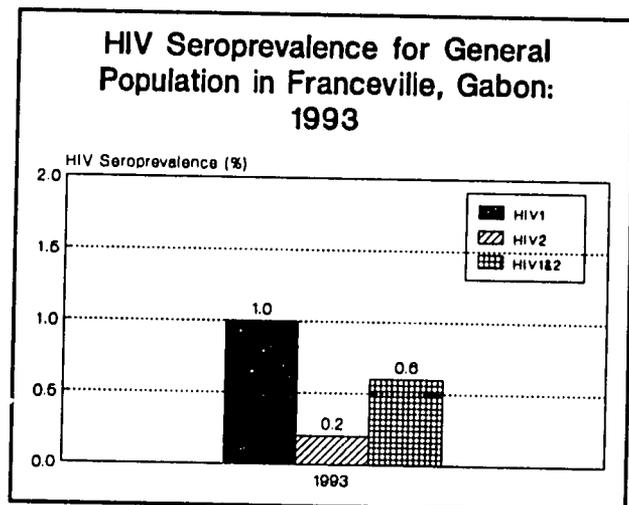
- The number of cumulative AIDS cases reported by Gabon to the World Health Organization increased rapidly after 1990. As of December 10, 1993, Gabon reported .42 cases per 1,000 population.



- In the capital city, Libreville, HIV-1 infection among sexually-transmitted disease clinic attendees doubled between 1987 and 1988. HIV-2 and dual infections were absent in 1987, but were detected in 1988.

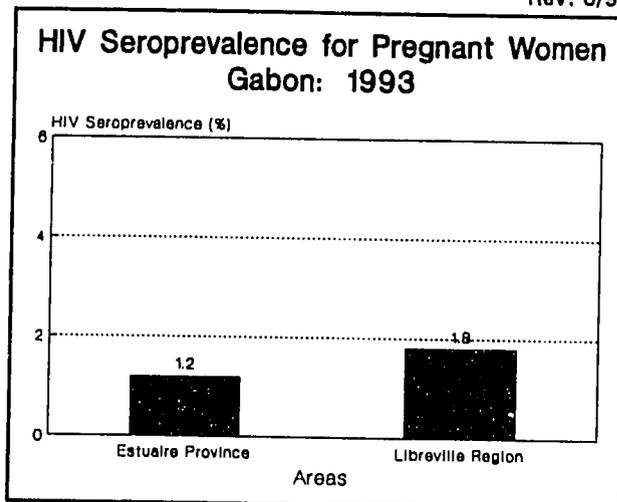


- In Franceville, HIV infection levels among the general population in 1993 were moderately low. This study found HIV-1 seroprevalence (1.0 percent) higher than HIV-2 (0.2 percent). In addition, dual infection was present (0.6 percent).



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- One recent study showed that HIV infection levels among pregnant women in two areas were less than 2 percent. HIV infection levels were 1.2 percent in Estuaire Province and 1.8 percent in Libreville region.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

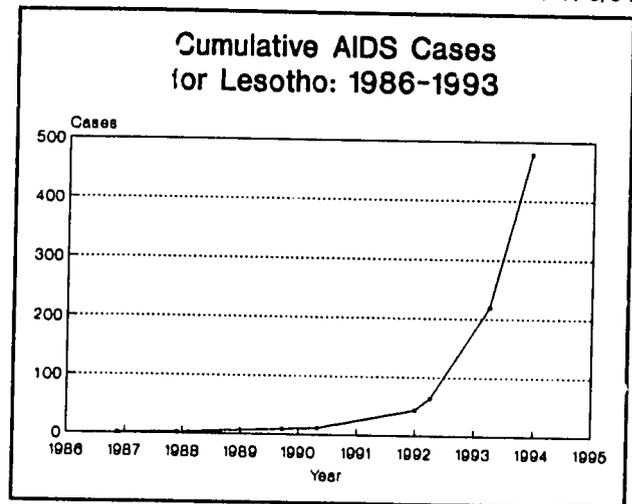
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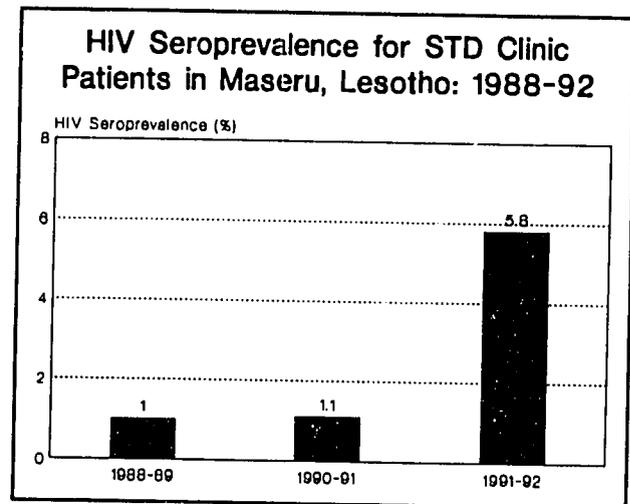
## Lesotho

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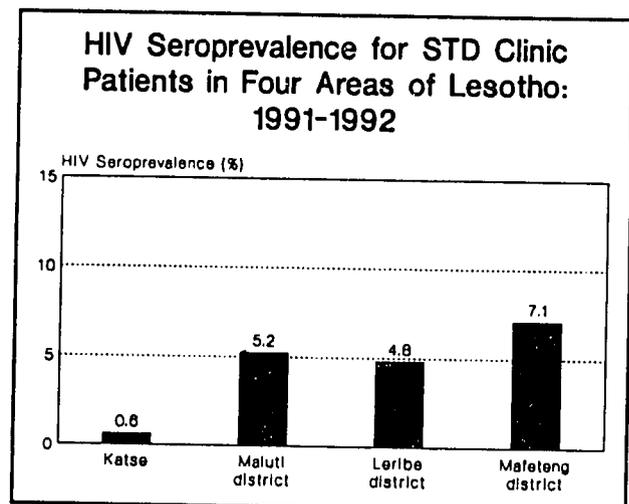
- There was a sharp increase in AIDS cases from 1992 to 1993. Lesotho had reported 479 AIDS cases to the World Health Organization as of December 1993. This corresponds to a cumulative rate of .25 cases per 1,000 population.



- The HIV seroprevalence in Lesotho among sexually transmitted disease (STD) clinic patients increased sixfold in 3 years. Various studies have shown that Lesotho has high levels of other STDs, increasing the risk of HIV transmission.

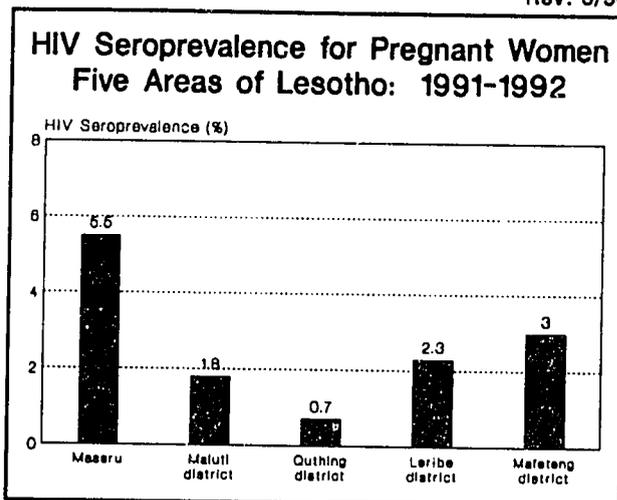


- The reports from sentinel surveillance in Lesotho show the HIV seroprevalence of STD patients to vary from 0.6 percent in Katse to 7.1 percent in Mafeteng district.

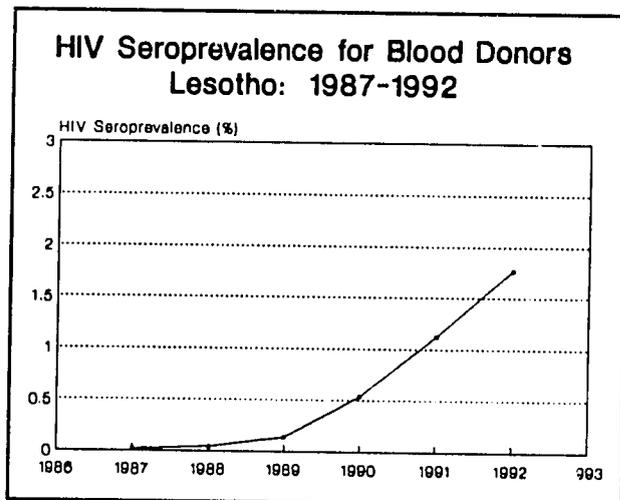


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- Sentinel surveillance among pregnant women show a wide range of HIV infection levels. The capital city, Maseru, has the highest level of 5.5 percent and Quithing district has the lowest, 0.7 percent.



- According to a national survey, levels of HIV seroprevalence among healthy blood donors has increased dramatically from 0.02 percent in 1987 to 1.77 percent in 1992.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

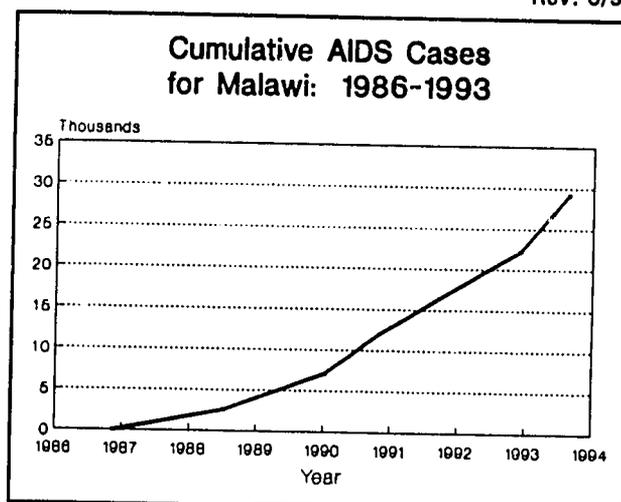
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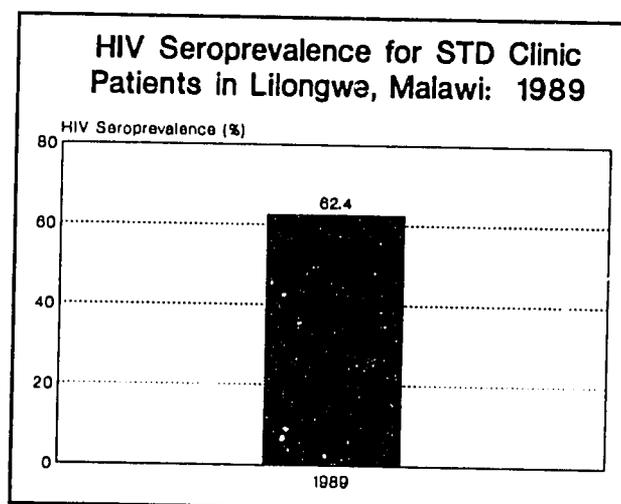
## Malawi

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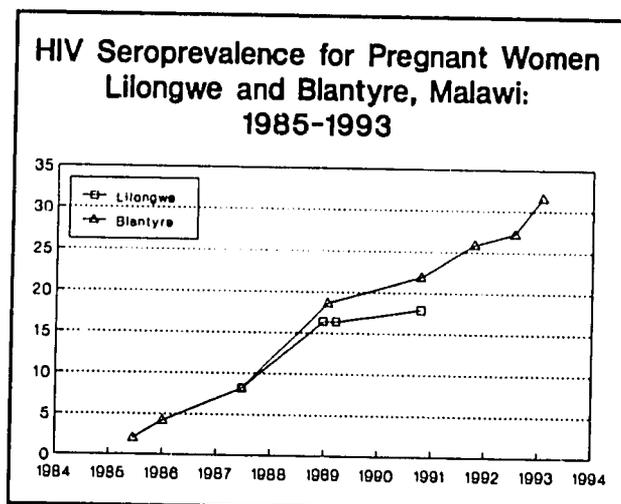
- Through August 1993, Malawi has reported 29,194 AIDS cases to the World Health Organization. This corresponds to a cumulative incidence of 2.97 per 1,000 population. Malawi continues to have the highest cumulative incidence rate among African countries.



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



- In the capital city of Lilongwe, the HIV infection level among pregnant women has increased from 8.2 percent in 1987 to 17.9 percent in 1990. In Blantyre, HIV infection levels rose from 2 percent to 31.6 percent in 1993.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

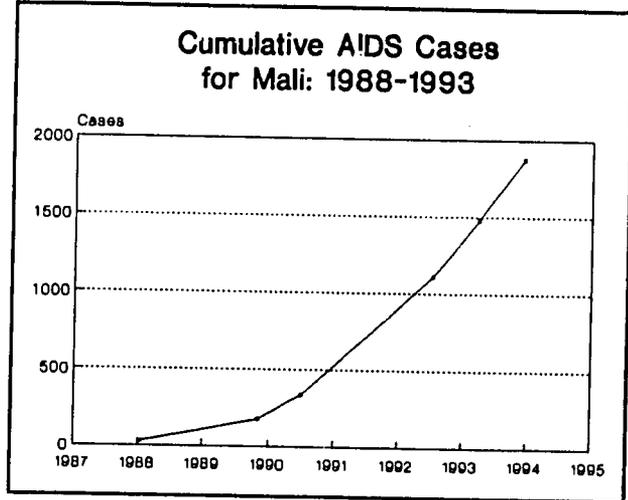
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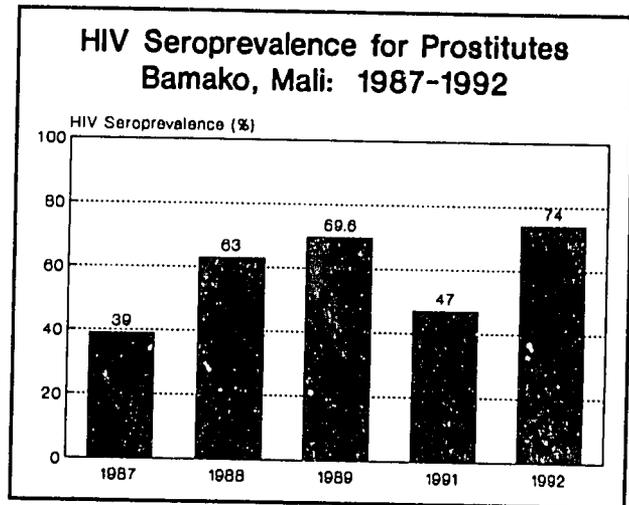
# Mali

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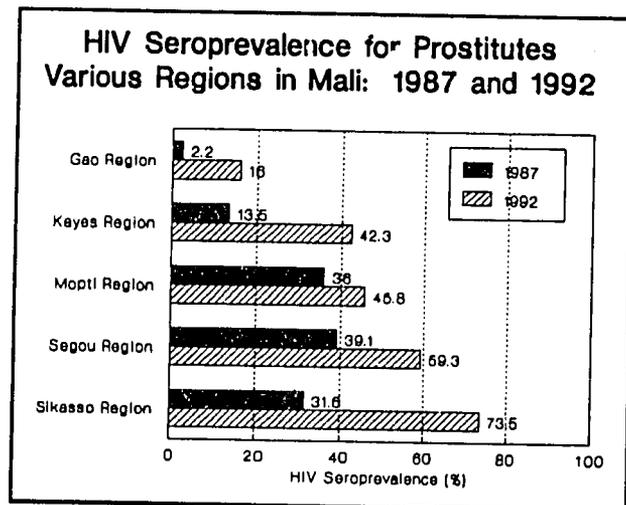
- The cumulative number of AIDS cases reported to the World Health Organization by Mali has increased steadily since 1988. By the end of 1993, Mali had reported a total of 1874 AIDS cases. This corresponds to a cumulative rate of .21 cases per 1,000 population.



