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

Country Profiles
June 1993

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

Research Note
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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 Jinkie Corbin, Anne Ryan, and Peggy Seybolt, the Health Studies Branch staff. 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 **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 16,000 individual data records drawn from nearly 2,200 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 and 8 - **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 and 8. 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

Botswana

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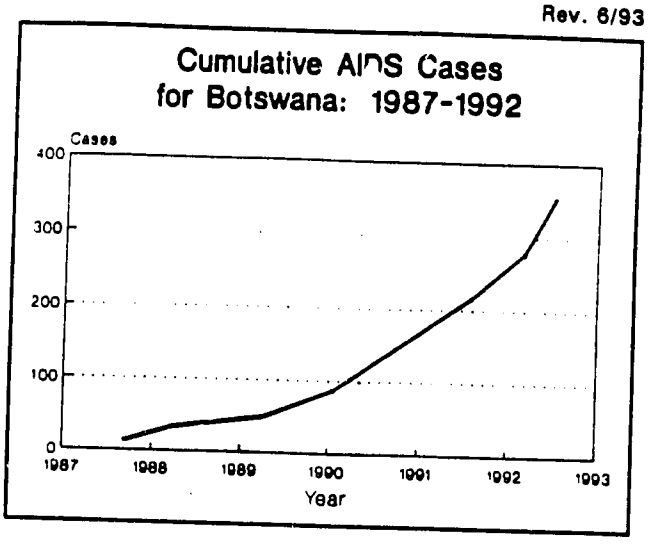
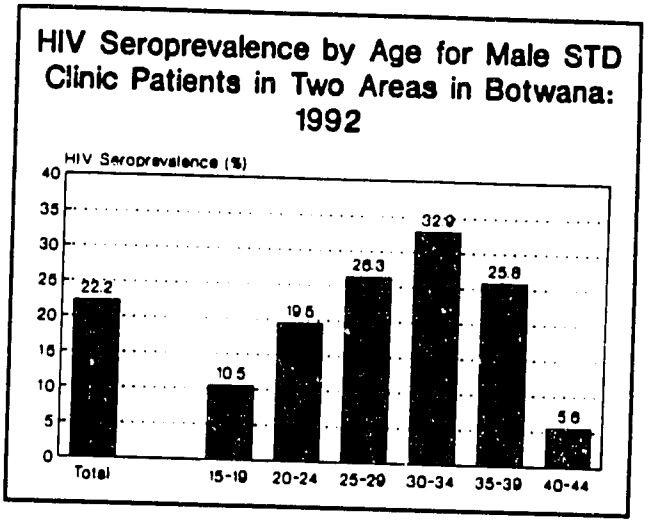
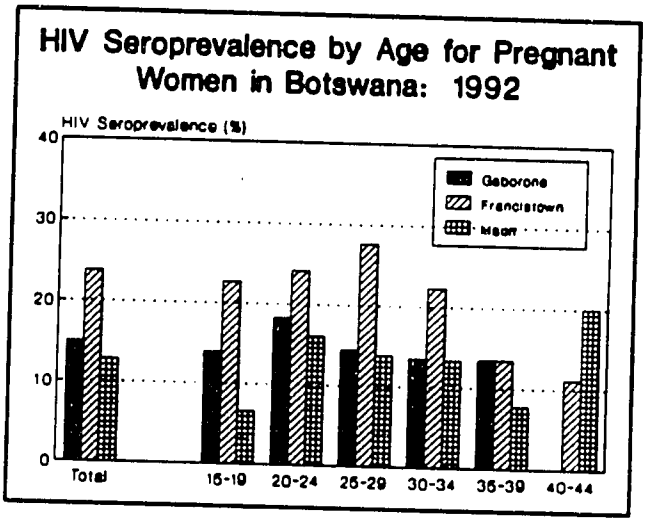
- Botswana has reported a total of 277 AIDS cases to the World Health Organization as of March 1992. The reported data shows a steady increase of AIDS cases. Of all the Southern African countries, Botswana may be best able to respond to the AIDS epidemic. This is due to the fact that Botswana has one of the best medical systems in the region, thus most AIDS cases may be properly identified.



- In 1992, the first HIV Sentinel Surveillance survey was done in Botwana. In this study males with sexually transmitted dieases at two sites, Gaborone and Mahalaphye were tested and the total prevalence was 22.2 percent. The age-specific HIV prevalence among the STD males patients peaked at 30-34 years old.

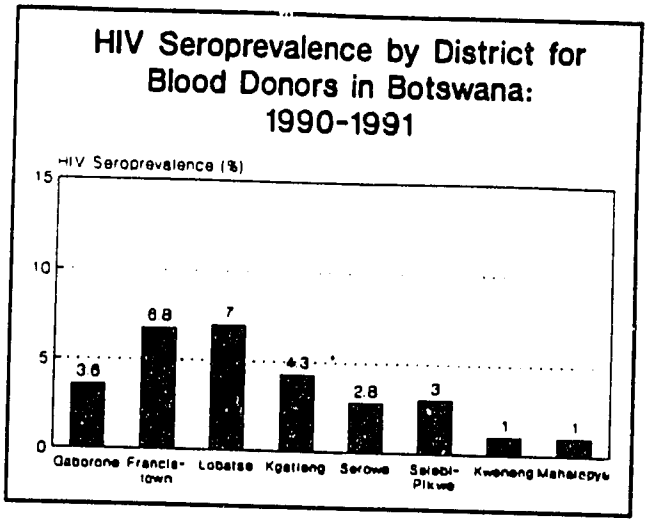


- Data from the first HIV sentinel surveillance shows the HIV seroprevalence among pregnant women in three sentinel sites to be astonishing high. The highest prevalence was found in Francistown--23.7 percent. In general women less than 30 years old are more infected than women over 30 years.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

- In another study, 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.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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S0020 Star, The (Johannesburg), 1987, AIDS Deaths Reported, Joint Publications Research Service: Epidemiology, Dec. 2, no. 023, p. 3.

W0013 World Health Organization, 1988, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 2, no. 6, pp. 487-490.

W0032 World Health Organization, 1989, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 3, no. 6, pp. 405-406.

W0042 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 6, pp. 605-606.

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W0072 World Health Organization, 1993, World Health Organization Global AIDS Statistics, AIDS, vol. 5, no. 1, pp. 125-128.

Burundi

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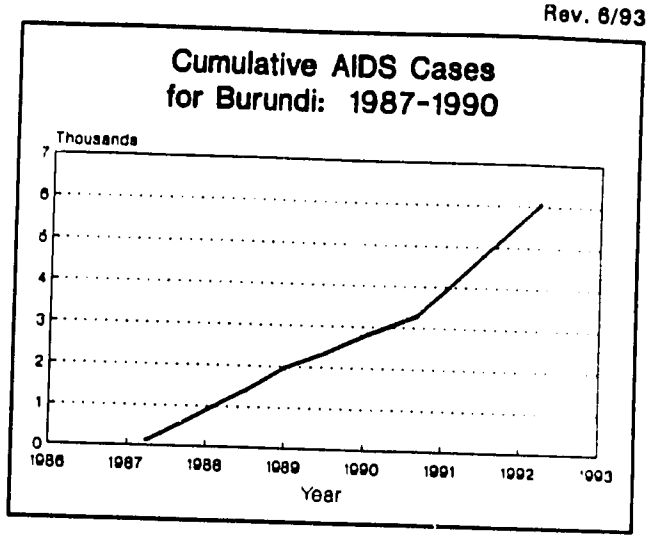
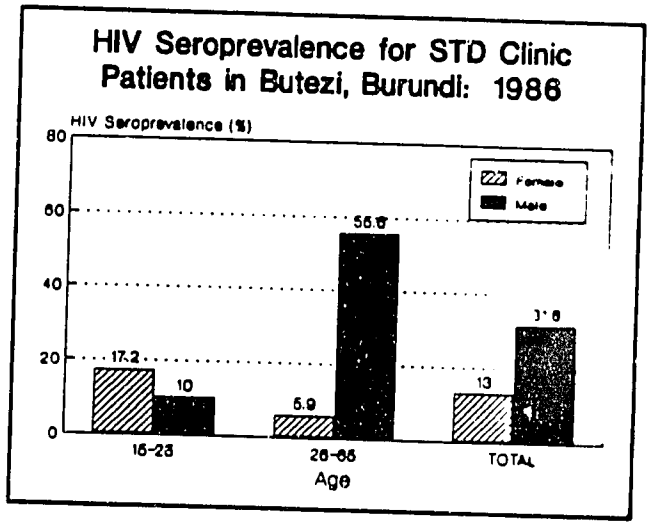
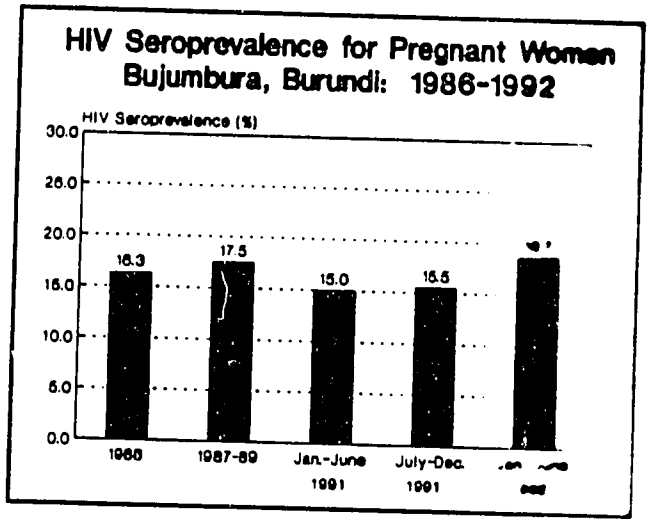
- The cumulative number of AIDS cases reported by Burundi to the World Health Organization has increased rapidly. The cumulative incidence rate of 1.05 per 1,000 population places Burundi among the highest rates within Africa.



- 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.



- 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.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

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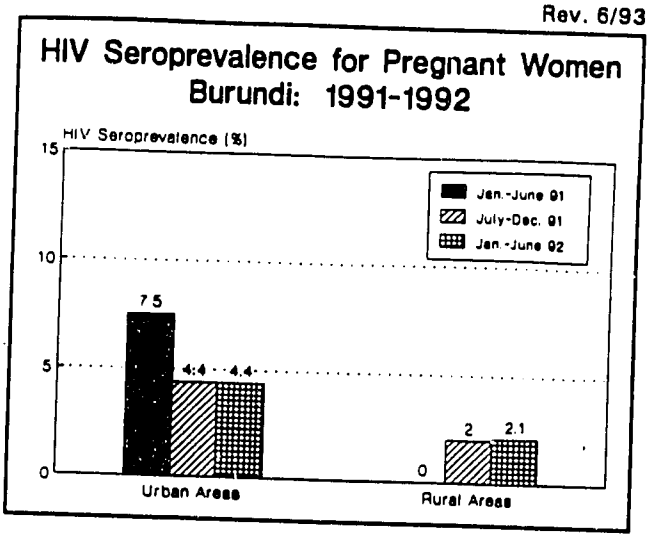
- This study describes the urban/rural differentiation in HIV infection levels within Burundi. Rural areas increased to 2.1 percent in 1992. Infection levels in the semi-urban areas (important commercial centers) are twice as high as those in the rural areas.



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W0072 World Health Organization, 1993, World Health Organization Global AIDS Statistics, AIDS, vol. 5, no. 1, pp. 125-128.