- The results of these studies demonstrate that HIV infection levels among prostitutes in Bamako were already high in the late 1980's. HIV infection levels continue to be high in the early 1990's. Clients of prostitutes clearly run a risk of exposure to HIV infection.

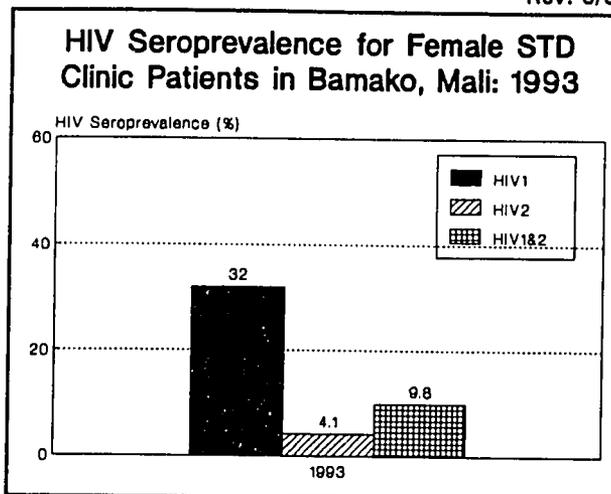


- Regional data show HIV infection levels among prostitutes increased greatly over a 5-year period. Gao, Kayes, and Sikasso regions show a larger increase (2 to 7 fold) than Mopti and Segou regions.

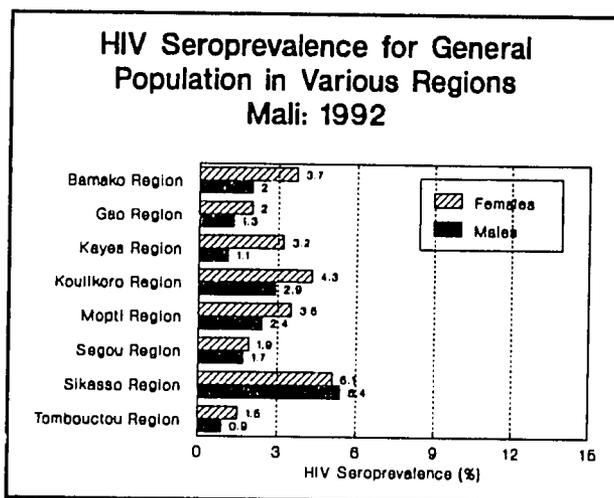


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

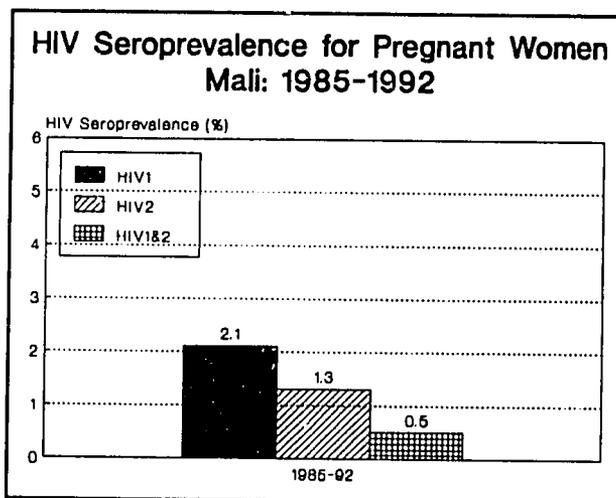
- Only one study has documented HIV seroprevalence among female STD clinic patients in Bamako, Mali. This study shows HIV infection levels to be higher for HIV-1 than HIV-2 or dual infection (HIV-1 and HIV-2).



- Regional survey data among the general population show HIV infection levels ranging from 1 percent to 5 percent. In all regions except Sikasso, female HIV infection levels were higher than male HIV infection levels.



- Both HIV-1 and HIV-2 are present in the general population of Mali. This study, spanning a 7-year period, found infection levels for pregnant women to be 2.1 percent for HIV-1, 1.3 percent for HIV-2, and 0.5 percent for dual infection.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

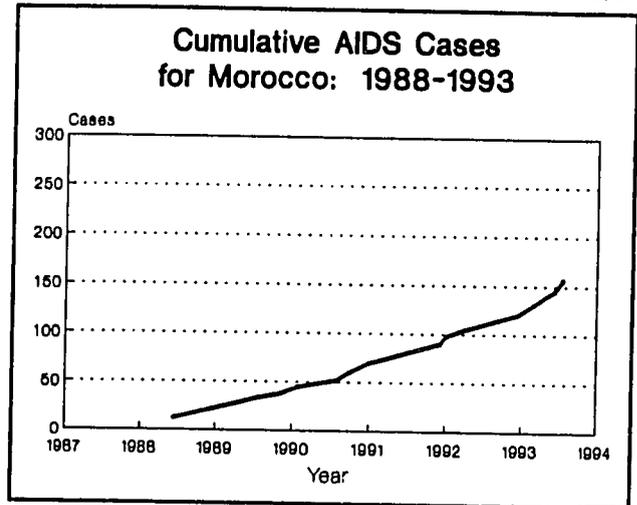
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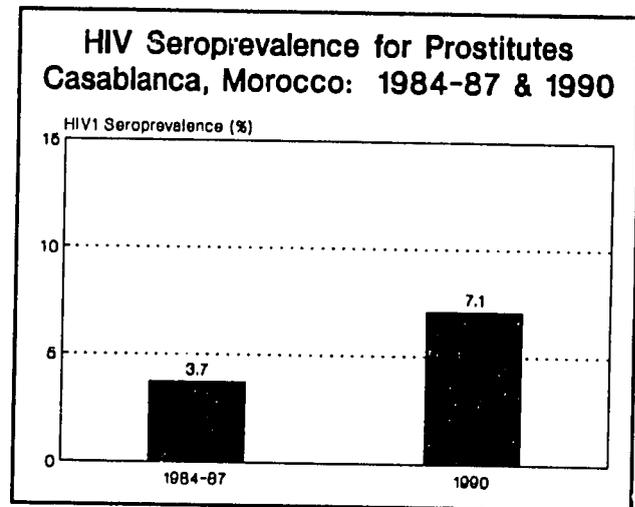
## Morocco

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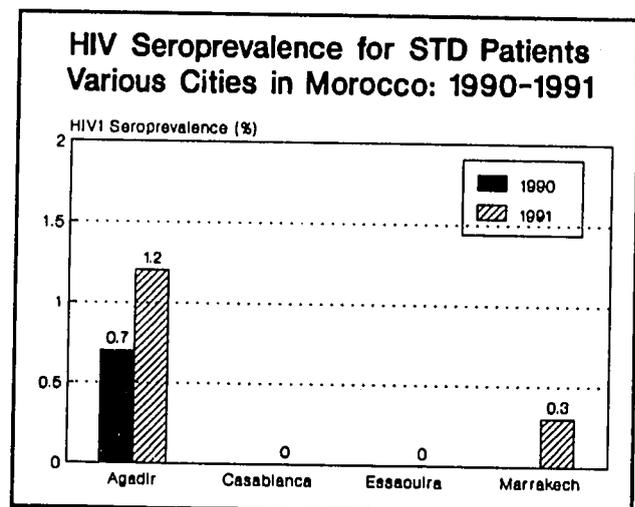
- The cumulative number of AIDS cases reported by Morocco to the World Health Organization has increased steadily since 1988. As of July 15, 1993, Morocco reported .01 cases per 1,000 population.



- Very few studies among prostitutes in Morocco have been reported. Results from these studies show HIV infection levels among prostitutes in Casablanca nearly doubled from 3.7 percent in 1984-87 to 7.1 percent in 1990.

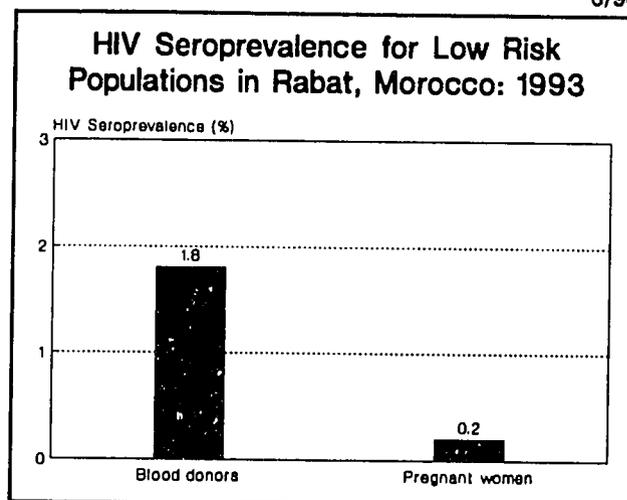


- Among STD patients in four Moroccan STD centers, HIV infection levels are lower than levels seen in Sub-Saharan Africa. The prevalence of HIV-1 infection in Agadir increased from 0.7 to 1.2 percent. In 1991, the HIV infection level was 0.3 percent in Marrakech and no evidence of infection was reported in Casablanca or Essaouira.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- Studies conducted in 1993 found HIV infection levels in the capital city, Rabat, to be 1.8 percent among blood donors and 0.2 percent among pregnant women. However, a 1991 study reported no evidence of HIV infection among these same low risk groups in Casablanca, Marrakech or Tangier.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

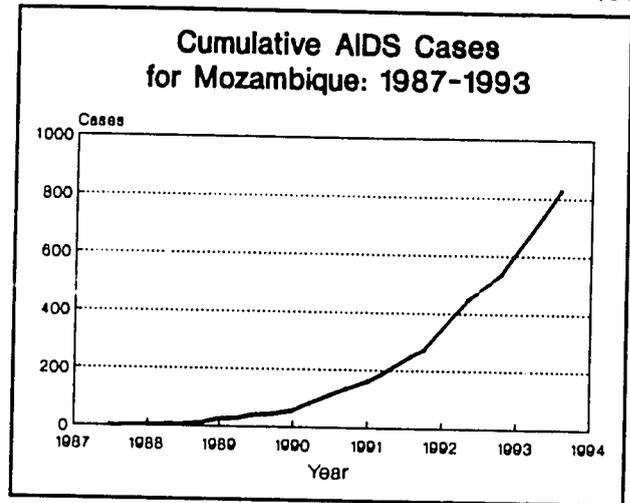
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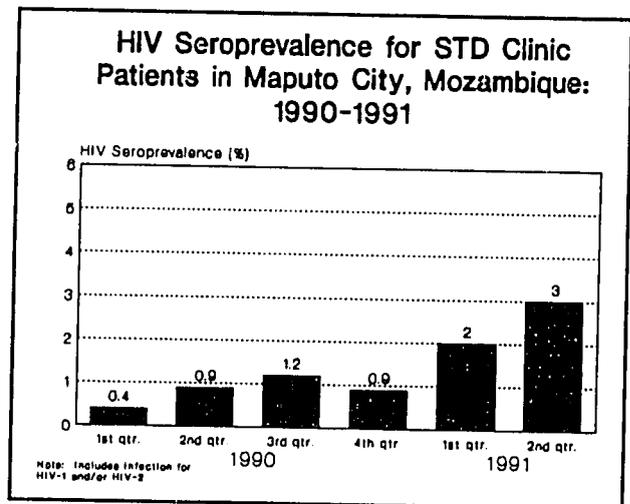
## Mozambique

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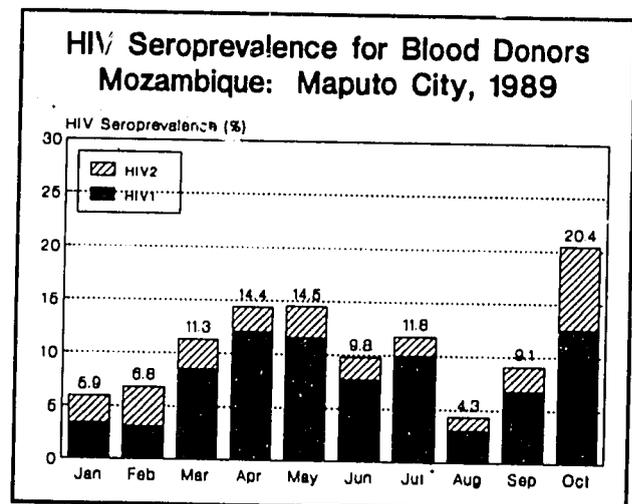
- The cumulative number of AIDS cases reported by Mozambique to the World Health Organization has increased steadily. By the end of July 1993, Mozambique had reported .05 cases per 1,000 population.



- A national seroprevalence study conducted among STD clinic patients at regular intervals shows increasing levels of HIV infection. During the 1st half of the year, the HIV seroprevalence level has more than tripled from 0.9 percent in 1990 to 3.0 percent in 1991.

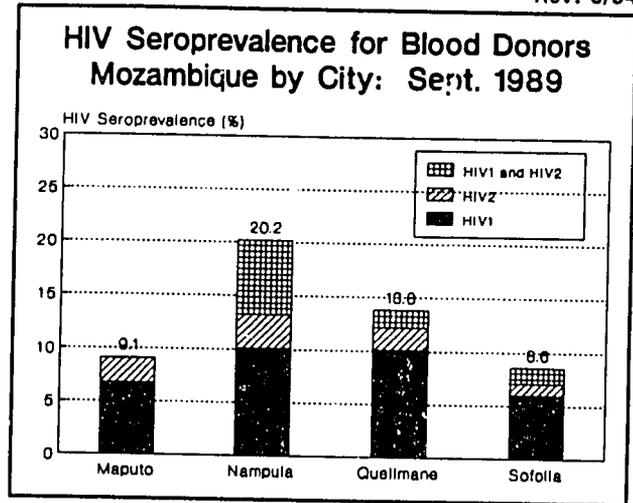


- The blood bank in Maputo City reported varying rates of HIV seropositivity in blood donors by month for the year 1989. The rates ranged from 4.3 to 20.4 percent. Levels of HIV-1 were higher than levels of HIV-2. HIV-1 varied from 3 to 12.6 percent; HIV-2 varied from 1.8 to 7.8 percent of blood donors.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

● The percent of blood donors positive for HIV varies by city in Mozambique. In September, 1989, the blood banks reported rates ranging from 8.6 in Sofolia to 20.2 percent of blood donors in Nampula.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

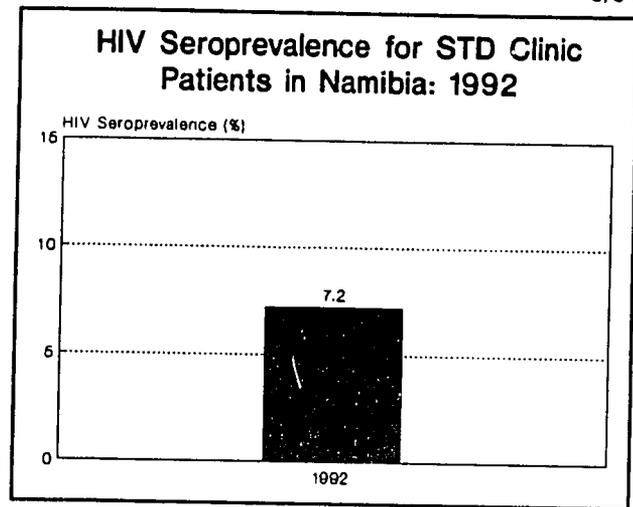
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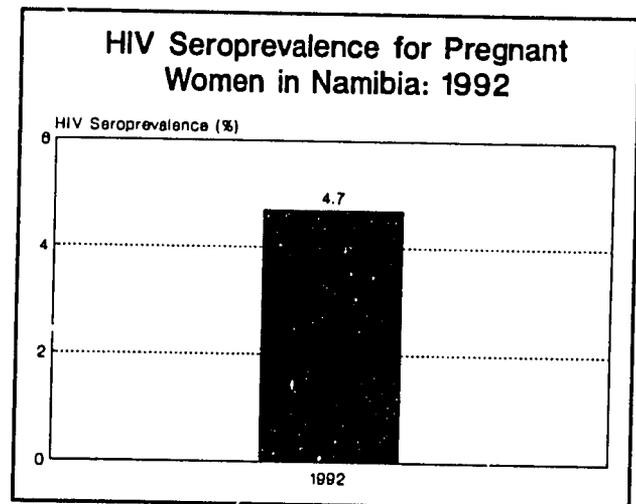
## Namibia

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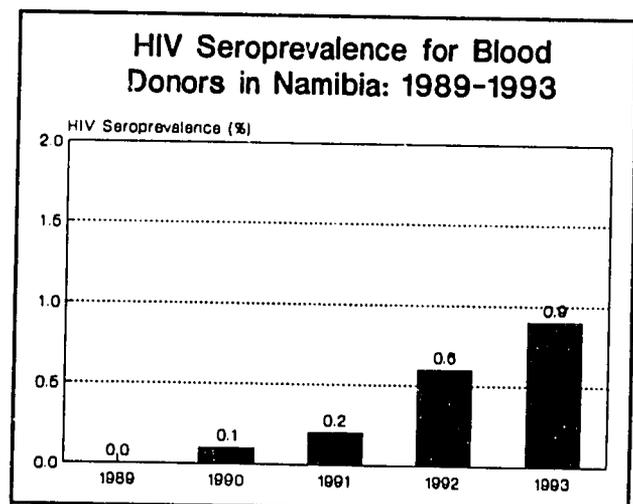
- There has been little information reported on HIV seroprevalence for Namibia. One study shows an HIV infection rate among STD clinic patients of 7.2 in 1992.