Cameroon

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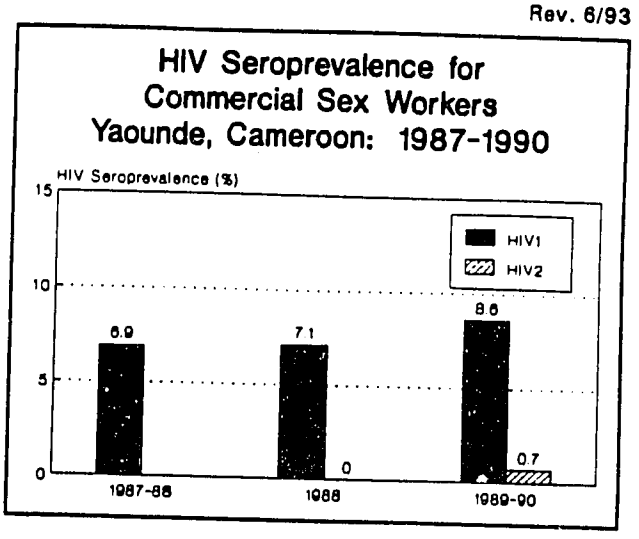
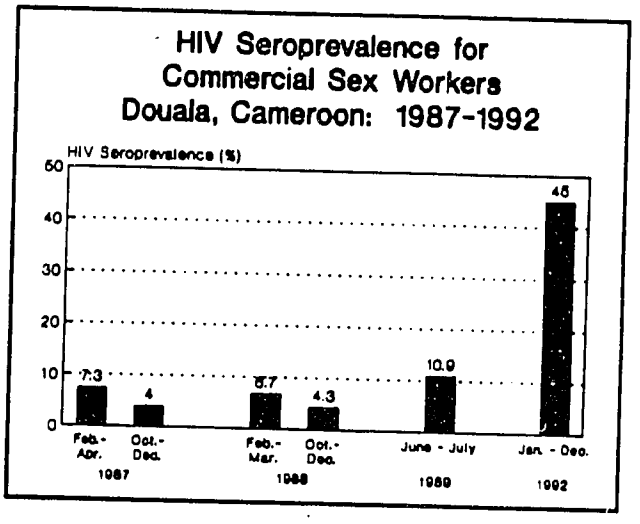
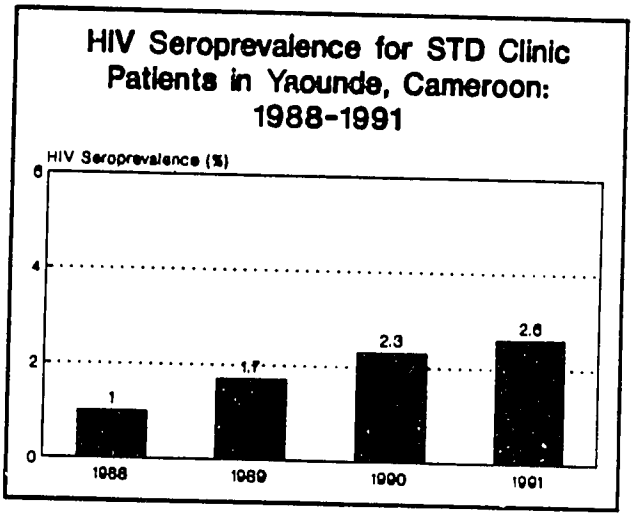
- In Yaounde, the HIV infection level among commercial sex workers increased from 6.9 percent in 1987-88 to 8.6 percent in the 1989-90 time period. HIV2 was absent in 1988 but was detected in 1989-90.



- The levels of HIV infection in commercial sex workers in Douala made a dramatic increase in 1992 to 45 percent.

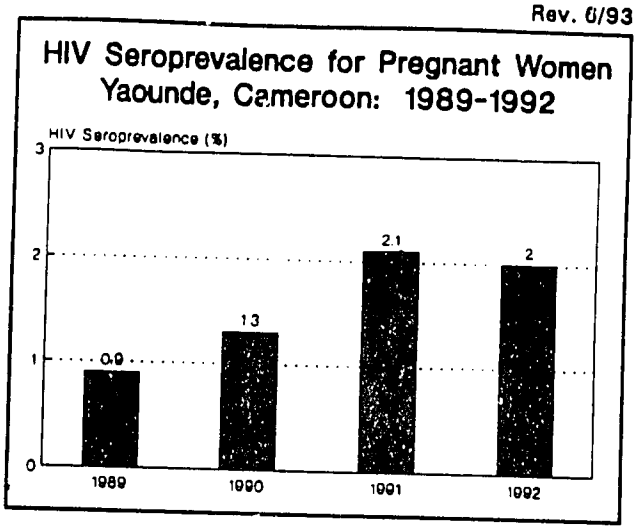


- Studies have shown that among sexually-transmitted disease patients in Yaounde, HIV-1 infection levels have been slowly increasing from 1 percent to 2.6 percent. There has been no evidence of HIV-2 infection.

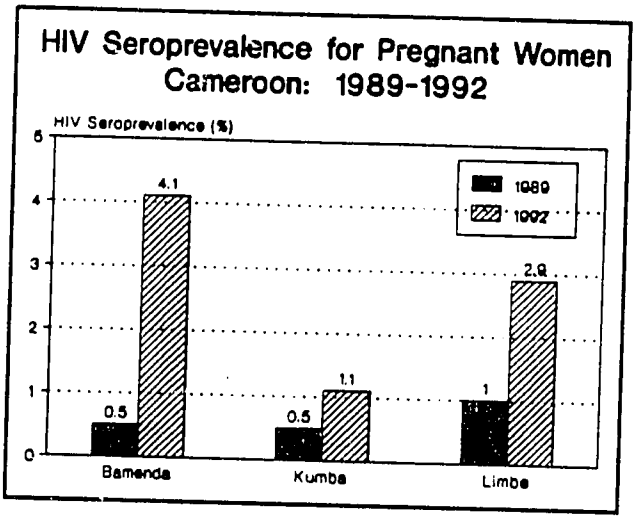


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

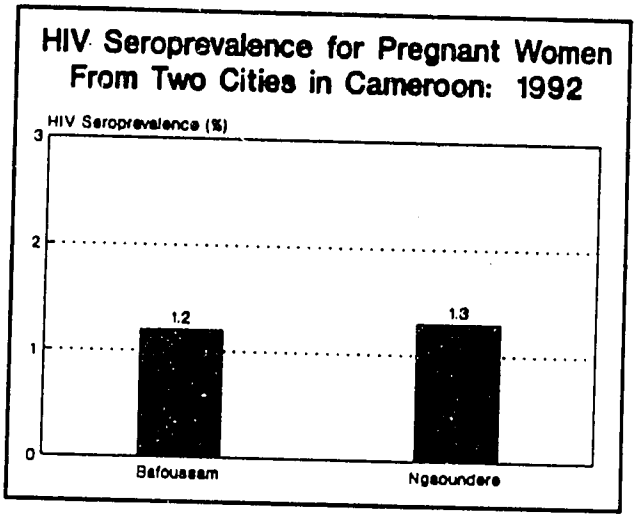
- Since 1989, the percent of pregnant women HIV positive in Yaounde has more than doubled. The HIV rate increased from 0.9 percent in 1989 to 2 percent in 1992.



- Over a 3-year period, the HIV-1 infection level among pregnant women for three areas of Cameroon showed an increase. In the Northwest Province capital, Bamenda, HIV infection in 1992 was 8 times more than in 1989 while Kumba and Limbe, two larger areas of the Southwest Province, had more than doubled the 1989 level. There was no evidence of HIV-2 in these studies.

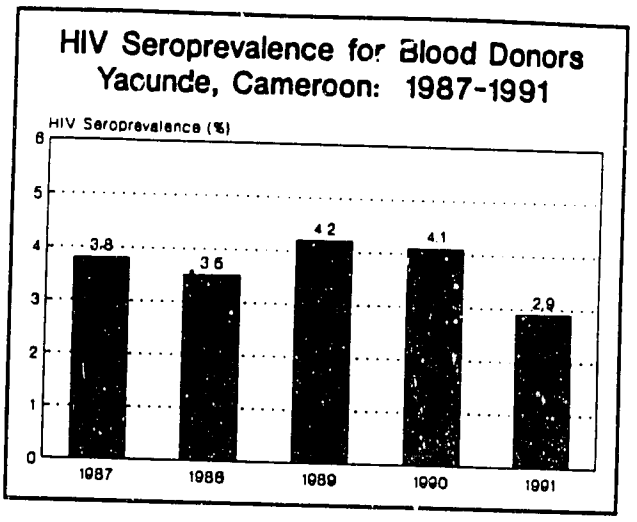


- A recent study from Bafoussam and Ngaoundere cities indicates the level of HIV-1 among pregnant women to be 1.2 and 1.3 percent, respectively. However, there is no evidence of HIV-2 among these women.

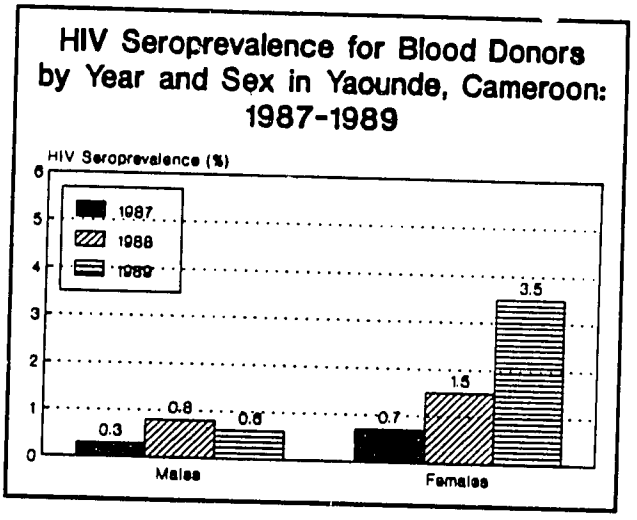


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

- The level of HIV infection among the blood donors has remained virtually the same over the past 5 years, fluctuating around 3-4 percent.



- Also, the percent of HIV positive blood donors varies by sex. Between 1987 and 1989, the rate increased in women but not in men.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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G0110 Gracia-Calleja, J. M., L. Zekeng, J. P. Louis, et al., 1992, HIV Infection in Cameroon: 30 Months' Surveillance in Yaounde, AIDS, vol. 6, no. 8, pp. 881-882.

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G0114 Gandji, R. T., L. Monny, L. Bowen, et al., 1992, Etude Retrospective de l'Evolution de la Seroprevalence du VIH chez les Donneurs de Sang a Yaounde et Douala, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.159.

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K0030 Kaptue, L, L. Zekeng, S. Djoumessi, et al., 1991, HIV and Chlamydia Infections among Prostitutes in Yaounde, Cameroon, Genitourinary Medicine, vol. 67, no. 2, pp. 143-145.

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K0073 Kaptue, L., L. Zekeng, P. Feldblum, et al., 1990, HIV-2 Infection among High Risk Groups in Yaounde, Cameroon, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster W.P.B.3.

K0075 Kaptue, L., L. Zekeng, L. M. Monny, et al., 1990, Blood Donor Data as a Monitor of HIV-1 Trend in Yaounde, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Abstract T.P.E.40.

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P0042 Pinay, P., G. De The, 1989, "Stagnation" Apparente de l'Infection HIV-1 a Douala, Cameroon, Appariton du HIV-2, IV Internat. Conf.: AIDS and Assoc. Cancers in Africa, Marseille, Oct. 18-20, Poster 050.

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Z0032 Zekeng, L., E. Ghomsi, J. M. Garcia, et al., 1992, Evaluation of a New Rapid Assay (Recombigen HIV-1/HIV-2 RTD) in Yaounde, Cameroon, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Abstract W.P.073.

Central African Republic

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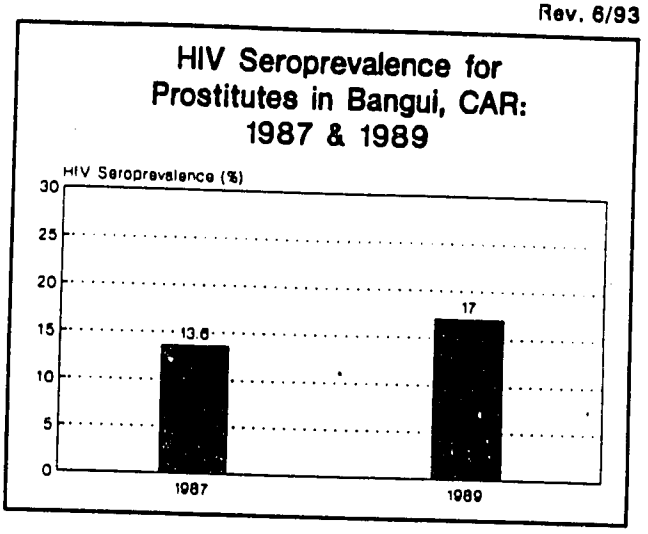
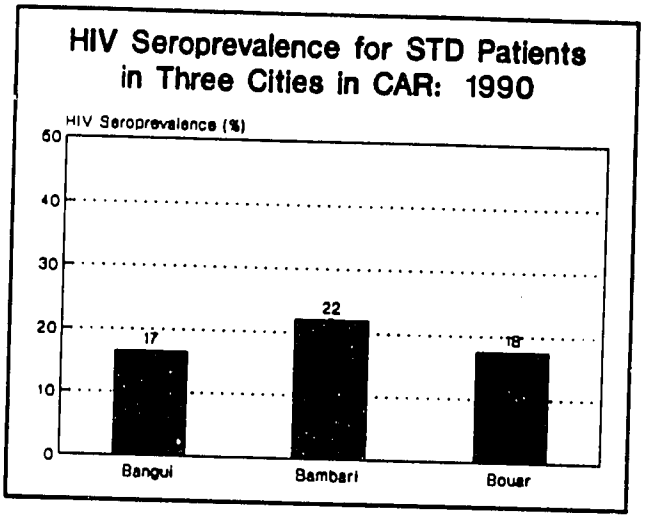
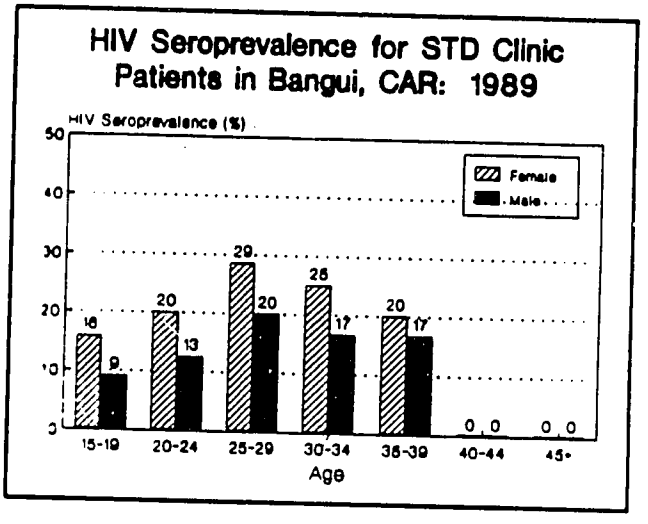
- The level of HIV seroprevalence increased slightly among prostitutes in Bangui from 1987 to 1989.



- In 1990, in the capital city, Bangui, the HIV infection level in sexually transmitted diseases patients was 17 percent. Among STD patients in two other urban centers, Bambari and Bouar, HIV seroprevalence levels were 22 and 18 percent respectively.

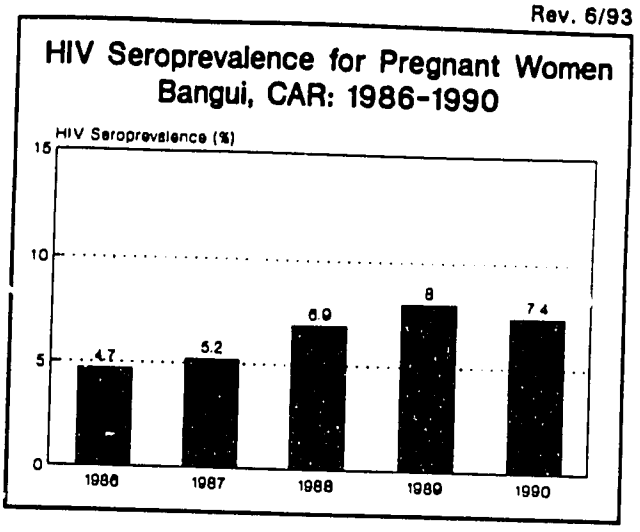


- In Bangui, HIV infection for male and female STD clinic patients was high and showed a somewhat peaked age pattern, reaching a maximum of 29 percent for females and 20 percent for males, both in the ages 25-29 years.

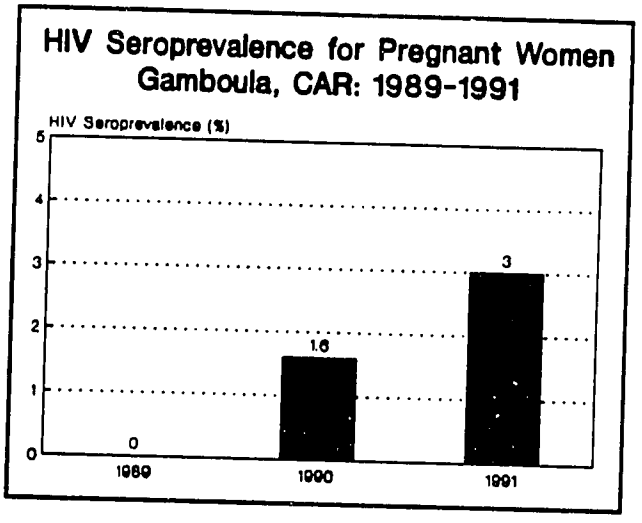


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

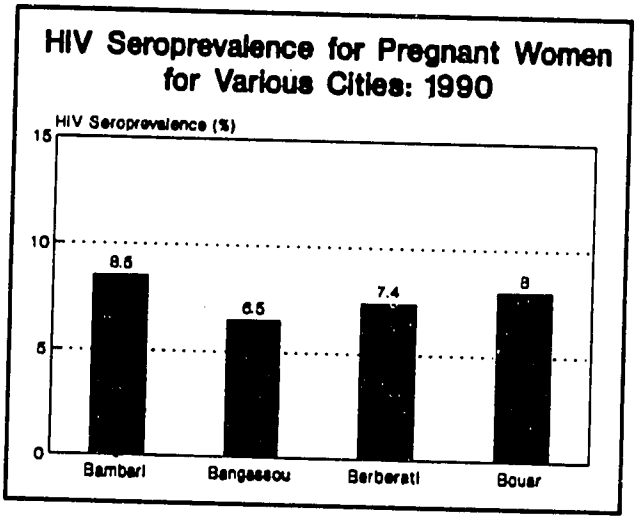
- Annual surveys have documented the near doubling of HIV-1 infection in Bangui over the 1986-1990 period.



- A study in Gamboula, on the border with Cameroon, found no infection in 1989. However, by 1991, the HIV infection level rose to 3 percent among pregnant women.



- In 1990, studies among pregnant women in various cities indicated HIV seroprevalence levels as high as those seen in Bangui for the same year. The HIV levels ranged from 6.5 percent to 8.5 percent in all cities.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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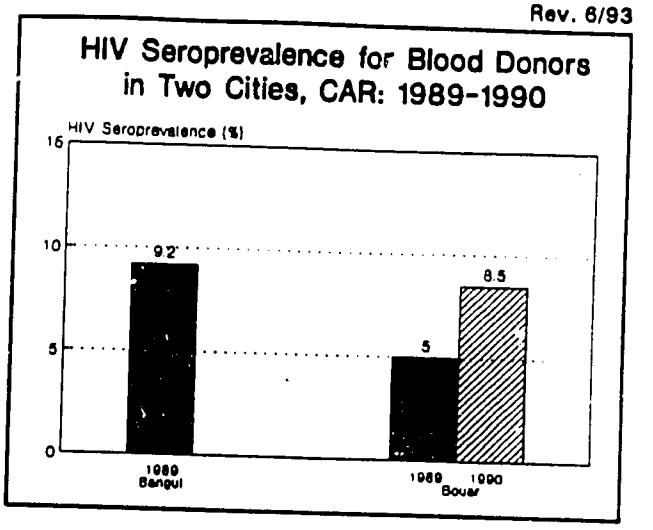
- A 1989 study reported the percent of blood donors positive for the HIV virus to be 9.2 percent in Bangui and 5 percent in Bouar. However, a 1990 study reported an increase in HIV level for Bouar to 8.5 percent.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

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G0059 Georges, A. J., M. C. Georges-Courbot, P. M. V. Martin, et al., 1989, Infection and Morbidity due to HIV in Central African Republic, IV Internat. Conf.: AIDS and Assoc. Cancers in Africa, Marseille, Oct. 18-20, Poster 077.

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L0107 Louis, J. P., R. Trebucq, R. Migliani, et al., 1992, Avancee du Front Epidemique de l'Infection a VIH 1 en Afrique Centrale, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.O.008.

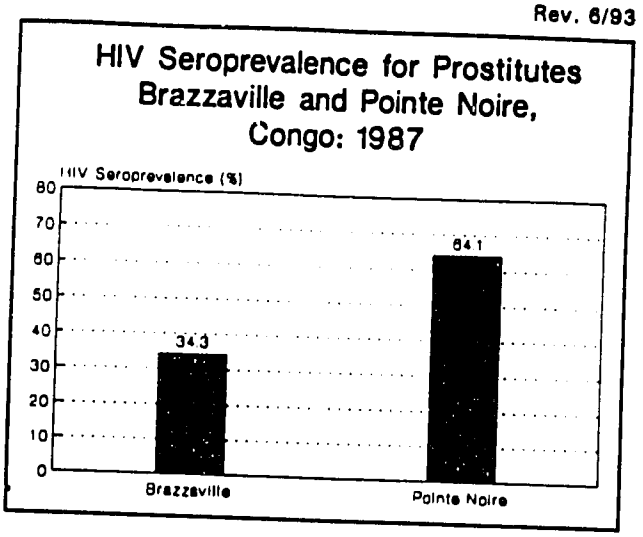
S0069 Somse, P., A. J. Georges, R. M. Siopathis, et al., 1989, Les Aspects Epidemiologiques des Affections Liees Aux VIH 1 et 2 en Republique Centrafricaine, V International Conference on AIDS, Montreal, 6/4-9, Poster W.G.O. 28.

W0069 World Health Organization, 1991, Global Programme on AIDS, Weekly Epidemiological Record, vol. 66, no. 35, pp. 257-259.