- According to the same study, the HIV infection level among pregnant women was 4.7 percent.



- Data from the Blood Transfusion Service of Namibia show HIV seroprevalence levels among blood donors increased from 0.0 percent in 1989 to 0.9 percent in 1993.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

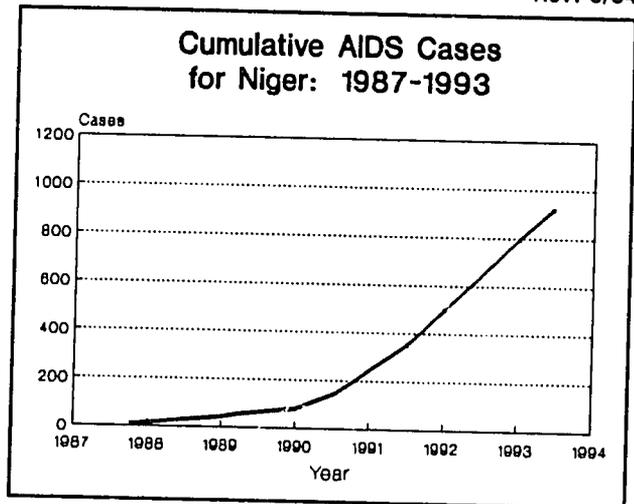
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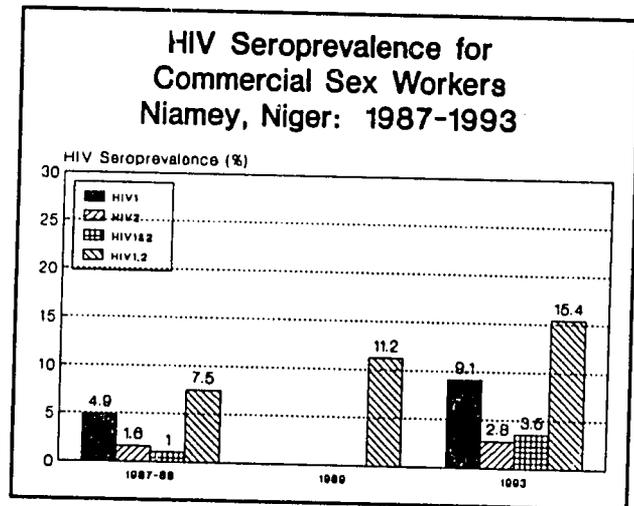
## Niger

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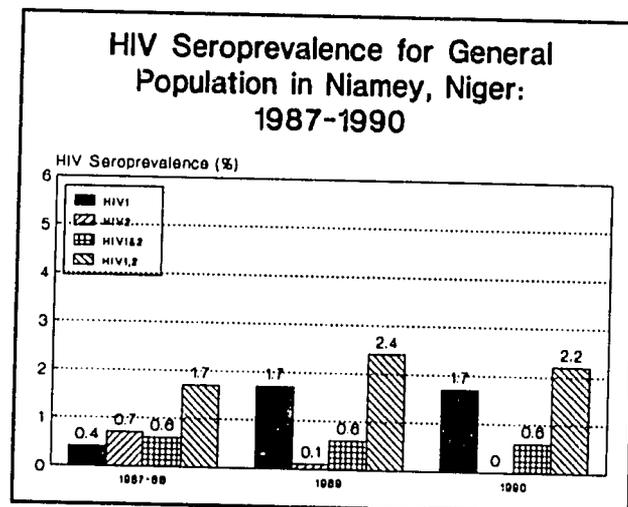
- In Niger, there were 921 cumulative AIDS cases reported to the World Health Organization as of June 15, 1993. This corresponds to the cumulative AIDS incidence rate of .11 cases per 1,000 population.



- Studies conducted in the capital, Niamey, show HIV seroprevalence levels among prostitutes to be moderately high. The overall HIV seroprevalence level (including HIV-1, HIV-2 and dual infection) of 15.4 percent in 1993 is twice as high as the level seen in 1987-1988 (7.5 percent).

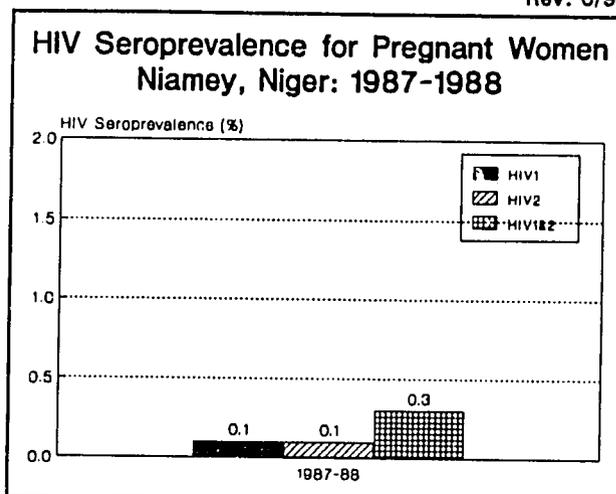


- HIV-1 infection levels appear to have increased among the general population of Niamey but have remained relatively stable for dual infection. Overall HIV seroprevalence levels remain moderately low, under 3 percent.

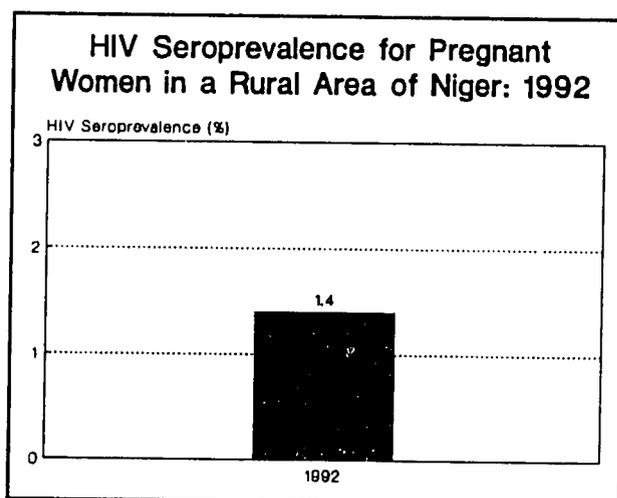


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

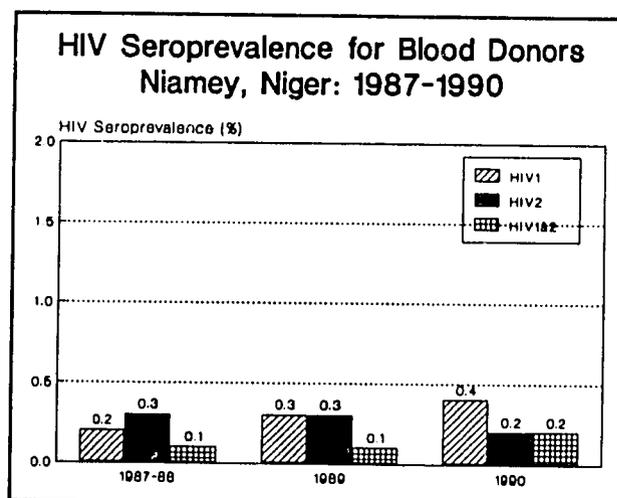
- The levels of HIV seroprevalence among pregnant women in Niamey in 1987-88 showed HIV-1 and HIV-2 rates each to be 0.1 percent and the dual infection rate to be 0.3 percent. Clearly, HIV infection had made its presence known in Niger as early as 1987-88.



- Evidence of the risk of infection in the rural population was shown in a recent data set from Niger. HIV infection among pregnant women was 1.4 percent for a rural area located in Tahausa region.



- This study conducted in Niamey shows the level of HIV seroprevalence in blood donors for a 4-year period through 1990 to be relatively low. Keep in mind that preselection or prescreening of blood donors may affect the results.



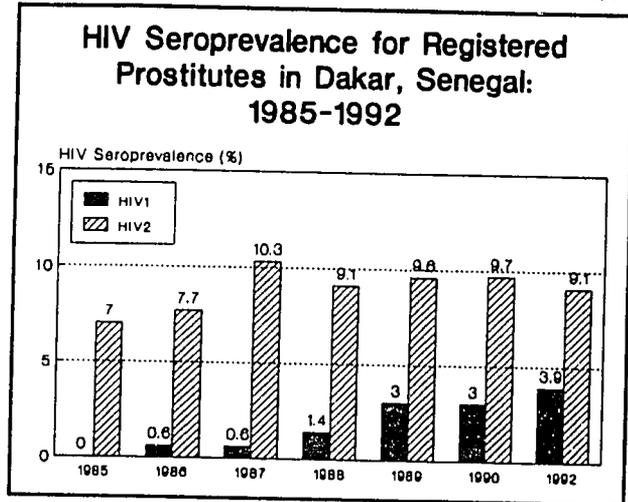
Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

## Sources for Niger

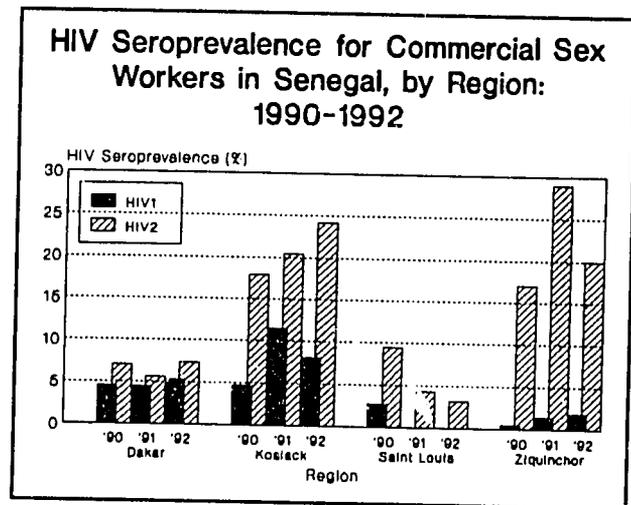
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# Senegal

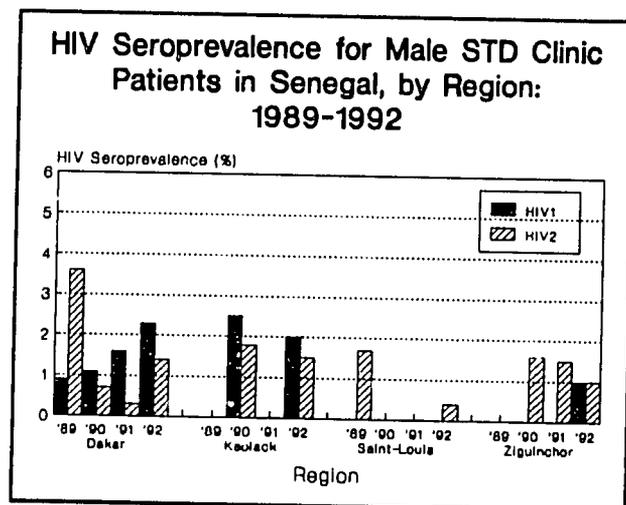
- In studies of registered prostitutes in Dakar over the past 7 years, HIV-1 infection levels have increased from 0 in 1985 to 3.9 percent in 1992. Over the same period, infection levels of HIV-2 have increased from 7.0 percent to 9.1 percent. Studies in other cities in Senegal among registered prostitutes show a similar pattern.



- At the regional level, HIV infection among commercial sex workers varies in Senegal. In all cases however, the level of HIV-2 is higher than the level of HIV-1.

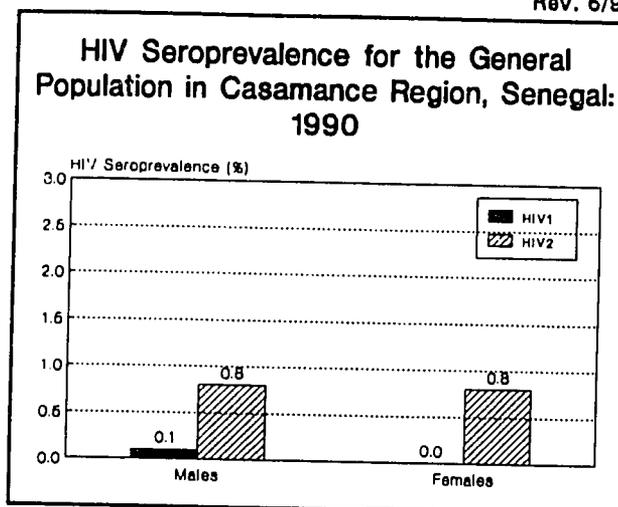


- Since 1989 in Dakar, levels of HIV-1 infection among STD clinic attendees have increased, while there has been some fluctuation in HIV-2 infection. Other studies in Senegal over this period document the gradual spread of HIV-1 to other regions of the country.

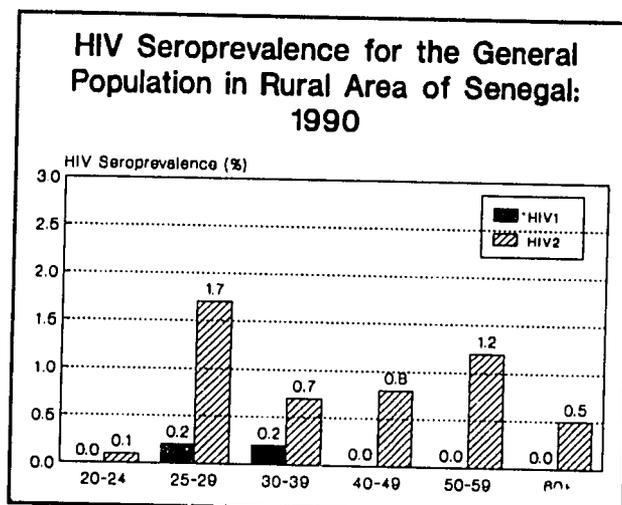


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

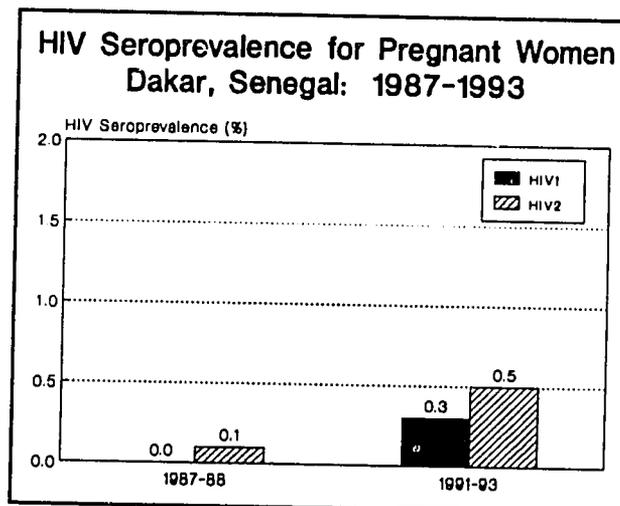
- In Casamance Region, the level of HIV-2 infection among the general population in 1990 was the same for males and females, 0.8 percent. However, the HIV-1 infection level among males was 0.1 percent and there was no evidence of HIV-1 infection among women.