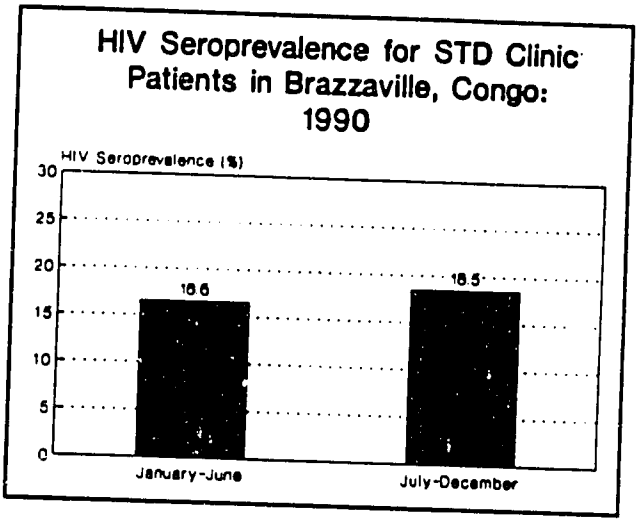
Congo

Rev. 6/93

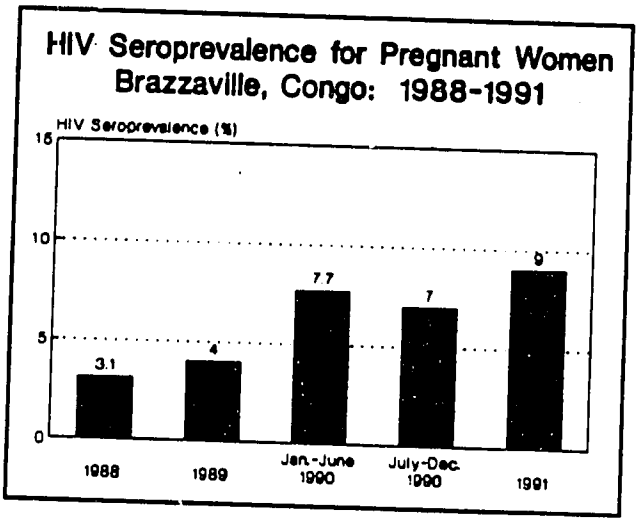
- In 1987, HIV infection was observed to be 34.3 percent among prostitutes in Brazzaville and 64.1 percent among prostitutes in Pointe Noire.



- 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.

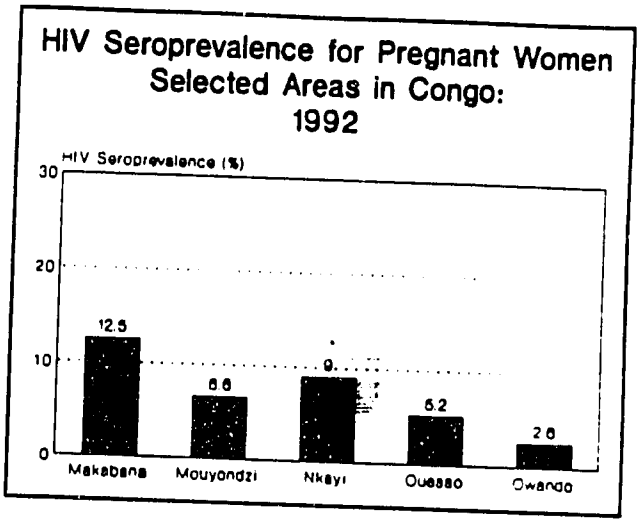


- The rate of HIV infection in pregnant women in Brazzaville has tripled in recent years to around 9 percent in 1991.

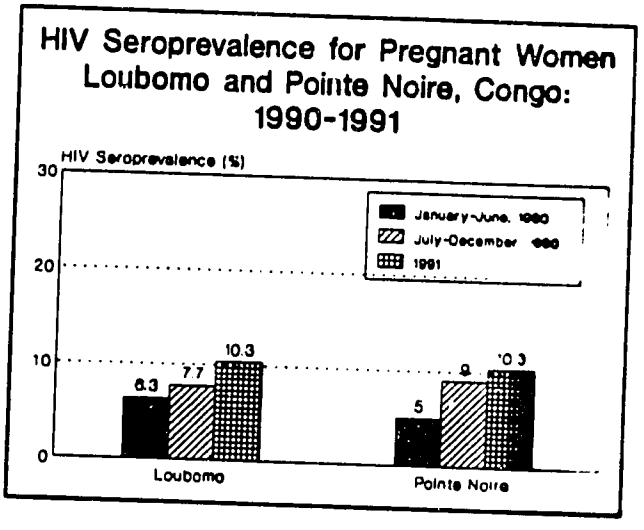


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

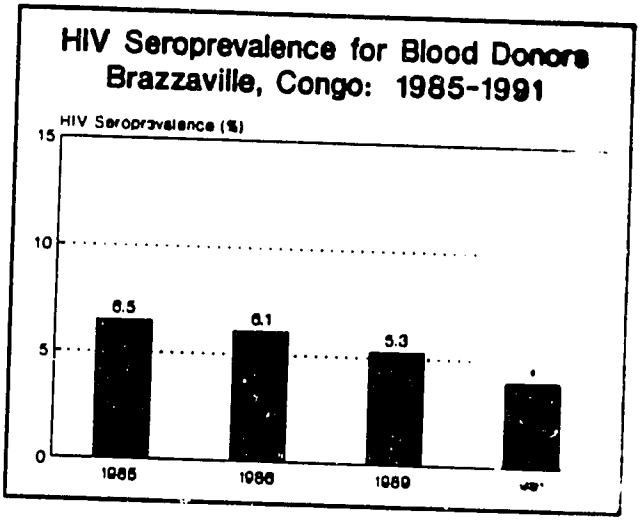
- The HIV infection among pregnant women from these sentinel surveillance sites had a level range from 5.2 percent to 12.5 percent. These sites covered a wide geographic range in Congo.



- 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.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

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B0127 Bazabana, M., J. C. Loukaka, P. M'Pele, et al., 1991, Tendance de l'Infection a VIH chez les Femmes Encientes au Congo, VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster M.A.268.

B0162 Bazabana, M. M., J. C. Loukaka, M. Makuwa, et al., 1992, Surveillance par Reseau de Postes Sentinelles au Niveau District 1991 - 1992: Experience Congolaise, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.032.

C0105 Copin, N., P. M'Pele, E. Fenouillet, et al., 1990, Evolution de la Seroprevalence HIV 1 chez les Donneurs de Sang de Brazzaville au Centre de Transfusion Sanguine de Brazzaville, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.E.26.

G0073 Guerma, T., P. M'Pele, J. C. Loukaka, et al., 1990, Serosurveillance de l'Infection a VIH Par Reseau des Postes Sentinelles Parmi les Femmes Enceintes et des Malades Atteints..., V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.E.3.

G0090 Gueguen, M., A. Bimokono, C. Goumbi, et al., 1991, Infection Recente a VIH chez les Donneurs de Sang de Brazzaville: Estimation du Risque Transfusionnel Residuel ..., VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster M.A.270.

L0039 Lallemant, M., S. Lallemant-Le Coeur, G. Jourdain, et al., 1989, Infection par HIV 1 dans les 5 Maternites de Brazzaville: Facteurs de Risque Maternel et Caracteristiques des Nouveau-Nes, V International Conference on AIDS, Montreal, 6/4-9, Poster W.G.P. 10.

M0026 M'Pele, P., A. Itoua-Ngaporo, M. Rosenheim, et al., 1987, Sero-Prevalence of Anti-HIV Antibodies in Brazzaville (Congo), III International Conference on AIDS, Washington D.C., 6/1-5, Abstract WP.79.

M0032 M'Pele, P., A. Itoua-Ngaporo, M. Rosenheim, et al., 1987, HIV Antibodies in Prostitutes, Brazzaville and Pointe Noire (Congo), II International Symposium: AIDS and Associated Cancers in Africa, Naples, Italy, 10/7-9, Abstract TH-30.

M0192 M'Pele, P., M. Lallemant, S. Lallemant-Le, et al., 1991, Stabilite de l'Infection a VIH chez la Femme Enceinte a Brazzaville, VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Abstract W.A.152.

Y0008 Yala, F., C. Olembe, P. M'Pele, et al., 1988, HBs Antigen, Anti-HIV Antibodies and Their Association Carrier State among Blood Donors in Brazzaville, Bulletin de la Societe de Pathologie Exotique, vol. 81, no. 1, pp. 32-39.

Côte d'Ivoire

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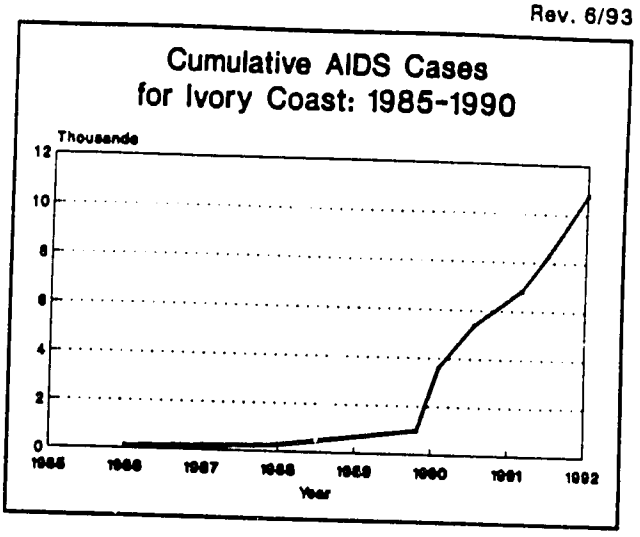
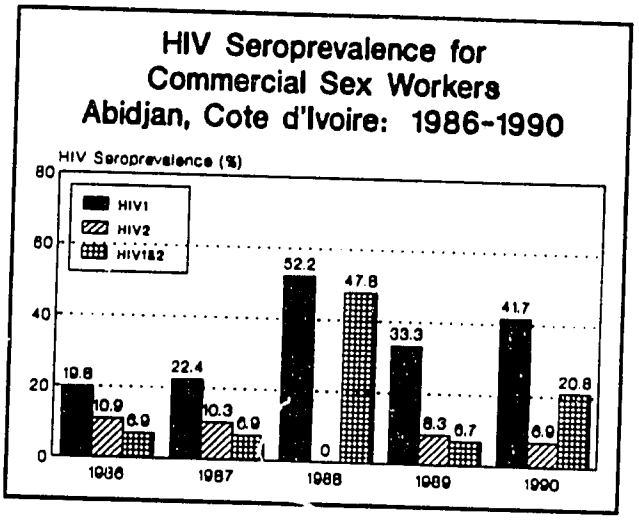
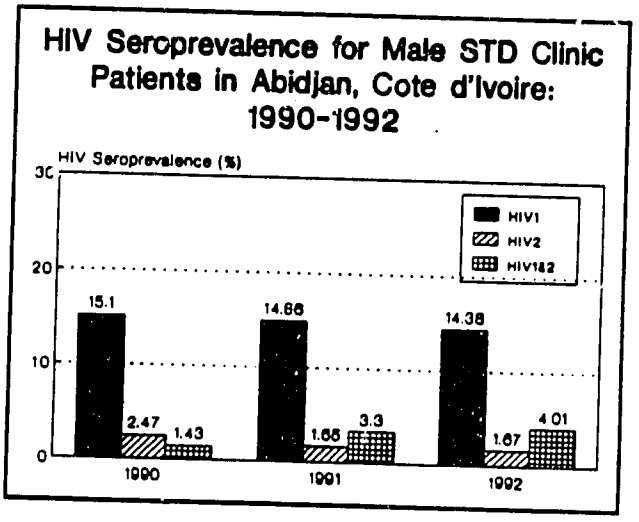
- The cumulative number of AIDS cases reported by Côte d'Ivoire to the World Health Organization has increased rapidly over the past year. This is due to better recognition of AIDS cases by health authorities as well as increasing numbers of cases occurring. By 1990, 0.8 cases were reported per 1,000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

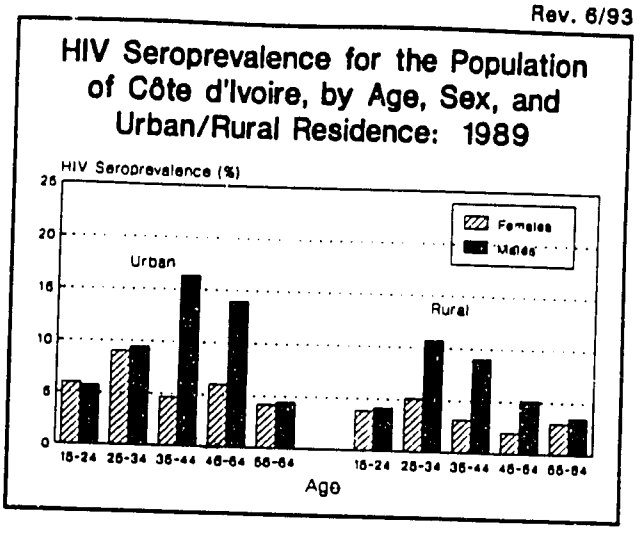


- Samples of males in STD clinics provides the best opportunity to study HIV infection among "high-risk" males. A recent study in Abidjan confirms the exposure of this group to the risk of infection.