- According to this study conducted among the general population in a rural area of Senegal in 1990, ages 25-29 years were at greater risk of HIV-2 infection than any other age group. HIV-1 was only present in the age groups 25-29 and 30-39.

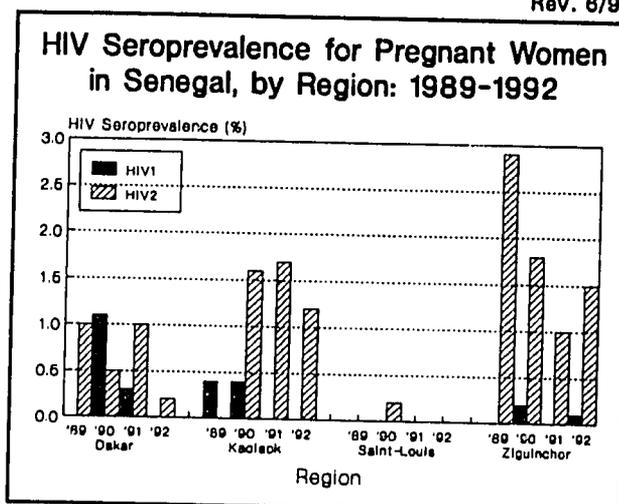


- In a 1987-88 study of pregnant women in Dakar, no evidence of HIV-1 was found and HIV-2 had a prevalence of 0.1 percent. However, in a more recent study during 1991-93, the HIV-2 levels increased to 0.5 percent and HIV-1 prevalence was 0.3 percent.

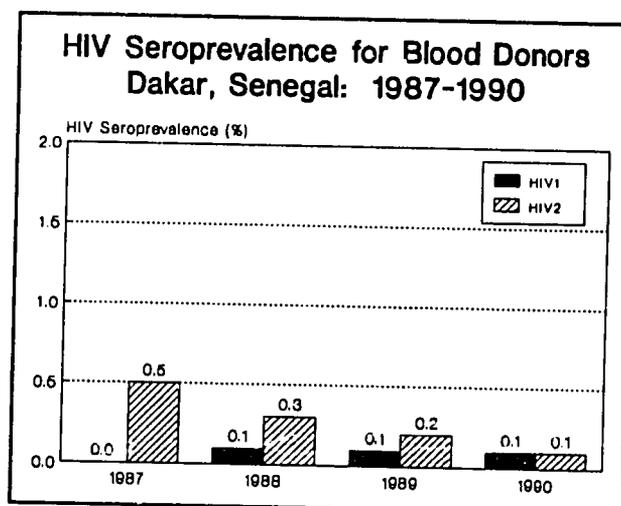


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

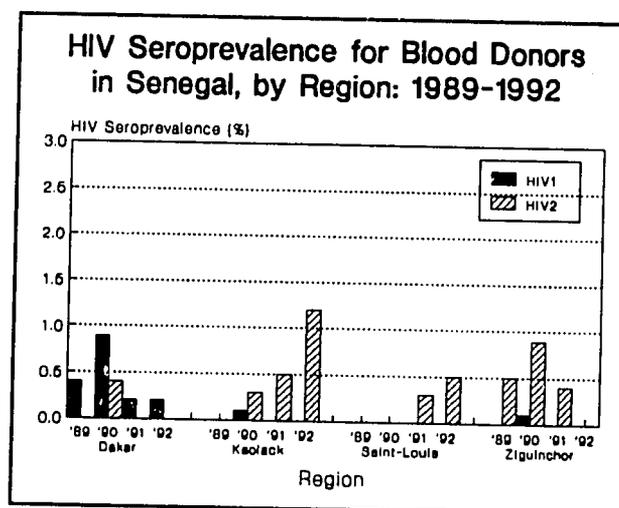
- HIV infection levels among pregnant women vary by region. HIV-2 seroprevalence levels were generally higher than HIV-1 except in Saint Louis Region where no evidence of HIV-1 was found.



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



- Levels of HIV seroprevalence in blood donors are less than 1 percent in several regions of Senegal. However, HIV-2 prevalence in the Kaolack Region was slightly over 1 percent for in 1992.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

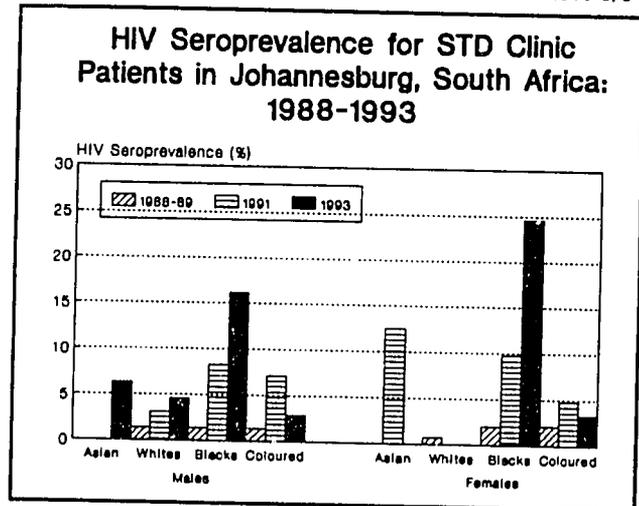
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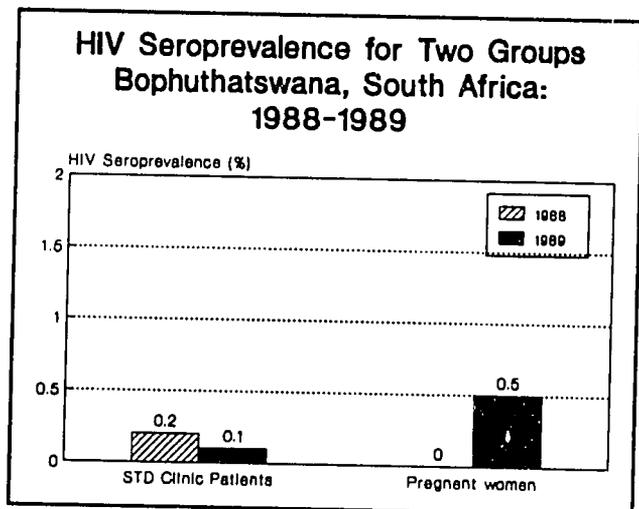
## South Africa

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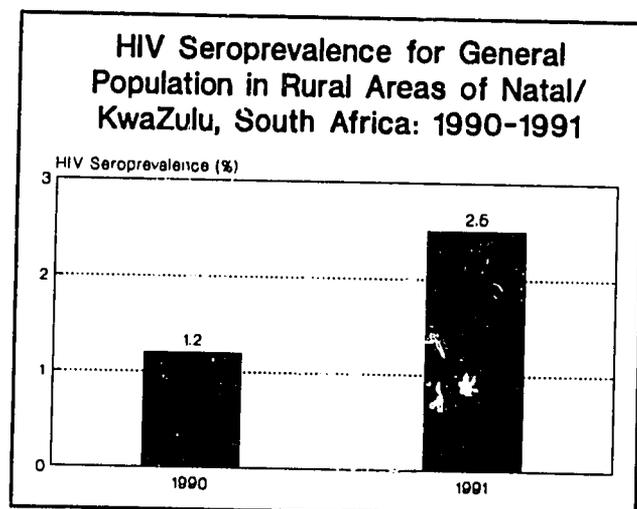
- All population groups should be considered to be at risk if they are engaging in high-risk behavior. Studies of STD clinic patients in Johannesburg indicate an increase in the level of HIV infection among both males and females for almost all population groups during the time period.



- According to this study done in Bophuthatswana area, the HIV infection levels for STD patients and pregnant women are relatively low, less than 1 percent.

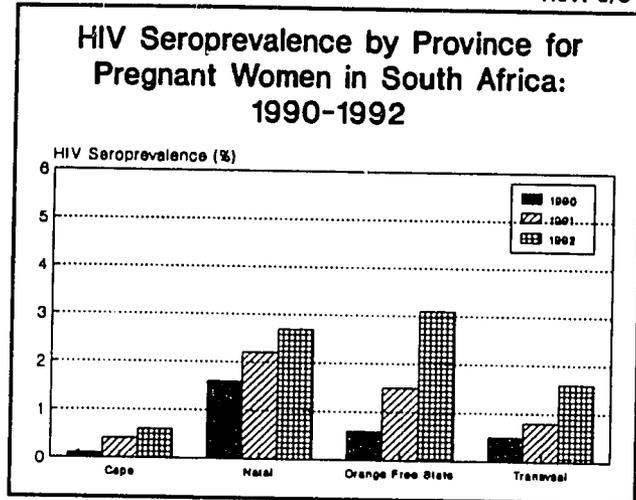


- Available evidence among the general population shows HIV infection levels in Natal/KwaZulu Province's rural areas to have doubled in one year.

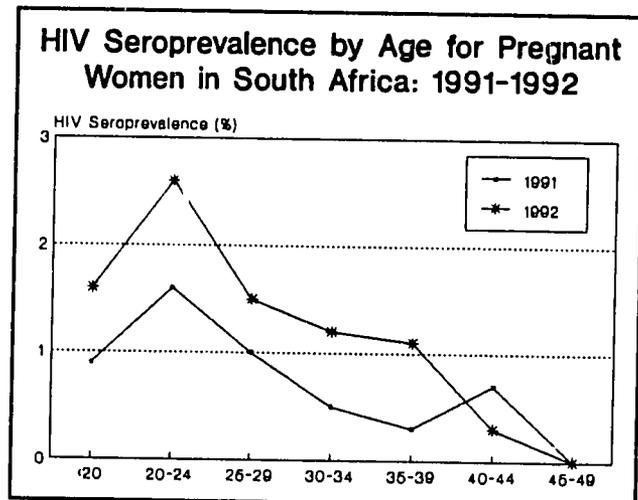


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

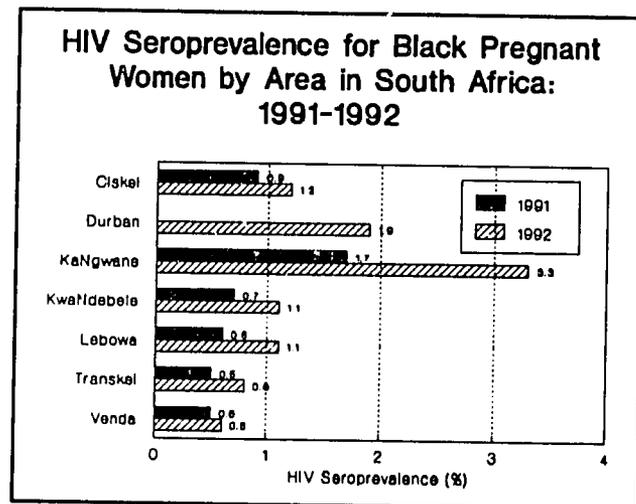
- In 1992, the third national HIV seroprevalence survey was done in South Africa among pregnant women. Based on all three surveys, HIV infection continues to increase in all four provinces. However, the HIV level in Orange Free State Province and Transvaal Province doubled.



- The national HIV seroprevalence survey documented the pattern of infection by age for 1991 and 1992. Data from 1991 and 1992 show a similarity in age patterns whereby the highest peak of HIV infection is in the 20-24 age group.

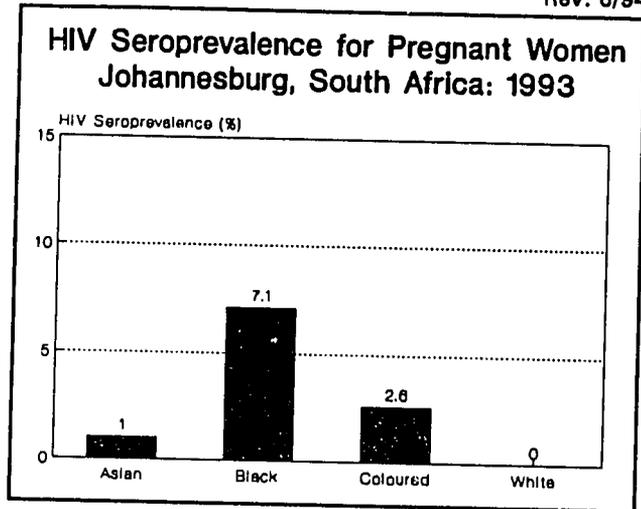


- HIV seroprevalence levels among black pregnant women vary by area. The 1992 data show a doubling in HIV levels for almost all areas. Nevertheless, KaNgwane continues to have the highest HIV level, while Venda has the lowest HIV level.

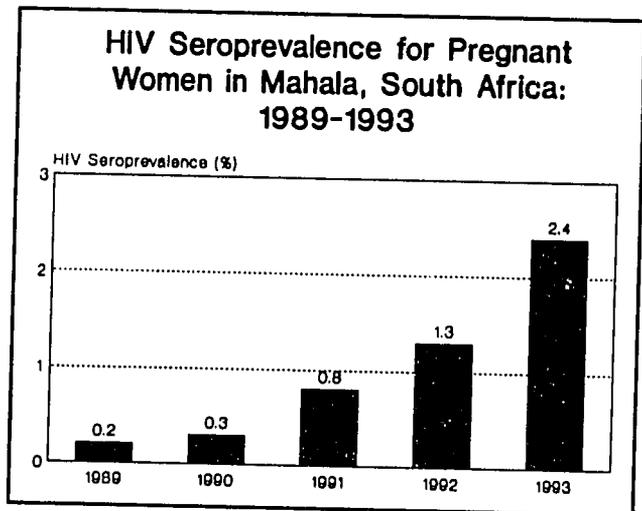


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

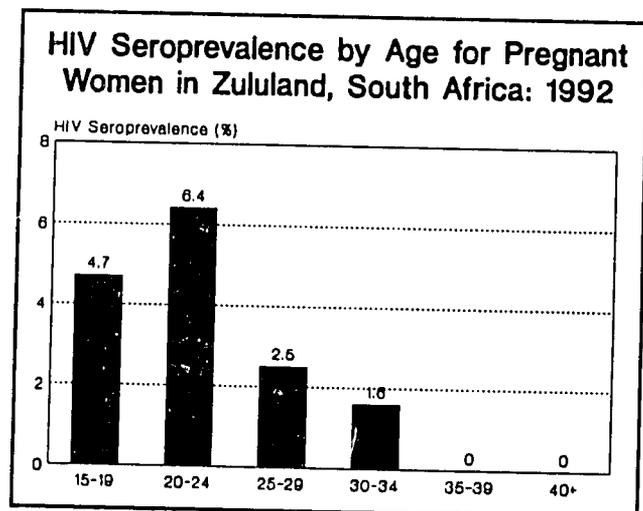
- Results from serosurveillance report conducted by the National Institute for Virology and the Johannesburg City Health Department, find variation in HIV infection among pregnant women. HIV infection level among the black pregnant women was the highest compared to White, Asian and Coloured pregnant women.



- In the Mahala area, located in Gazankulu region, HIV infection among pregnant women increased from 0.2 percent in 1989 to 2.4 percent in 1993.

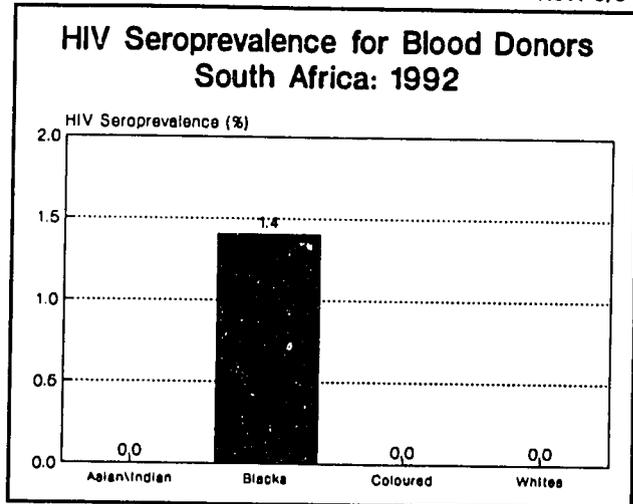


- A study conducted in Hlabisa Health Ward, located in the northern part of Zululand, South Africa, resulted in a similar age pattern of HIV infection among pregnant women.

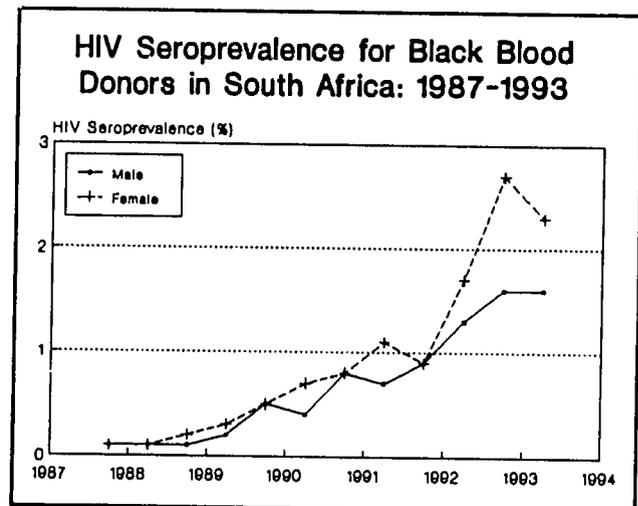


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- National data from the South African blood transfusion services in 1992 show 1.4 percent HIV infection levels 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.



- According to this study, HIV prevalence among black blood donors rose from 1987 through 1992. Data for 1993 show a leveling off among men and a slight decrease among women.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

## Sources for South Africa

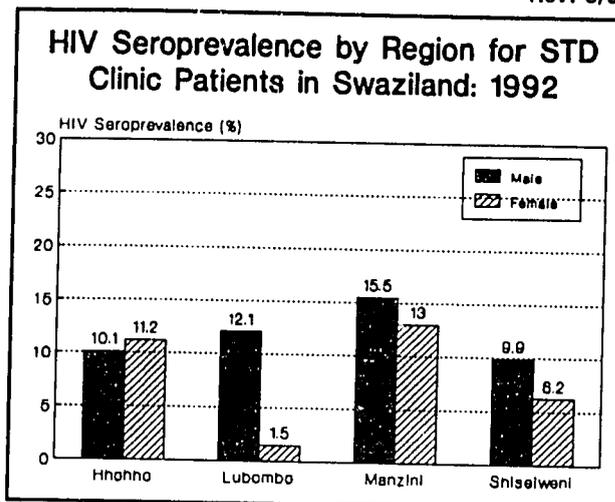
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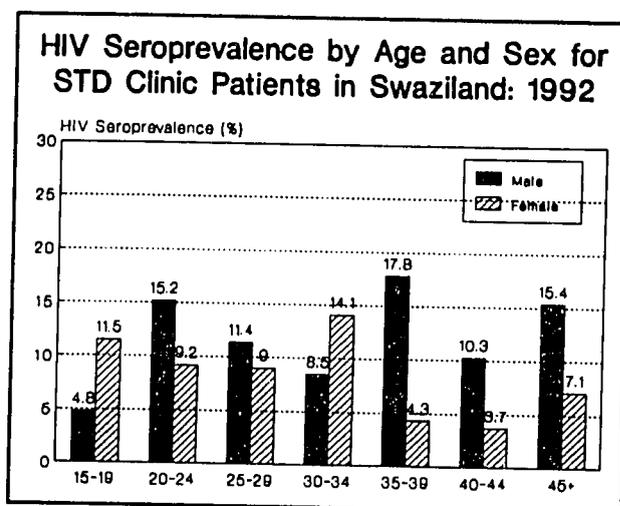
## Swaziland

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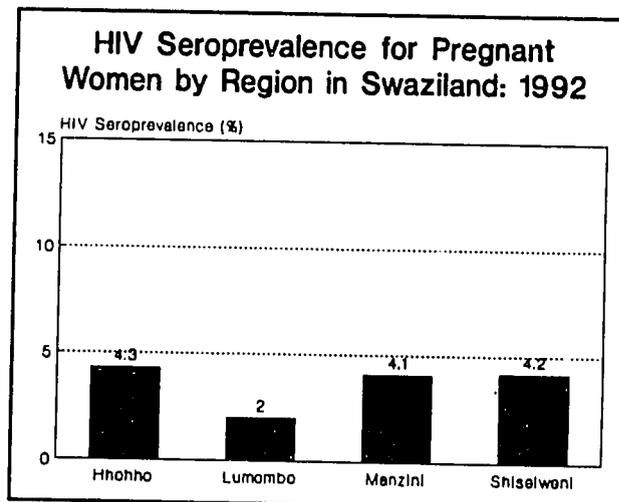
- In 1992, the first HIV sentinel surveillance was conducted in four administrative regions. Based on this study, female STD patients had a lower HIV positivity rate than male patients, except for Hhohho region.



- From the above study, the age specific pattern for all regions shows the most affected age group among males was 35-39 and among females the 30-34 age group.

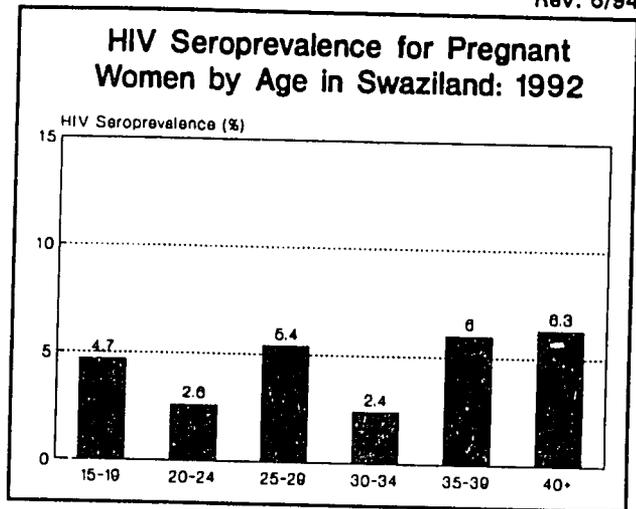


- According to the same sentinel surveillance study, a regional analysis of HIV infection level among pregnant women showed HIV infection to be present in all regions. HIV level of infection was around 4 percent in all regions except for Lumombo which had an HIV level of 2.0 percent.

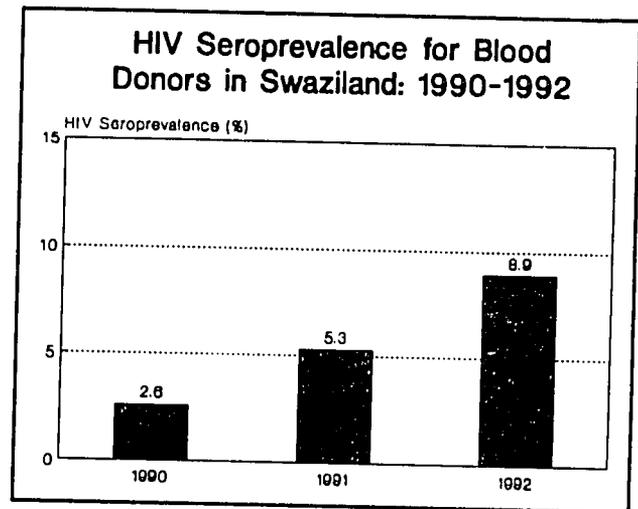


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- Results from the same study show the most affected age groups among pregnant women were 15-19 and 25-29. However, the high level of HIV infection in age 35 and over may be due to small sample size. This study suggests that sexual activity begins at an early age since women age 15-19 are pregnant and infected.



- The HIV infection level among blood donors from the 1992 sentinel surveillance study shows a steady increase over a three year period.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

## Sources for Swaziland

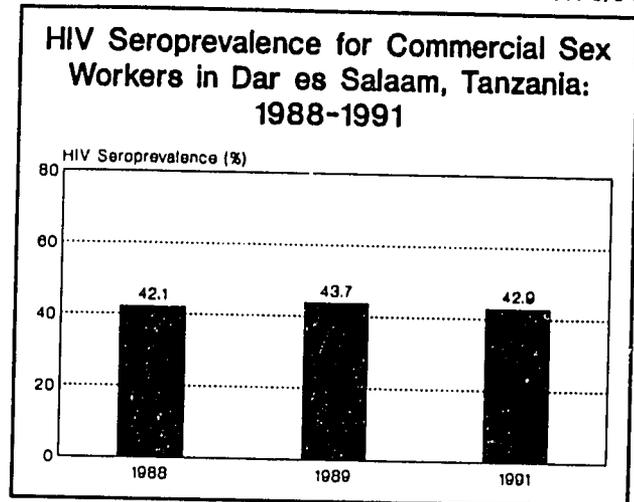
D0117 Dlamini-Kapenda, W., 1993, First HIV Sentinel Surveillance in Swaziland, 1992, February, unpublished report.

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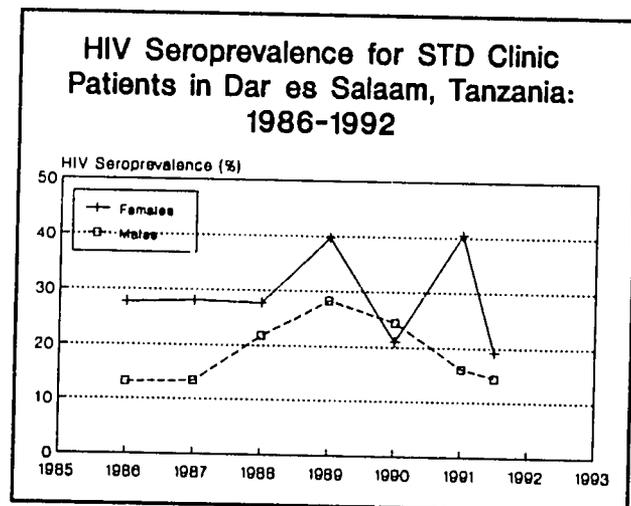
## Tanzania

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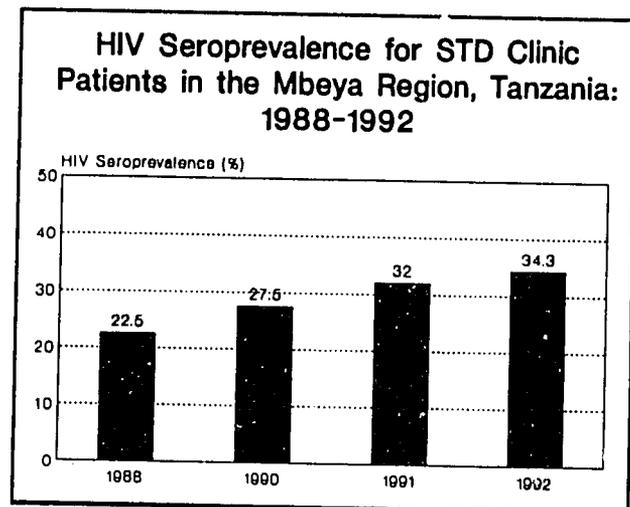
- In the capital city, Dar es Salaam, reported HIV infection levels among commercial sex workers have been extremely high since 1988.



- Female STD clinic patients in Dar es Salaam generally have higher HIV seroprevalence levels than male STD clinic patients. Data from several reports show HIV rates for females fluctuating between 20 and 40 percent since 1988.

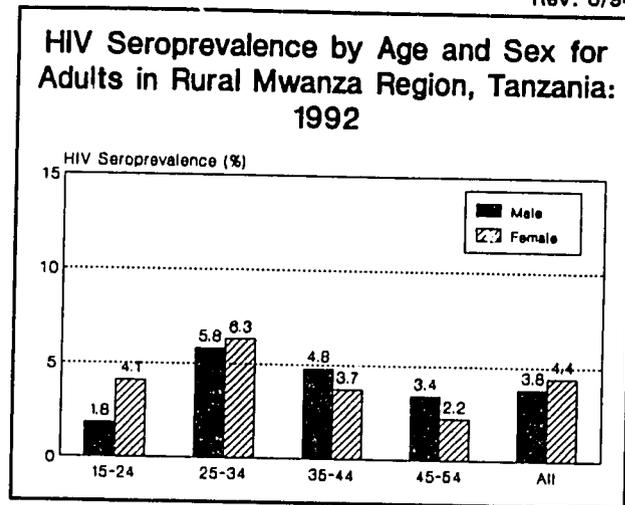


- In the Mbeya region, the HIV infection level among STD clinic patients has shown a steady increase over a 4-year period from 22.5 to 34.3 percent.

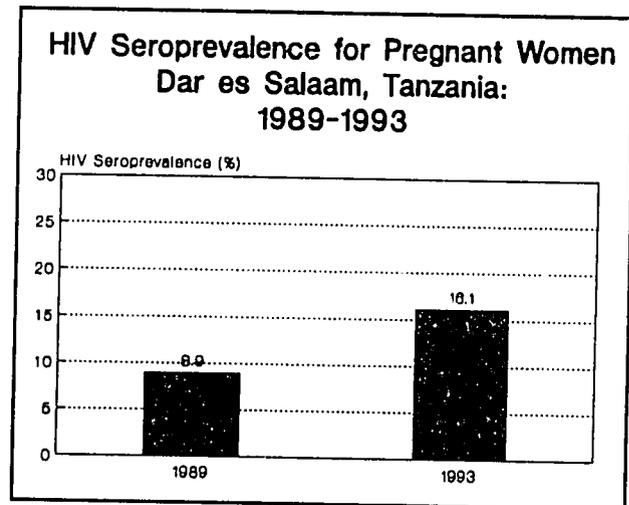


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

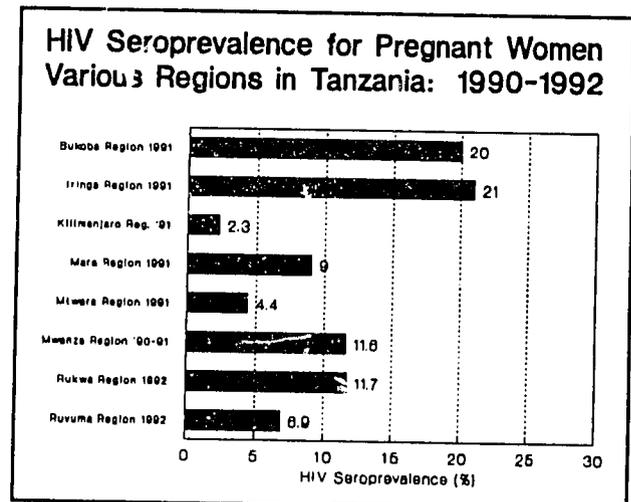
- According to this study conducted among adults from rural villages in Mwanza region for 1992, the highest rate of HIV infection falls in the age range of 25-34 years for both sexes. The overall HIV infection levels show females with slightly higher infection levels than males.



- HIV infection levels among pregnant women, in the capital city, Dar es Salaam, have almost doubled from 8.9 in 1989 to 16.1 in 1993.