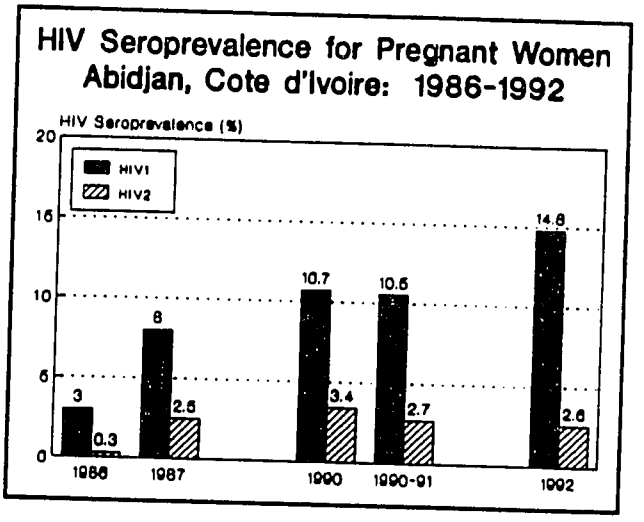


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

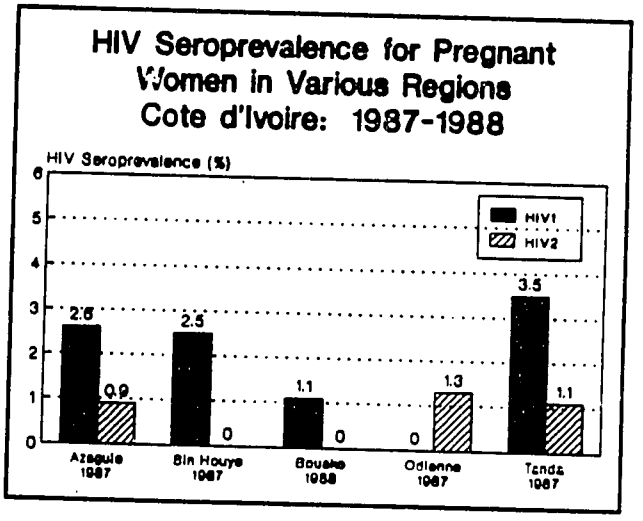
- Age and sex patterns show the HIV prevalence of males tending to be higher than females in the same age groups except for the urban age group 15-24, where females were slightly higher than males.



- 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.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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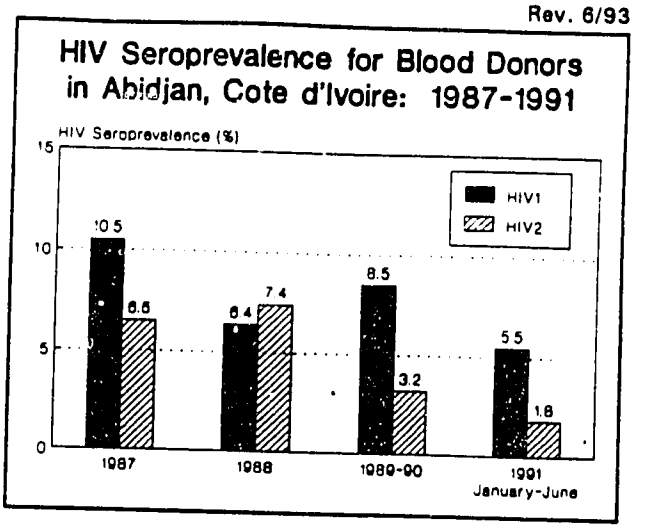
- Patterns of HIV infection among blood donors in Abidjan over the last several years show a mixed trend. As awareness of AIDS grows in the population, those considering themselves at risk may be declining to donate. HIV-2 is generally found to be less than HIV-1 in this population group.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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B0108 Benoit, S. N., G. M. Gershy-Damet, A. Coulibaly, et al., 1990, Seroprevalence of HIV Infection in the General Population of the Cote d'Ivoire, West Africa, Journal of Acquired Immune Deficiency Syndromes, vol. 3, no. 12, pp. 1193-1196.

D0030 Denis, F., G. Gershy-Damet, M. Lhuillier, et al., 1987, Prevalence of Human T-Lymphotropic Retroviruses Type III (HIV) and Type IV in Ivory Coast, Lancet, February 21, vol. 1, pp. 408-411.

D0086 De Cock, K. M., E. Gnaore, G. Adjorlolo, et al., 1991, Risk of Tuberculosis in Patients with HIV-1 and HIV-II Infections in Abidjan, Ivory Coast, British Medical Journal, vol. 302, pp. 496-499.

K0105 Koffi, K., G. M. Gershy-Damet, N. Koffi, et al., 1991, Diffusion Rapid des Infections a VIH a Abidjan, Cote d' Ivoire de 1987 a 1990, VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster T.A.112.

O0004 Odehouri, K., K. M. DeCock, J. W. Kreba, et al., 1989, HIV-1 and HIV-2 Associated with AIDS in Abidjan, Cote d'Ivoire, AIDS, vol 3, no. 8, pp. 509-512.

O0027 Ouattara, A., M. A. Rey, F. Brun-Vesinet, et al., 1988, Retroviral Infections by HIV-1, HIV-2 and AIDS - Related Complex in the Ivory Coast, C R Acad Sci, vol. 306, no. 2, pp. 47-50.

S0141 Savarit, D., R. Schutz, S. Konate, et al., 1991, Prevalence de l'Infection V.I.H. des Donneurs de Sang du C.N.T.S. d'Abidjan, VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster M.A.252.

T0078 Traore-Ettiegne, V., M. O. Diallo, A. Amouzou, et al., 1992, Trends in HIV-1 and HIV-2 Infections in Men Attending an Abidjan Sexually Transmitted Diseases Clinic, 1990-1992, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.027.

V0012 Verdier, M., A. Sangare, G. Leonard, et al., 1988, HIV-1, HIV-2 and HTLV-1 Prevalence in Pregnant Women of Seven Areas of Ivory Coast, III International Conference: AIDS and Associated Cancers in Africa, Sept. 14-16, Poster FP 17.

W0002 Wellcome Foundation, 1987, AIDS and Its Management, The Wellcome Foundation Limited Berkhamsted Herts England, B.5676/09.87/5.0/R, pp. 4-5.

W0013 World Health Organization, 1988, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 2, no. 6, pp. 487-490.

W0041 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 3, pp. 277-278.

W0042 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 6, pp. 605-606.

W0046 World Health Organization, 1991, Statistica from the WHO and the Centers for Disease Control, AIDS, vol. 5, no. 3, pp. 349-350.

W0047 World Health Organization, 1991, Statistics from the who and the Centers for Disease Control, AIDS, 5(6):785-790.

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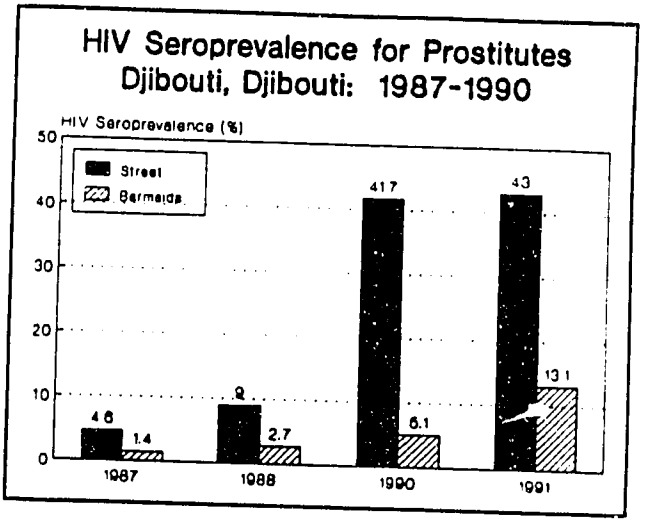
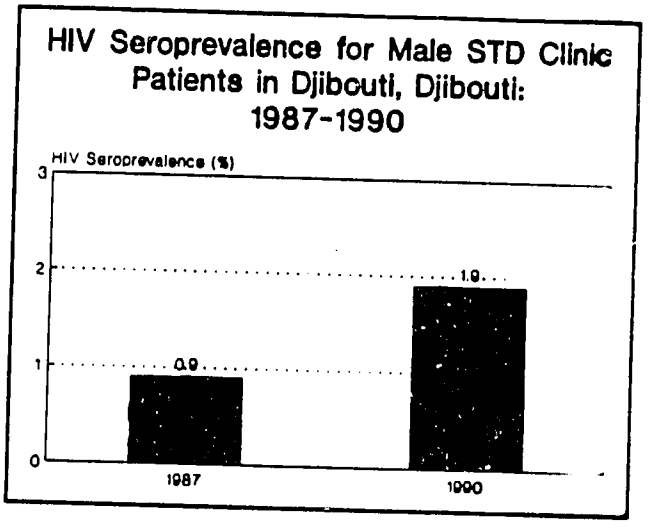
Djibouti

Rev. 6/93

- The prevalence of HIV infection among prostitutes in Djibouti has increased over the 4 year period from 1987 to 1991. HIV levels increased dramatically among street prostitutes from 4.6 percent in 1987 to 43 percent in 1991. Among barmaids, HIV levels increased from 1.4 percent in 1987 to 13.1 precent in 1991, showing both groups to be at high 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, June 1993

Sources for Djibouti

C0141 Couzineau, B., J. Bouloumie, P. Hovette, et al., 1991, Prevalence of HIV Infection in a Target Population in the Republic of Djibouti, Medecine Tropicale, vol. 51, no. 4, pp. 485-486.

F0017 Fox, E., E. A. Abbatte, H. H. Wassef, et al., 1989, Low Prevalence of HIV Infection in Djibouti: Has the AIDS Epidemic Come to a Stop at the Horn of Africa?, Transactions of the Royal Society of Tropical Medicine and Hygiene, vol. 83, no. 1, pp. 103-106.