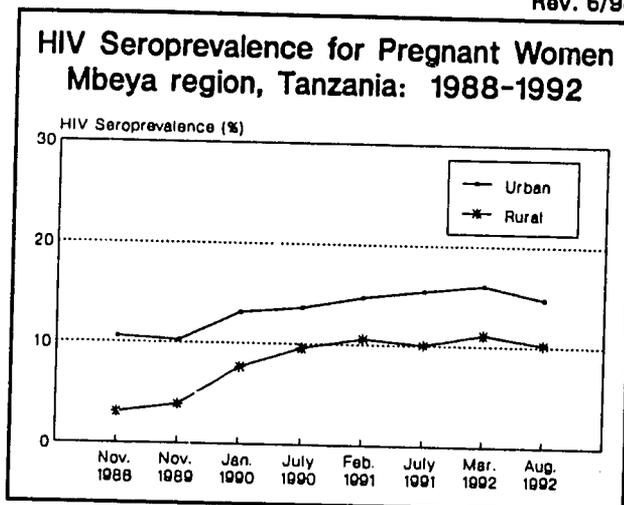


- In different regions of Tanzania, the level of HIV infection among pregnant women varies greatly. The levels of infection in Bukoba, Iringa, Mwanza and Rukwa are high, while in other regions levels range from 2.9 to 9.0 percent.

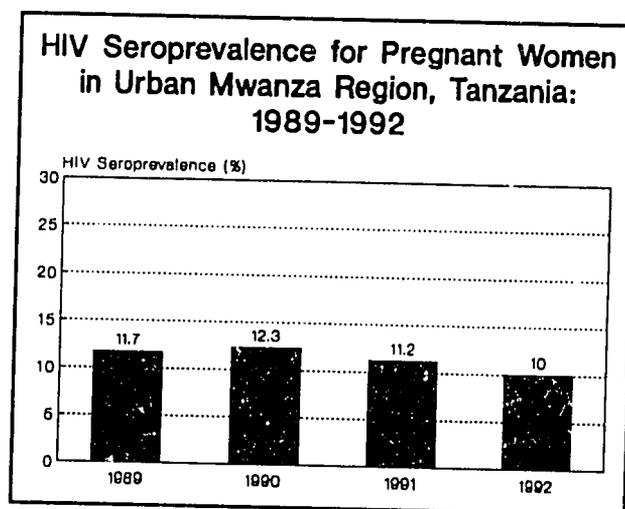


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

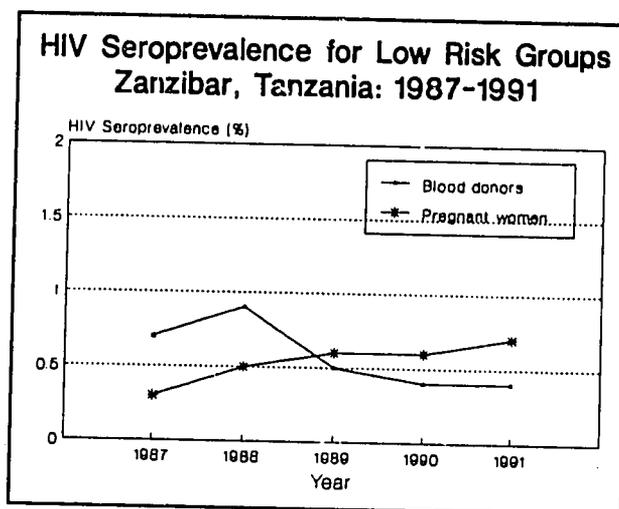
● This study describes the urban/rural differentiation in HIV infection levels for the Mbeya region. In both areas, HIV infection in pregnant women is increasing. From late 1988 to 1992, HIV infection levels in rural pregnant women tripled from 3.1 percent to 10.2 percent. The HIV infection levels in urban pregnant women increased from 10.6 percent to 14.7 percent for this same period.



● In the urban Mwanza region, the level of HIV infection in pregnant women has remained virtually the same over the past 4 years. Thus showing no significant changes in HIV levels.

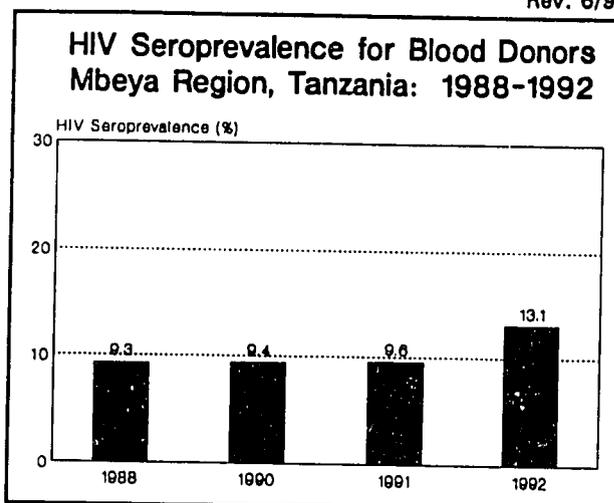


● Sentinel surveillance data collected in four centers from towns and rural areas of Unguja and Pemba Islands indicates the spread of HIV infection to Zanzibar. The HIV infection levels are under 1 percent for both pregnant women and male blood donors. However, among pregnant women HIV levels are increasing while among male blood donors there is a decrease in HIV levels.

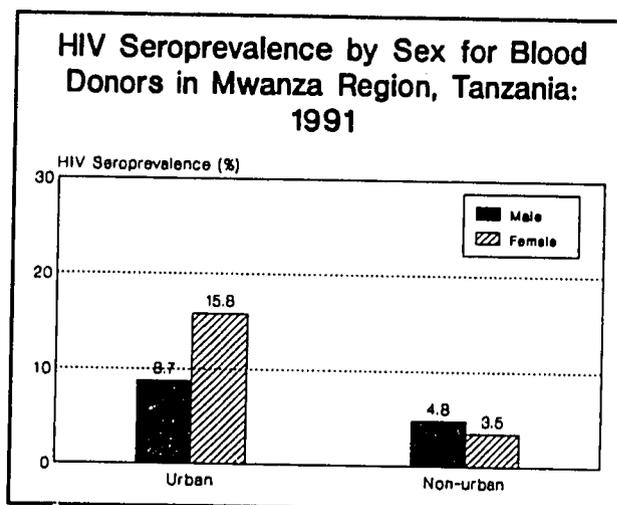


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

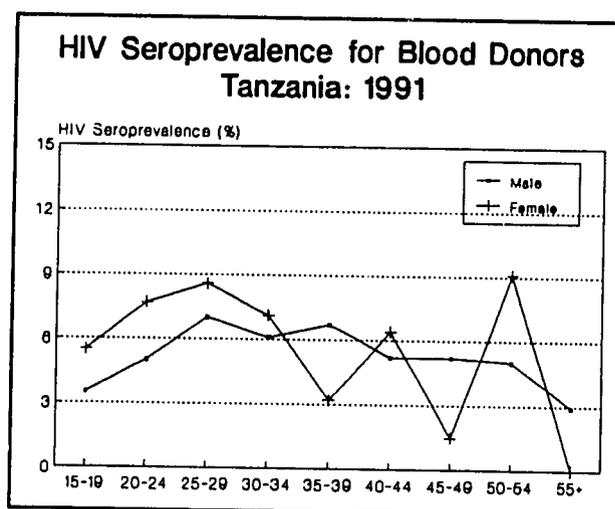
- In the Mbeya region in the southwest of Tanzania, HIV seroprevalence among blood donors remained the same from 1988 to 1990. However, in 1992 HIV levels increased to 13.1 percent.



- In 1991, HIV seroprevalence for blood donors in the urban areas of Mwanza region was more than double the HIV seroprevalence in nonurban areas.



- A national AIDS surveillance study of blood donors shows HIV levels of infection varying considerably due to the donor age. However, level of HIV infection among female donors on the average was higher than male donors.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

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## Sources for Tanzania

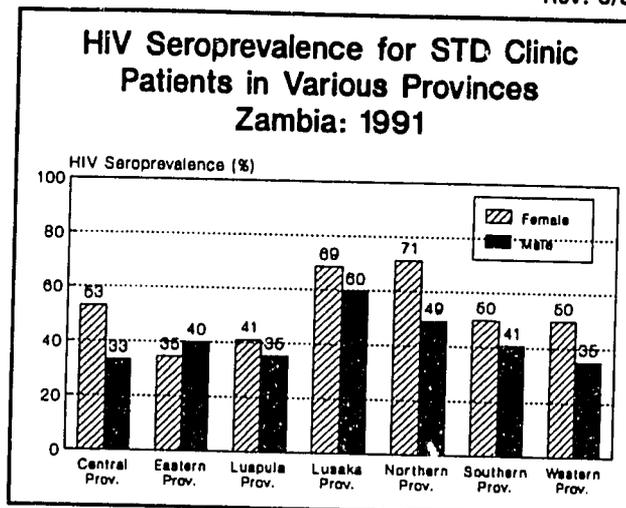
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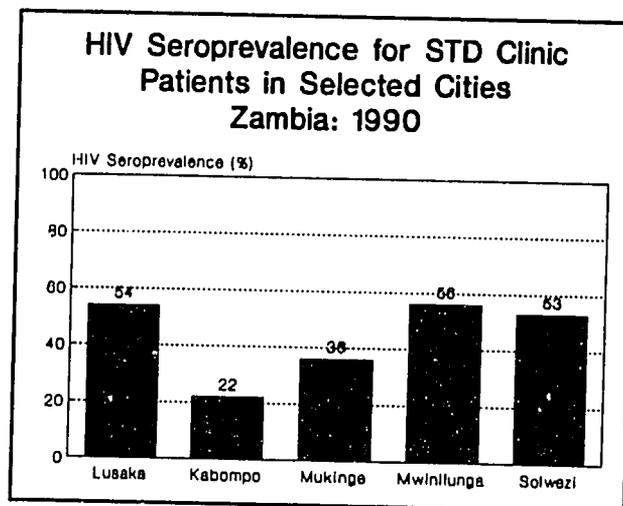
## Zambia

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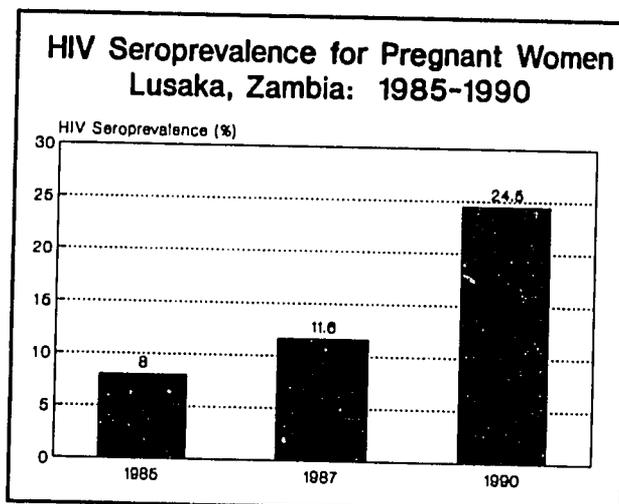
- Studies in Zambia show high levels of HIV infection among both male and female STD clinic attendees, in all regions of the country. By province, no fewer than 33 percent and as many as 71 percent of STD clinic patients were found to be HIV seropositive in a 1991 study.



- In Lusaka, the capital city, HIV infection level among STD clinic patients reaches a high of 54 percent. Data from another study in the Northern area of Zambia showed prevalence levels for Solwezi, peri urban area, 53 percent and rural areas ranging from 22 percent to 56 percent.

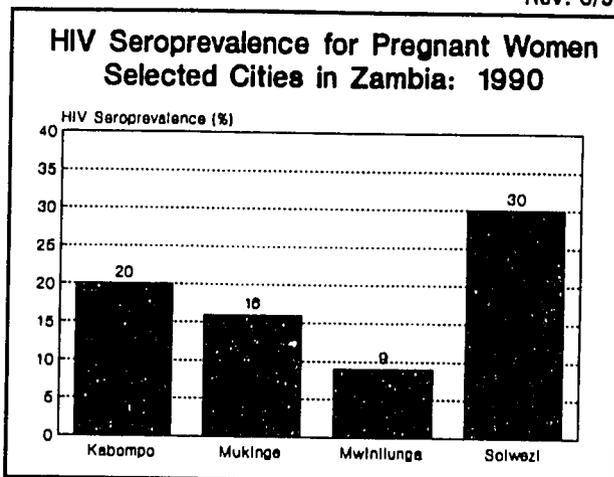


- The level of HIV seroprevalence has been increasing rapidly in Zambia. In Lusaka, the level of infection in pregnant women has increased from 8 percent in 1985 to nearly 25 percent in 1990.

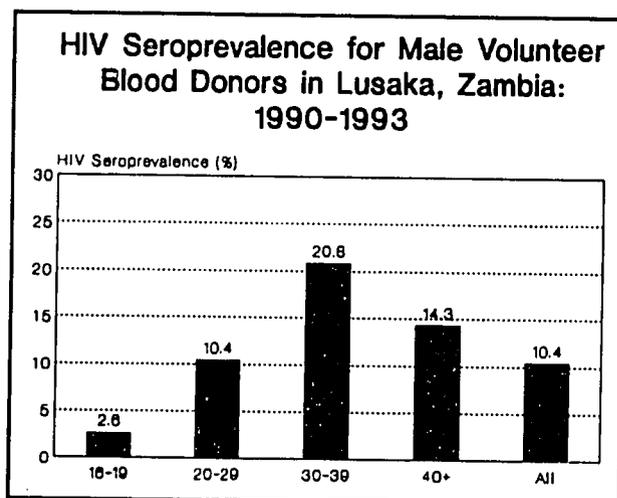


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- In 1990, studies conducted in Northern Zambia found HIV infection among pregnant women ranging from 9 to 30 percent.



- A study conducted from 1990-1993 among male voluntary blood donors at the University Teaching Hospital Lusaka Blood Bank found males aged 30 to 39 to have the highest HIV rate. The overall level of HIV infection was 10.4 percent.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

## Sources for Zambia

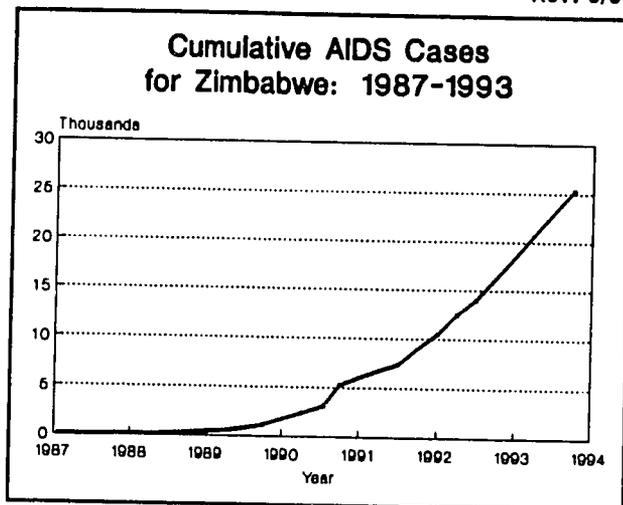
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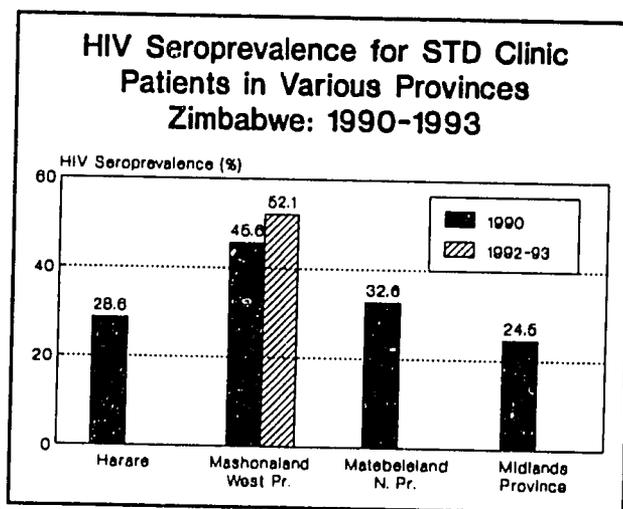
# Zimbabwe

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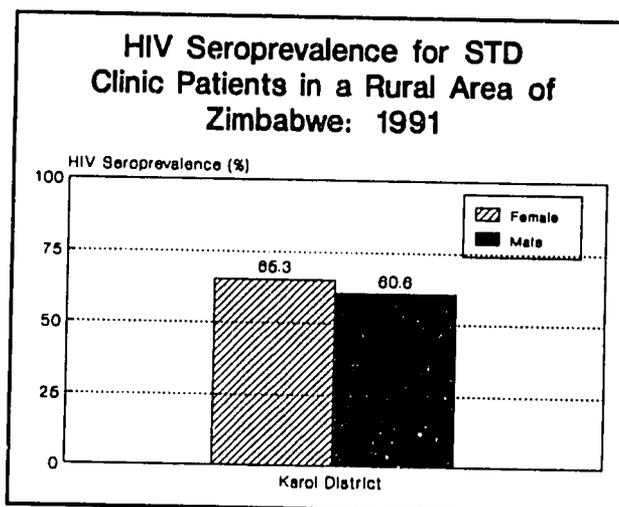
- Through 1993, Zimbabwe has reported a total of 25,332 AIDS cases to the World Health Organization. The latest report was as of September 30, 1993. This corresponds to a cumulative incidence of 2.3 per 1,000 population.