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Ghana

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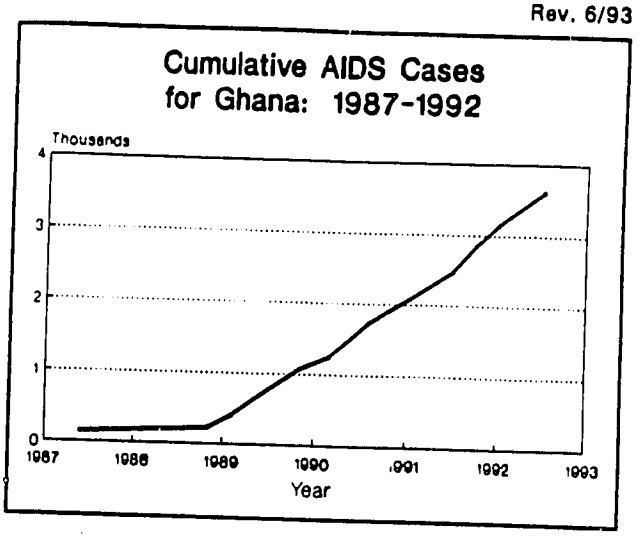
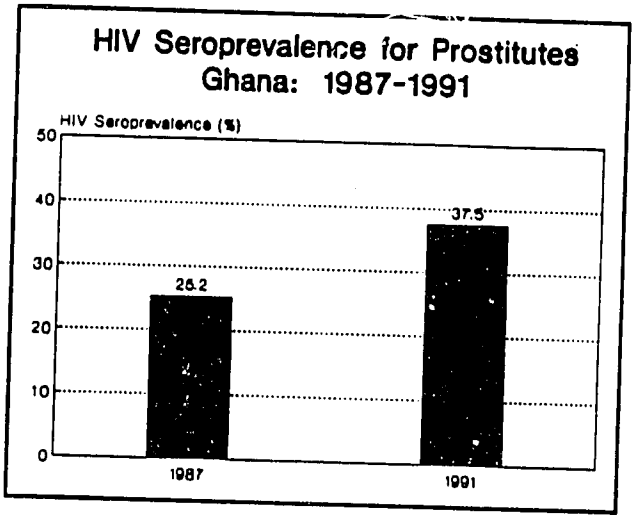
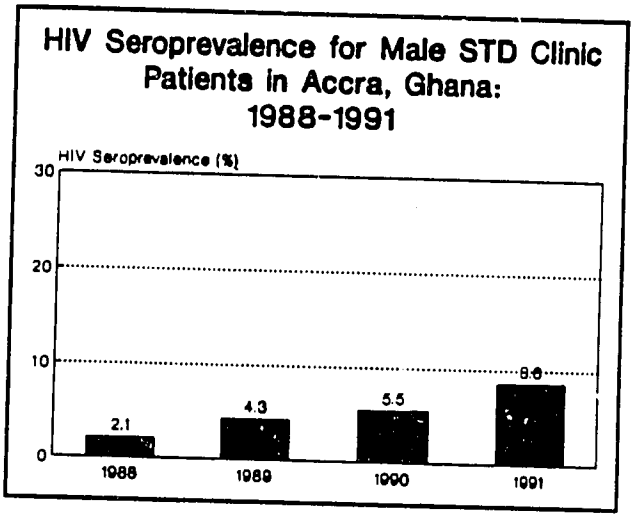
- There is increasing concern about an AIDS epidemic among the Ghanaian population. There was a sharp increase in AIDS cases beginning in 1989 and continuing through 1992. As of July 1992 the number of cumulative AIDS cases reported to the World Health Organization by Ghana was 3612 cases.



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

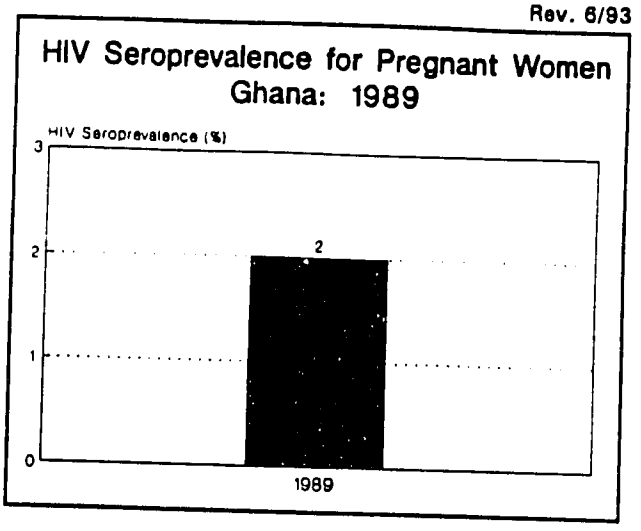


- In the capital city, Accra, the prevalence of HIV infection in males attending a sexually transmitted dieases clinic showed an increase over the period from 1988 to 1991. The HIV infection level more than quadrupled from 2.1 percent in 1988 to 8.6 percent in 1991.

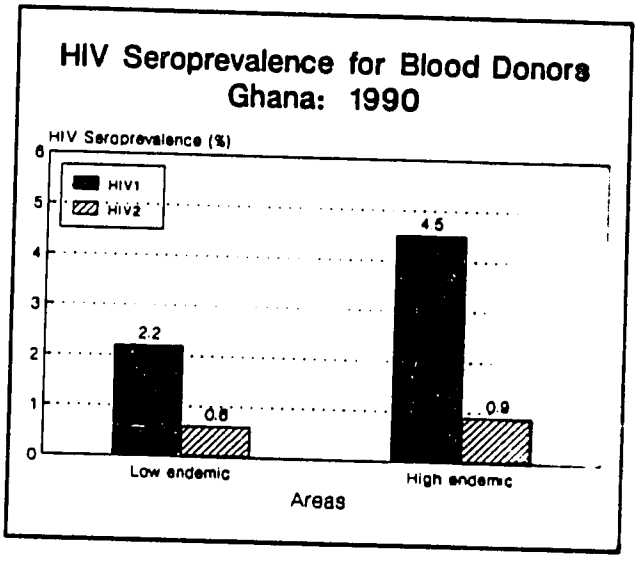


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

- 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, June 1993

Sources for Ghana

A0090 Asamoah-Odei, E. J., P. M. Antwi, A. Asamoah-Adu, et al., 1992, HIV Surveillance among Men Attending STD Clinic in Accra, Ghana, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Abstract T.P.026.

D0096 Diaw, I., I. Thior, T. Siby, et al., 1991, Prevalence du VIH et MST Majeures chez les Prostituees Nouvellement Inscrites, VI International Conference on AIDS in Africa, Dekar, Senegal, 12/16-19, Session W.O.128.

F0042 Fiander, A., 1988, HIV Infection in Africa, British Medical Journal, vol. 299, p. 260.

M0018 Mingle, J. A. A., M. Hayami, M. Osei-Kwasi, et al., 1987, Reactivity of Ghanaian Sera to Human Immunodefiency Virus, (HIV) and Simian T-Lymphotropic Virus III (STLV-III), III International Conference on AIDS, Washington, D.C., 6/1-5, Abstract MP.94.

M0143 Mingle, J., M. Osei-Kwesi, P. Antwi, et al., 1990, HIV-1 and HIV-2 Seroprevalence in Three Population Groups in Ghana, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.E.5.

W0003 World Health Organization, 1989, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 3, no. 3, pp. 187-188.

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W0041 World Health Organization, 1990, Statistics from the WHO and the Centers for Disesse Control, AIDS, vol. 4, no. 3, pp. 277-278.

W0045 World Health Organization, 1989, Statistics from the WHO and the Centers for Disesse Control, AIDS, vol. 4, no. 12, pp. 1305-1306.

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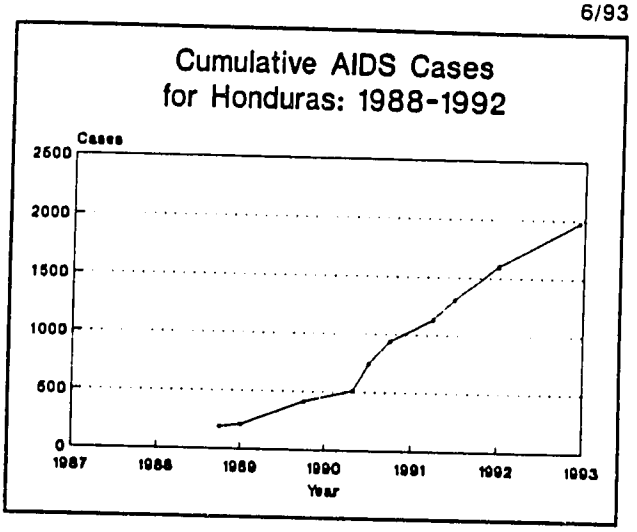
W0072 World Health Organization, 1993, World Health Organization Global AIDS Statistics, AIDS, vol. 5, no. 1, pp. 125-128.

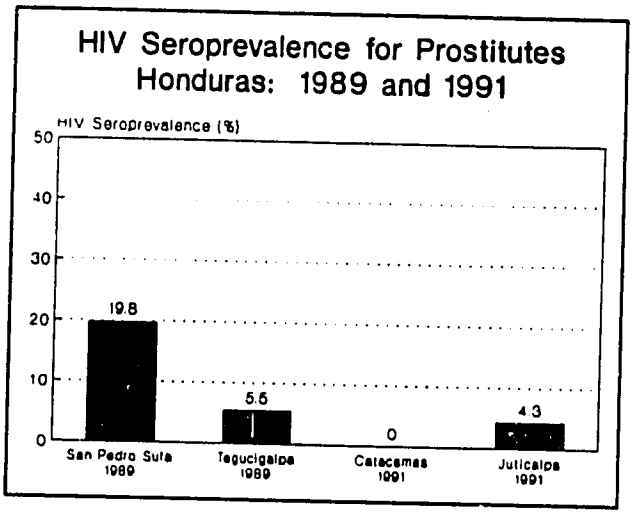
Honduras

6/93

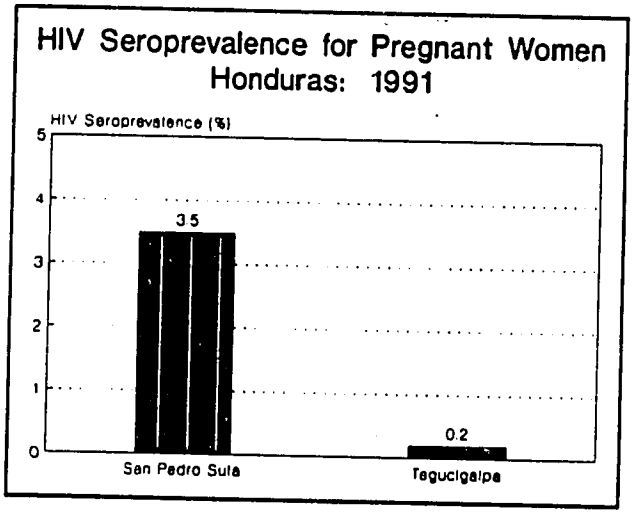
- Honduras is one of the countries in Central America that has the highest number of AIDS cases. As of December 1992, 1976 cumulative AIDS cases had been reported to the World Health Organization. This corresponds to the cumulative AIDS incidence rate of .39 cases per 1,000 population.



- Studies show the seroprevalence of HIV to be 20 percent in prostitutes from San Pedro Sula, the second largest city in Honduras. Meanwhile, Tegucigalpa, the capital (6.0 percent) and Juticalpa (4.0 percent) showed lower infection levels. There was no evidence of HIV in Catacamas city.

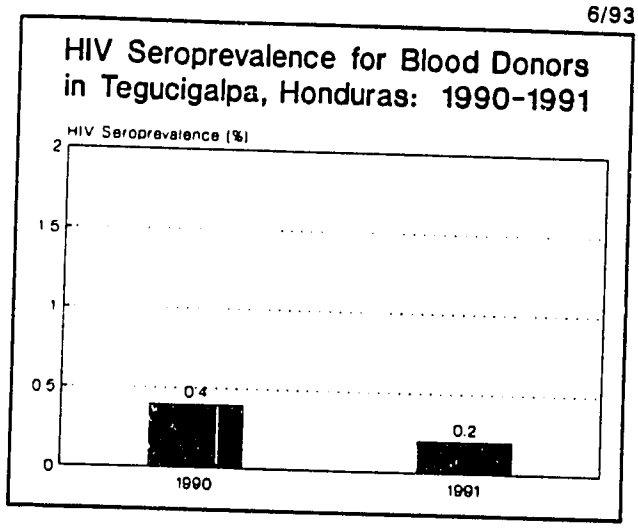


- The results from seroepidemiological studies indicate that among pregnant women the seroprevalence of HIV infection is lower in the central region of Honduras, Tegucigalpa, than in the northern coastal region, San Pedro Sula.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

- Among voluntary blood donors from the Honduran Red Cross National Blood Program in Tegucigalpa, there is a clear reduction in the HIV prevalence level from 1990 to 1991. This may be due to the fact that direct control in the donor selection procedures has an impact on reducing HIV prevalence among blood donors.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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M0242 Menjivar, A., J. Fernandez, 1991, KAP's on AIDS and HIV/AIDS Seroprevalence Studyicas Sobre V.I.H./SIDA Y Estudio de Seroprevalencia de V.I.H. en Mujeres ..., National AIDS Control Program, Ministry of Health, unpublished report.

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W0041 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 3, pp. 277-278.

W0042 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 6, pp. 605-606.

W0046 World Health Organization, 1991, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 5, no. 3, pp. 349-350.

W0047 World Health Organization, 1991, Statistics from the who and the Centers for Disease Control, AIDS, 5(6):785-790.

W0057 World Health Organization, 1992, World Health Organization Global AIDS Statistics, AIDS Care, vol. 4, no. 1, pp. 125-128.

W0058 World Health Organization, 1992, World Health Organization Global AIDS Statistics, AIDS Care, vol. 4, no. 2, pp. 231-234.

W0072 World Health Organization, 1993, World Health Organization Global AIDS Statistics, AIDS, vol. 5, no. 1, pp. 125-128.

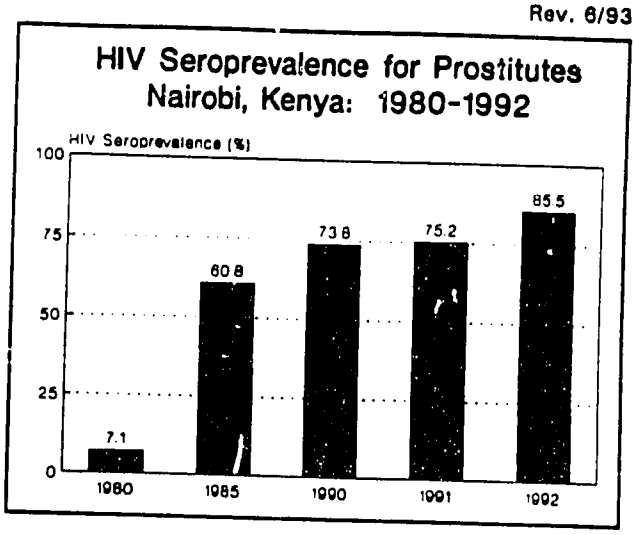
Z0033 Zelaya, J. E., M. Rocha, A. M. Kimball, 1991, Case Control Seroepidemiological Study of HIV in Women in Reproductive Age, San Pedro Sula, Honduras, National AIDS Control Program, Ministry of Health, Panamerican Health Organization, unpublished report.

Z0035 Zelaya, J. E., M. Thibaud, R. Oviedo, et al., 1989, Seroprevalence of Anti-HIV Antibodies in Prostitutes from Tegucigalpa and San Pedro Sula, Honduras, National AIDS Control Program: Science and Technology Unit, Family Health International, unpublished report.

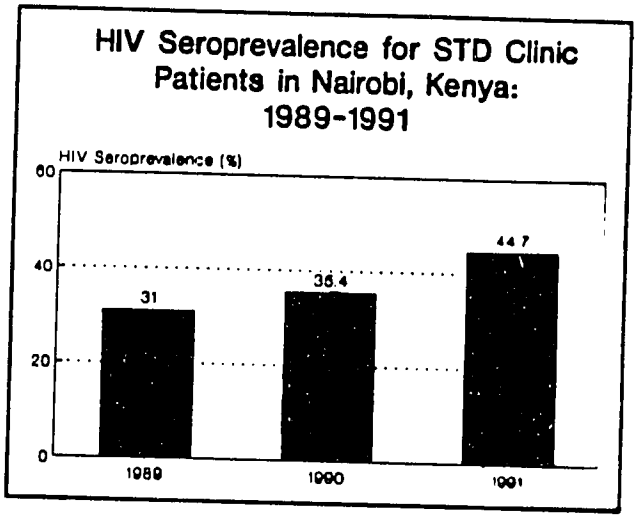
Kenya

Rev. 6/93

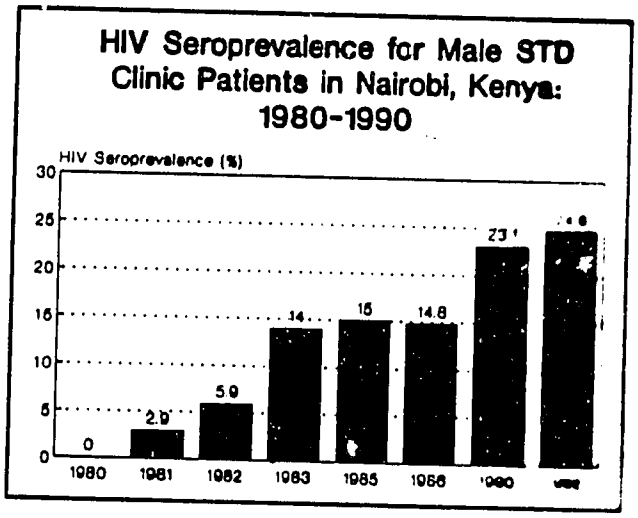
- The level of HIV infection has risen rapidly in prostitutes in Nairobi over the past 12 years. The level of infection has increased from 7.1 percent in 1980 to 85.5 percent in 1992.



- 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 from 31.0 percent in 1989 to 44.7 percent in 1991.

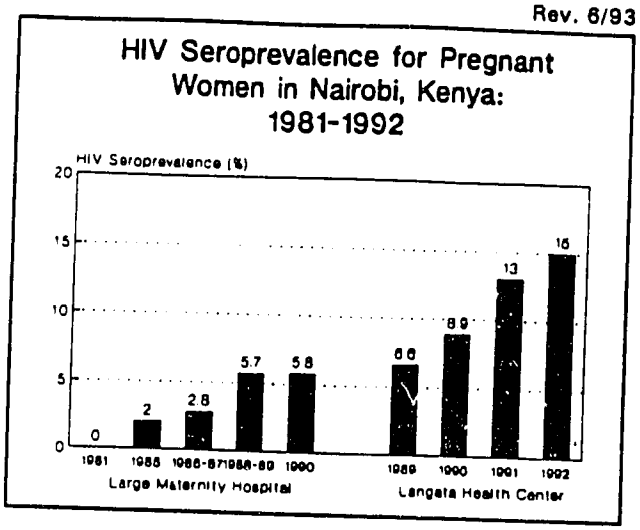


- According to these studies, among male STD clinic patients with genital ulcers, the level of HIV infection has increased rapidly over the past 12 years. Nearly one quarter of the male STD clinic patients were infected by 1992.

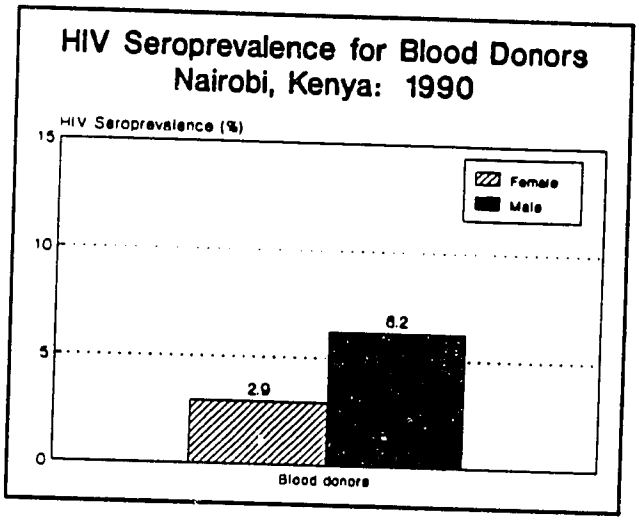


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

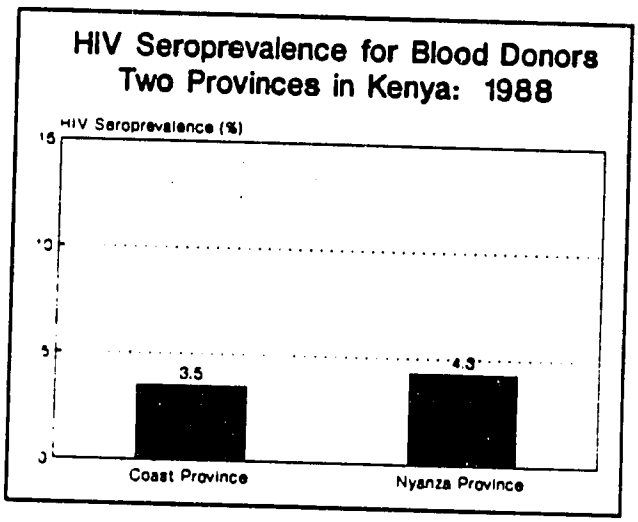
- Among pregnant women in Nairobi, HIV infection was not detected until about 1985. HIV prevalence levels rose steadily at a large maternity hospital from 1985 to 1989, but leveled off in 1990, while levels at the Langata Health Center showed a strong continuous growth from 6.6 percent in 1989 to 15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



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

Sources for Kenya

B0002 Brun-Vezinet, F., 1985, Seroepidemiological Studies of LAV in Central Africa, International Symposium on African AIDS, 11/22-23, Abstract.

G0105 Gichangi, P., M. Temmerman, A. F. Mohamed, et al., 1992, Rapid Increase in HIV-1 Infection and Syphilis between 1989 and 1991 in Pregnant Women in Nairobi, Kenya, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4029.

K0124 Kitabu, M. Z., G. M. Maitha, J. N. Mungai, et al., 1992, Trends and Seroprevalence of HIV amongst Four Population Groups in Nairobi in the Period 1989 to 1991, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4018.

M0217 Mungai, J. N., G. M. Maitha, M. Z. Kitabu, et al., 1992, Prevalence of HIV and Other STD's in Three Populations in Nairobi for Year 1991, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4714.

M0243 Mungai, J. N., J. Ombette, J. Kimani, et al., 1992, Laboratory Findings for the Prevalence of HIV, Neisseria Gonorrhoea and Chlamydia Trachomatis Infections among Prostitutes ..., VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Abstract W.P.189.

N0068 Ndinya-Achola, J. O., P. Datta, J. Embree, et al., 1991, Increasing Seroprevalence (SP) of HIV-1 in Pregnant Women in Nairobi, 1986-1990., VII International Conference on AIDS, Florence, Italy, 6/16-21, Poster W.C.3264.

N0071 Nyamongo, J., S. Mitchell, P. M. Tukei, et al., 1991, Use of a Blood Donor Survey to Develop Donor Deferral Guidelines and Selective Recruitment Criteria, VII International Conference on AIDS, Florence, Italy, 6/16-21, Poster M.C.3350.

P0024 Piot, P., F. A. Plummer, M. A. Rey, et al., 1987, Retrospective Seroepidemiology of AIDS Virus Infection in Nairobi Populations, Journal of Infectious Diseases, vol. 155, no. 6, pp. 1108-1112.

S0046 Simonsen, J. N., W. Cameron, M. N. Gakinya, et al., 1988, Human Immunodeficiency Virus Infection among Men with Sexually Transmitted Diseases, New England Journal of Medicine, vol. 319, no. 5, pp. 274-278.

T0049 Tyndall, M., P. Odhiambo, A. R. Ronald, et al., 1991, The Increasing Seroprevalence of HIV-1 in Males with Other STD's in Nairobi, Kenya, VII International Conference on AIDS, Florence, Italy, 6/16-21, Poster W.C.3117.

T0057 Temmerman, M., F. M. Ali, J. O. Ndinya-Achola, et al., 1991, Rapid Increase of both HIV-1 and Syphilis among Pregnant Women in Nairobi, Kenya, AIDS, vol. 6, no. 10, pp. 1118-1185.