- 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 1990 sentinel survey conducted among STD patients, HIV level in Matebeleland North Province was 32.6 percent, and Midland Province, 24.5 percent. In Mashonaland West Province levels of HIV infection increased from 45.8 percent in 1990 to 52.1 percent in 1992-93.



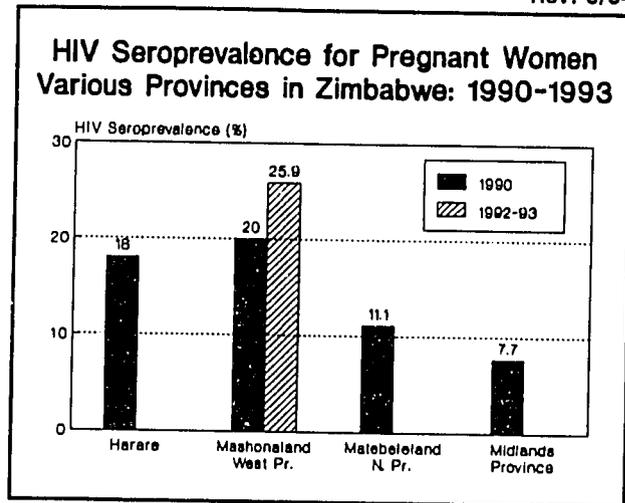
- The rural population of Zimbabwe is also at risk of infection. Zimbabwe's well-developed roads facilitate communication and the spread of infection. In a study conducted in Karoi District in 1991, STD patients showed a significantly high level of infection among both males and females.



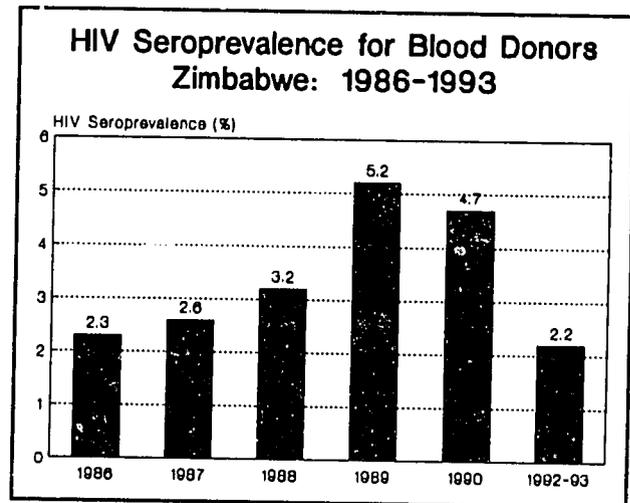
Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

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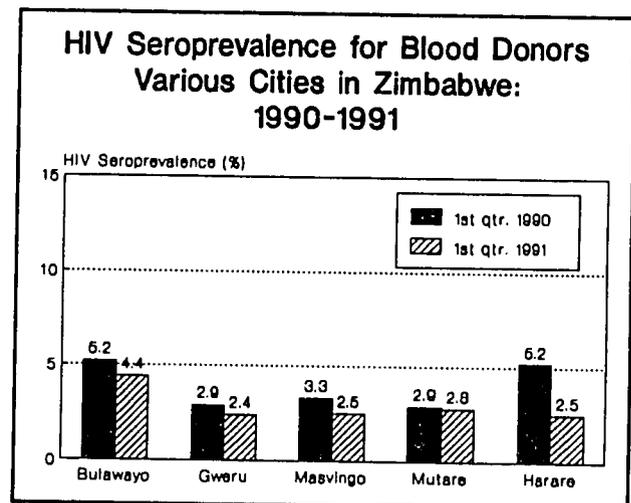
- A study conducted at Harare Maternity Hospital and two Municipal clinics reported that 18 percent of expected mothers tested positive for the HIV virus. Another study, conducted among the Provinces found Mashonaland West Province to have the highest level of HIV infection, 20 percent in pregnant women. A 1992-93 study found infection level rose to 25.9 percent in Mashonaland West Province.



- 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. After 1989, the HIV infection declined to 2.2 percent for 1992-93.

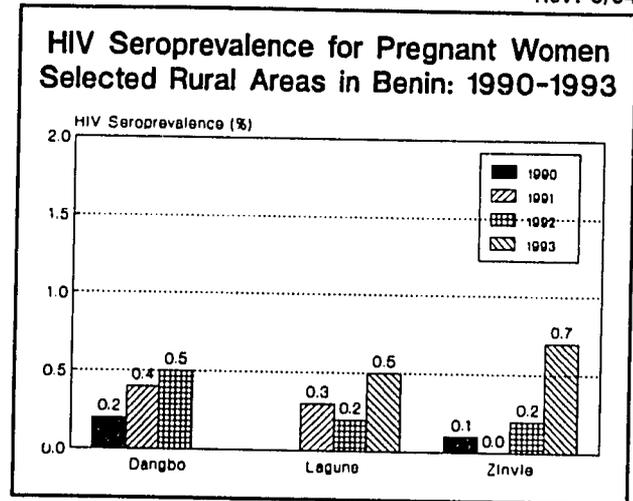


- Study of blood donors in various urban centers was conducted in 1990 and 1991. All of the urban centers showed a slight decline in the HIV infection levels between 1990 and 1991, which may reflect blood donor screening programs.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- In rural areas, HIV infection levels among pregnant women show a very low but steady increase from 1990 to 1993. Results suggest HIV infection levels among rural pregnant women are similar to those seen in urban pregnant women.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

## Sources for Zimbabwe

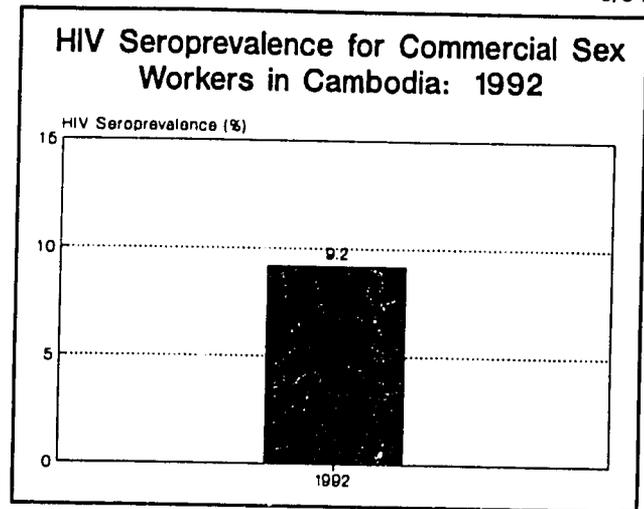
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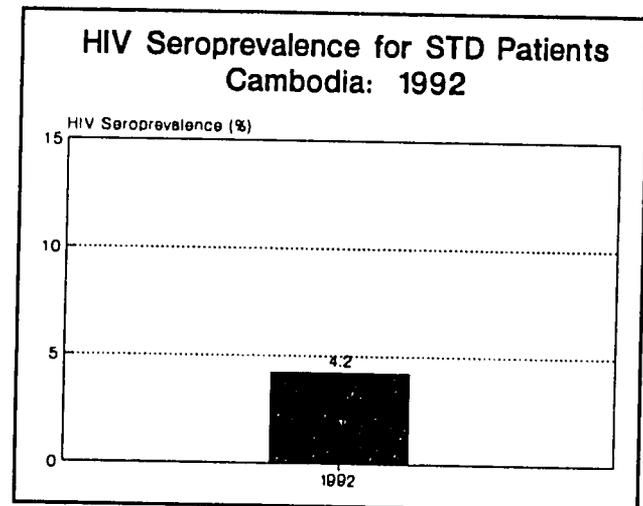
## Cambodia

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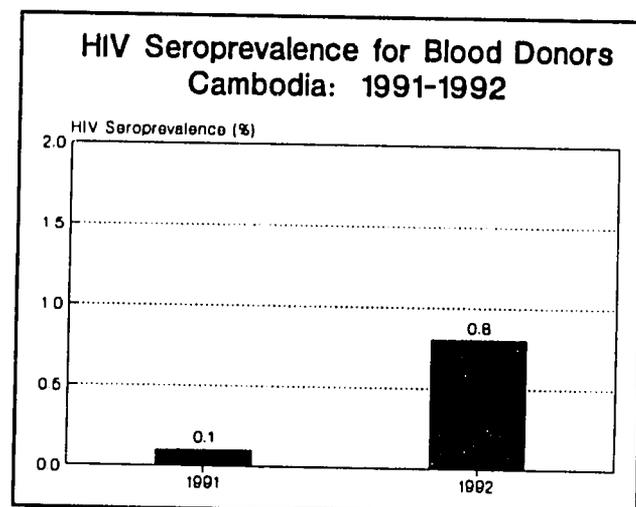
- Very few studies on HIV seroprevalence among commercial sex workers have been available for Cambodia. However, in an AIDS surveillance report by the World Health Organization, HIV infection among commercial sex workers was reported to be 9.2 percent for 1992.



- The above mentioned report also includes information on STD patients. In a sample of 72 patients, 4.2 percent were HIV infected.



- According to the same report, HIV seroprevalence among blood donors is below 1 percent but may be increasing rapidly.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

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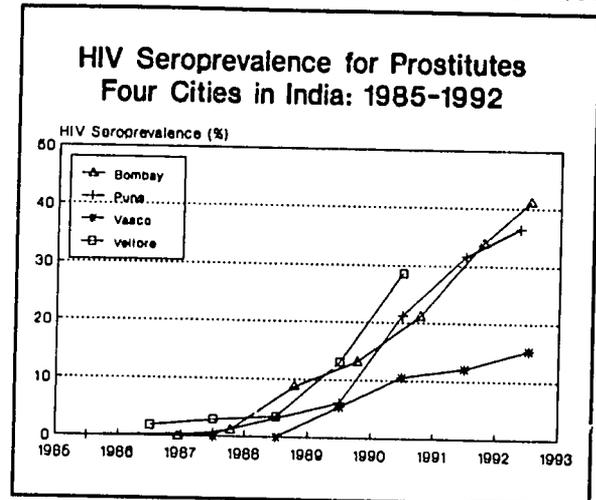
## Sources for Cambodia

W0081 World Health Organization, Western Pacific Region, 1993, AIDS Surveillance Report, Global Programme on AIDS, vol. 1, no. 1, July, p. 2.

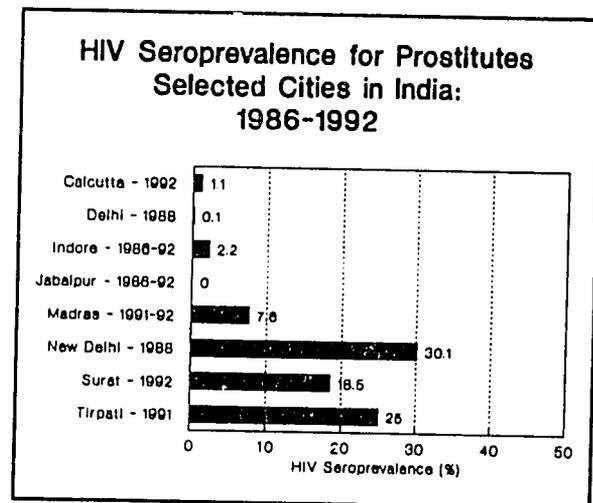
## India

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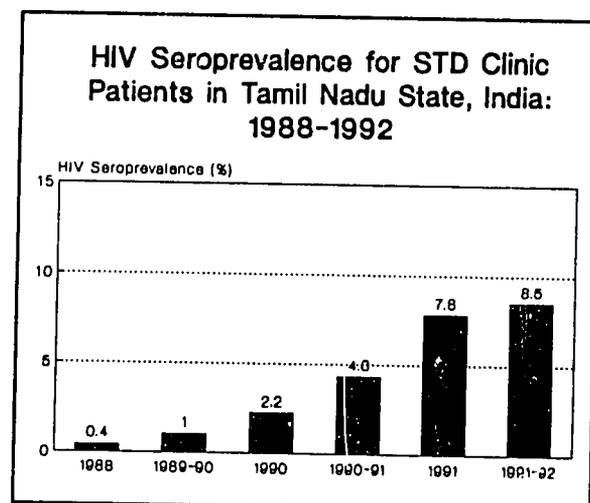
- Various studies clearly document the spread of HIV among prostitutes. In this high risk population, HIV infection increased sharply in these cities over the past six years. The highest levels of HIV infection were found in Bombay, 41.2 percent and Pune, 36.5 percent.



- In other Indian cities, the levels of HIV infection among prostitutes vary greatly. Among these studies, the three highest levels of infection were found in the capital city of New Delhi in 1988, 30.1 percent, Tirupati in 1991, 25 percent, and Surat in 1992, 18.5 percent.

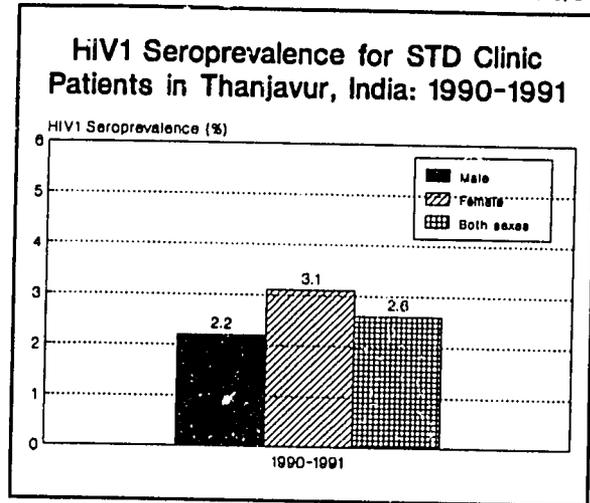


- HIV infection levels among STD clinic patients in Tamil Nadu State increased rapidly from less than 1 percent in 1988 to 8.5 percent in 1991-92.

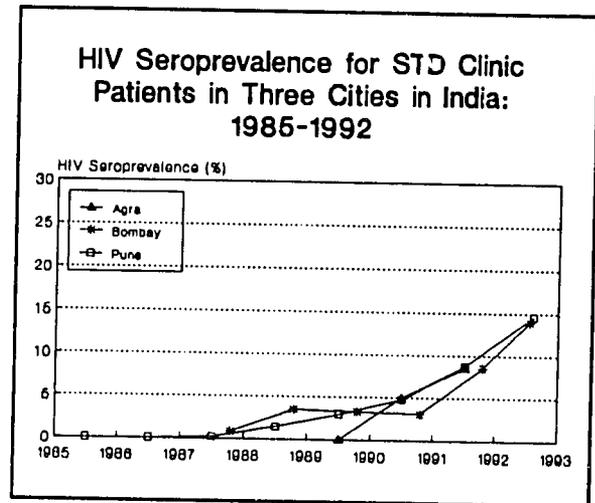


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

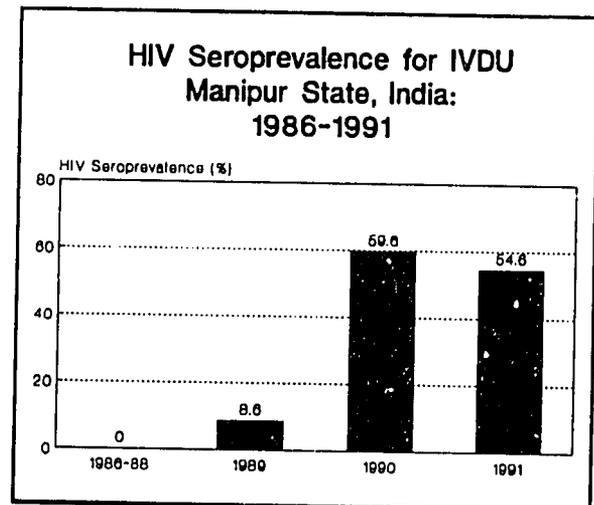
- A study conducted in Thanjavur in 1990-91 shows HIV-1 infection levels among male STD clinic patients to be lower than HIV-1 infection levels among female STD clinic patients.



- HIV infection levels among STD clinic patients in Agra, Bombay and Pune increased rapidly over the past few years. In Bombay, levels rose from less than 1 percent in 1987-88 to 14.0 percent in 1992. In Agra, there was no evidence of the virus in 1989 but, by 1991 HIV levels reached 8.6 percent. In Pune, HIV levels increased rapidly to 14.6 percent by 1992.

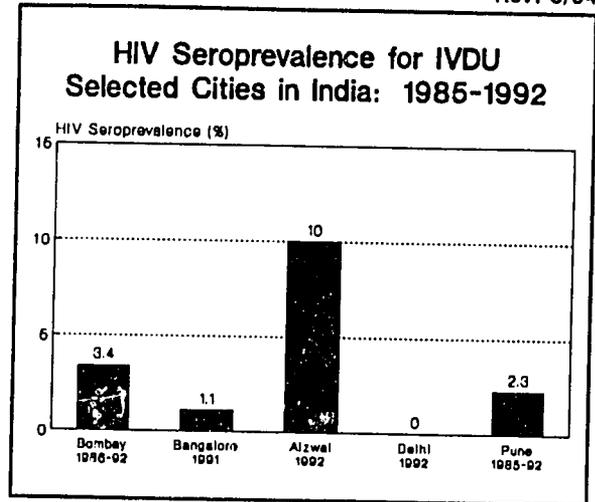


- In the northeastern states, HIV infection among IVDU has skyrocketed. HIV prevalence levels rose from 8.6 in 1989 to over 50 percent in 1990 and 1991.

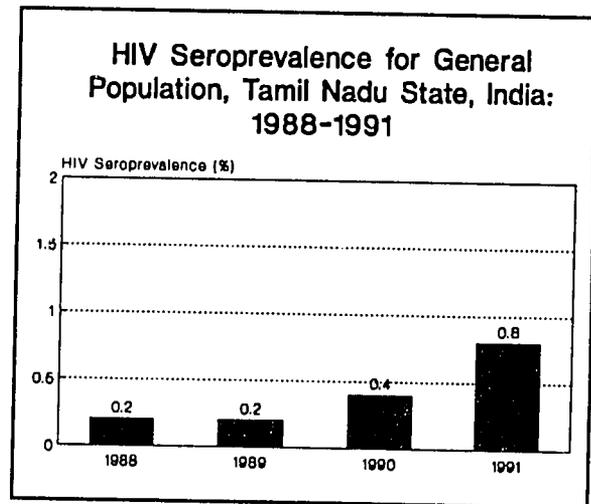


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

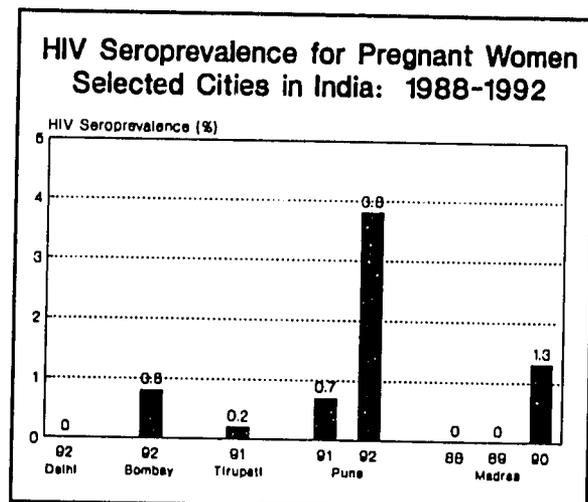
- Seroepidemiological studies of HIV infection among intravenous drug users in other areas of India show HIV levels up to 10.0 percent.



- HIV infection has also been found among low-risk populations in India. According to this study in Tamil Nadu State, HIV infection levels in the general population have doubled each year since 1989.

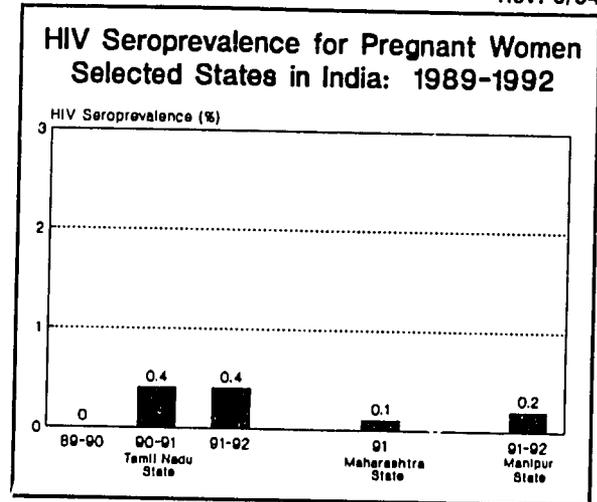


- Among selected cities, levels of HIV seroprevalence in pregnant women varied. In Pune, HIV levels increased dramatically from 0.7 in 1991 to 3.8 in 1992.

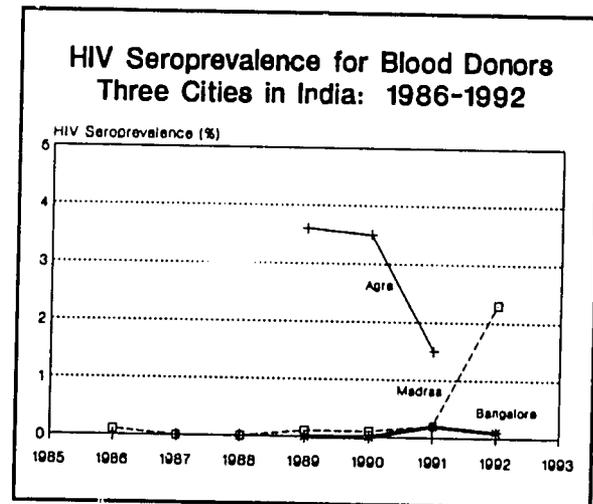


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

- However, data from some states show HIV infection levels among pregnant women less than 1 percent.



- HIV seroprevalence data for blood donors in these three cities show a variety of different patterns over time. In Agra, HIV infection levels have decreased, while Madras HIV infection levels have increased. HIV levels in Bangalore remained the same during this period. These variations may reflect differences in blood screening programs.



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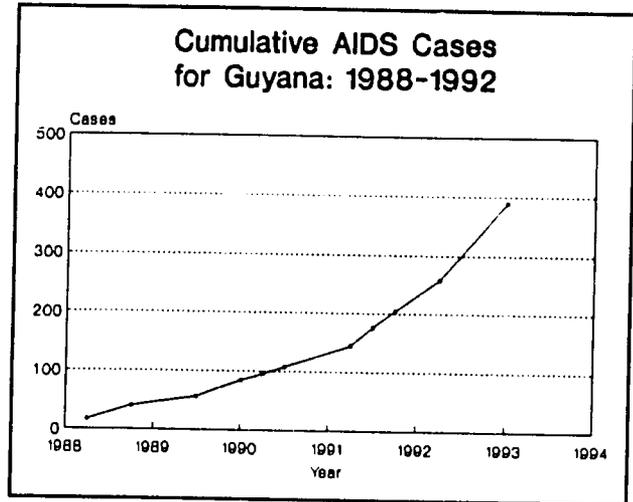
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**LATIN AMERICA  
& CARIBBEAN**

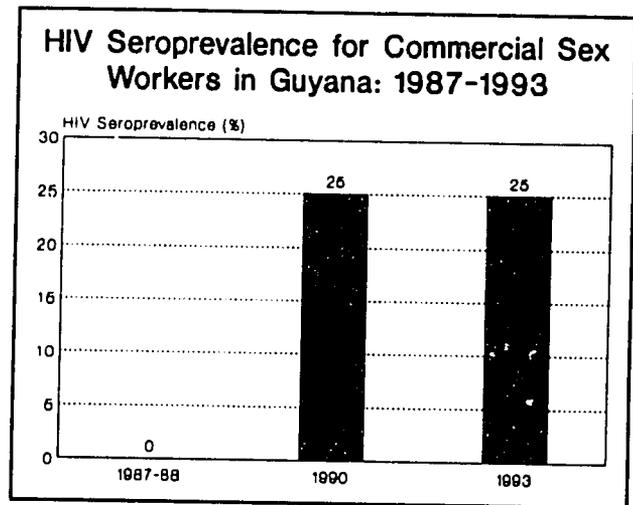
# Guyana

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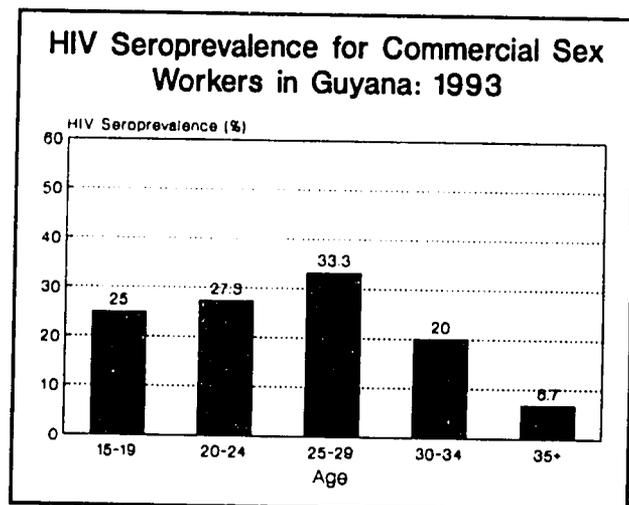
- The cumulative number of AIDS cases reported by Guyana to the World Health Organization has steadily increased. Based on the last reported AIDS update, the cumulative incidence rate was 0.53 per 1,000 population for Guyana.



- No HIV infection was detected among commercial sex workers in 1987-88. However, by 1990 HIV infection levels had reached 25 percent among commercial sex workers. Similar results were seen in 1993.

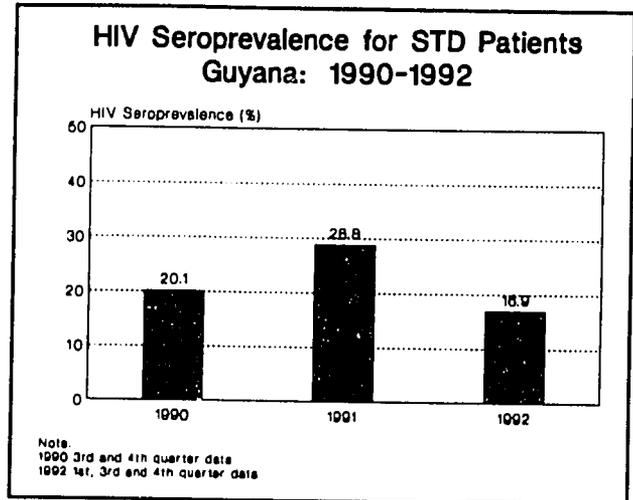


- The pattern of HIV infection by age in Guyana is similar to that found in other countries, with peak infection levels for women in their twenties. This study also shows younger women, 15 to 19 years, with high levels of HIV infection.

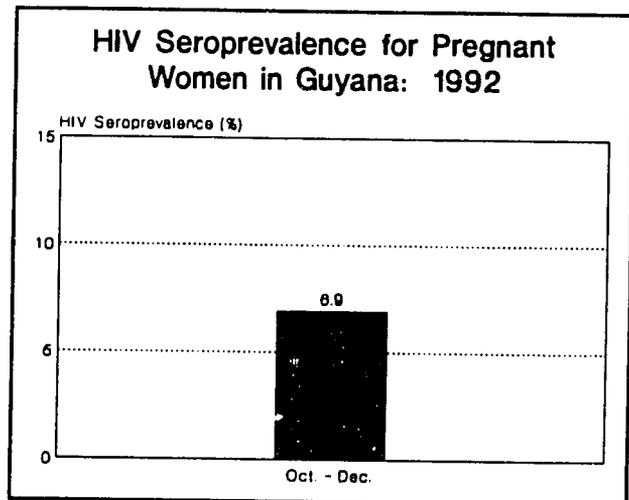


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1994.

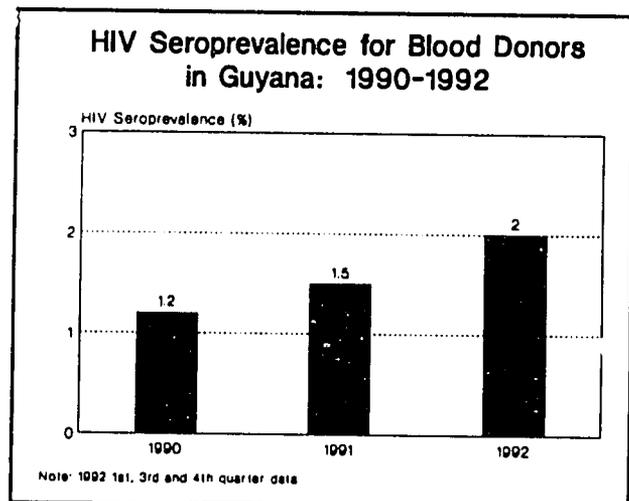
- Reports in the early 1990's from Guyana's Ministry of Health AIDS Programme provided by the Pan American Health Organization show overall HIV seroprevalence ranging from 17 percent to 29 percent among STD patients.



- The HIV infection level reported among pregnant women in Guyana for the last quarter of 1992 was 6.9 percent.



- Levels of HIV seropositivity have been slowly but steadily increasing in Guyana among blood donors. These reports show levels of HIV infection increased from 1.2 percent in 1990 to 2.0 percent for three-quarters of 1992.



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## Appendix

For some countries, the most recent information is provided in a previous research note. The following list identifies those countries and the location of the most recent update.

<u>Country</u>	<u>Research Note</u>
Africa	
Burkina Faso	#8
Central African Republic	#10
Chad	#12
Congo	#10
Cote d'Ivoire	#10
Djibouti	#10
Ethiopia	#8
Gambia, The	#8
Ghana	#10
Guinea	#5
Kenya	#10
Madagascar	#5
Nigeria	#12
Rwanda	#12
Sierra Leone	#10
Togo	#8
Uganda	#12
Zaire	#12
Asia	
Burma	#12
Philippines	#5
Thailand	#12

Country

Research Note

Latin America/Caribbean

Argentina	#12
Bahamas	#12
Barbados	#12
Dominican Republic	#12
Brazil	#8
Haiti	#8
Honduras	#10
Jamaica	#12
Martinique	#5
Mexico	#8
Saint Vincent & Grenadines	#12
Trinidad & Tobago	#12
Uruguay	#12