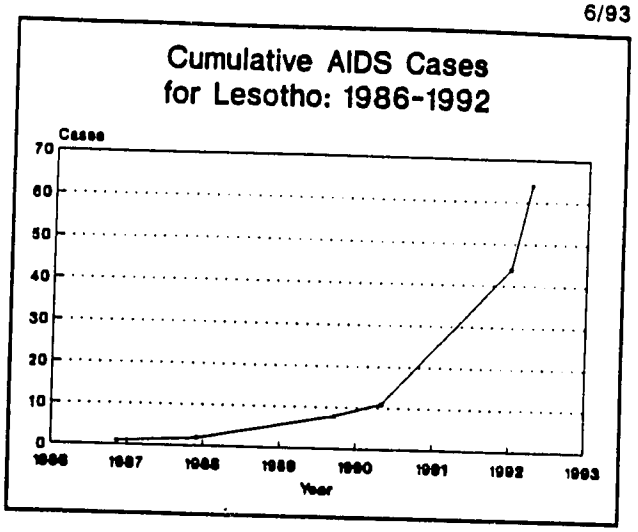
T0060 Tyndall, M., E. Agoki, W. Malisa, et al., 1992, HIV-1 Prevalence and Risk of Seroconversion among Uncircumcised Men in Kenya, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4308.

W0022 Weekly Review, The, 1989, International Conference Focuses on AIDS, Joint Publications Research Service: Epidemiology, April 28, no. 008, pp. 1-2.

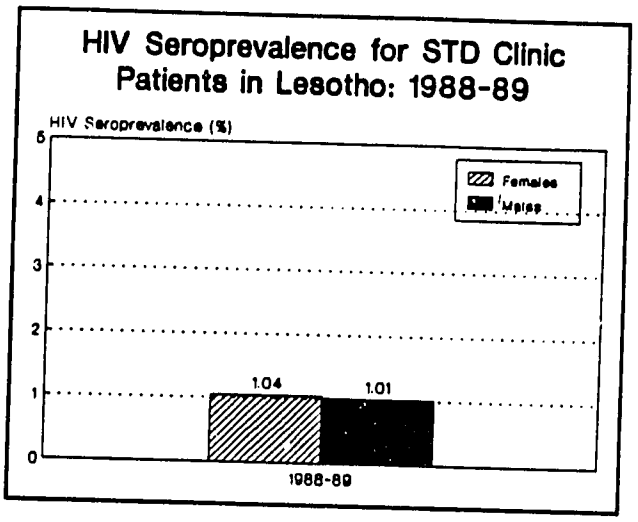
Lesotho

6/93

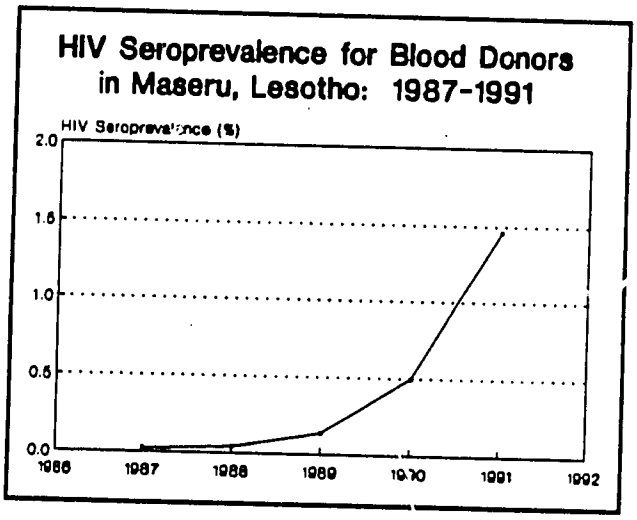
- Through March 1992, Lesotho had reported 64 AIDS cases to the World Health Organization. This corresponds to a cumulative rate of .04 cases per 1,000 population.



- The HIV seroprevalence in Lesotho among sexually transmitted disease (STD) patients was already 1 percent in this study conducted in 1988-89. Various studies have shown that Lesotho has a high level of other STDs, thus the population could be vulnerable to the transmission of HIV infection throughout the country.



- In Lesotho, all screening of blood donations for HIV is done in the Lesotho Blood Transfer Centre located in Maseru. According to this study, levels of HIV seroprevalence among healthy blood donors has increased dramatically from 0.02 percent in 1987 to 1.46 percent in 1992.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

Sources for Lesotho

M0255 Motiojoa, M., P. Mtskhe, S. Lazzari,, 1992, Prevalence of HIV Infection and VDRL in Healthy Blood Donors in Lesotho 1987-1991, VII International Conference on AIDS in Africa, Yaounde Cameroon, 12/8-11, Poster T.P.155.

N0075 Mtsekhe, P., 1991, STDs and HIV Infection in a STD Clinic in Lesotho, VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster M.A.278.

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W0013 World Health Organization, 1988, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 2, no. 6, pp. 487-490.

W0034 World Health Organization, 1989, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 3, no. 12, pp. 863-864.

W0040 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 9, pp. 937-941.

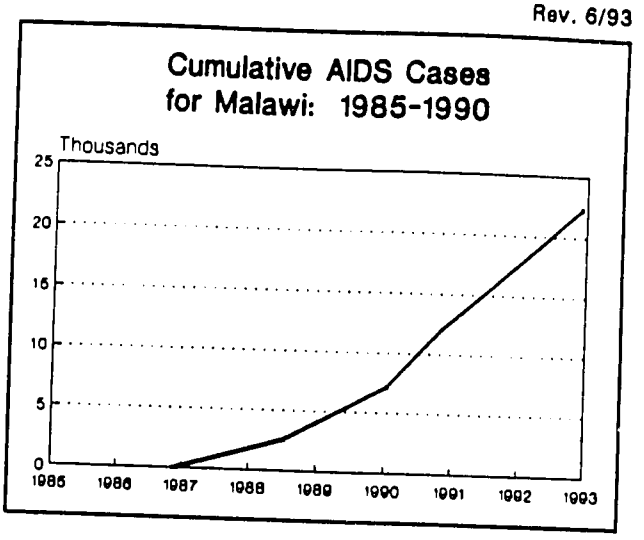
W0058 World Health Organization, 1992, World Health Organization Global AIDS Statistics, AIDS Care, vol. 4, no. 2, pp. 231-234.

W0072 World Health Organization, 1993, World Health Organization Global AIDS Statistics, AIDS, vol. 5, no. 1, pp. 125-128.

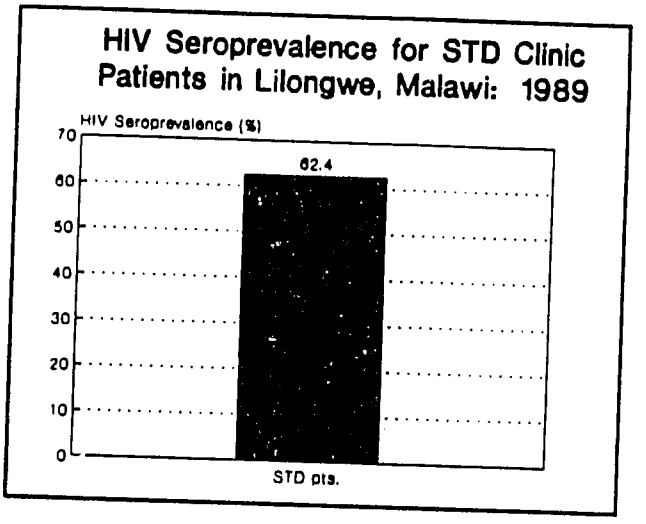
Malawi

Rev. 6/93

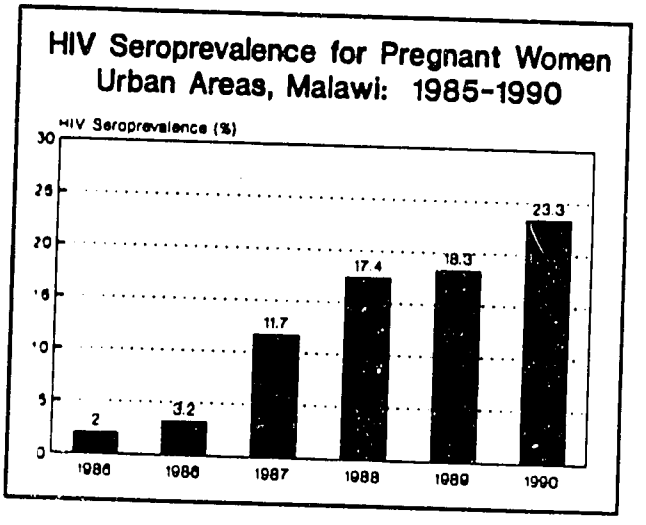
- Through December 1992, Malawi has reported 22,300 AIDS cases to the World Health Organization. This corresponds to a cumulative incidence of 2.3 per 1,000 population. Among African countries, only Uganda, Zaire, and Kenya have reported more cases, and Malawi has the highest cumulative incidence rate among these countries.



- 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 urban areas of Malawi have increased tenfold 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, June 1993.

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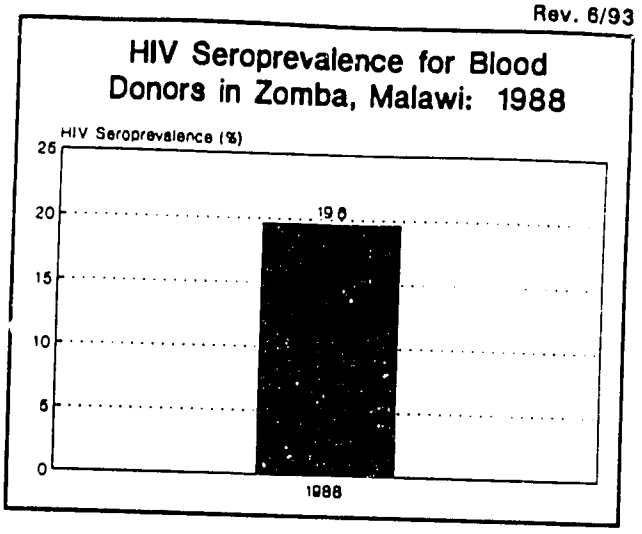
- In Zomba General Hospital, all nonpaid blood donors were tested for HIV seropositivity. Among these blood donors, the HIV seroprevalence level was 19.6 percent.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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C0021 Chiphangwi, J, M. Keller, J. Wirima, et al., 1988, Prevalence of HIV-1 Infection in Pregnant Women in Malawi, IV International Conference on AIDS, Stockholm, 6/13-14, Poster 5037.

C0102 Chiphangwi, J., G. Dallabetta, A. Saah, et al., 1990, Risk Factors for HIV-1 Infection in Pregnant Women in Malawi, VI International Conference on AIDS, San Francisco, 6/20-24, Session Th.C.98.

K0088 Kool, H. E. J., D. Bloemkolk, P. A. Reeve, et al., 1990, HIV Seropositivity and Tuberculosis in a Large General Hospital in Malawi, Tropical and Geographical Medicine, vol. 42, no. 2, pp. 128-132.

K0103 Kristensen, J. K., 1990, The Prevalence of Symptomatic Sexually Transmitted Diseases and Human Immunodeficiency Virus Infection in Outpatients in ..., Genitourinary Medicine, vol. 66, no. 4, pp. 244-246.

L0036 Liomba, N. G., L. Gurtler, J. Eberle, et al., 1989, Comparison of the Age Distribution of Anti-HIV-1 and Anti-HBc in an Urban Population from Malawi, V International Conference on AIDS, Montreal, 6/4-9, Poster W.G.O. 29.

W0002 Wellcome Foundation, 1987, AIDS and Its Management, The Wellcome Foundation Limited Berkhamsted Herts England, B.5676/09.87/5.0/R, pp. 4-5.

W0013 World Health Organization, 1988, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 2, no. 6, pp. 487-490.

W0042 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 6, pp. 605-606.

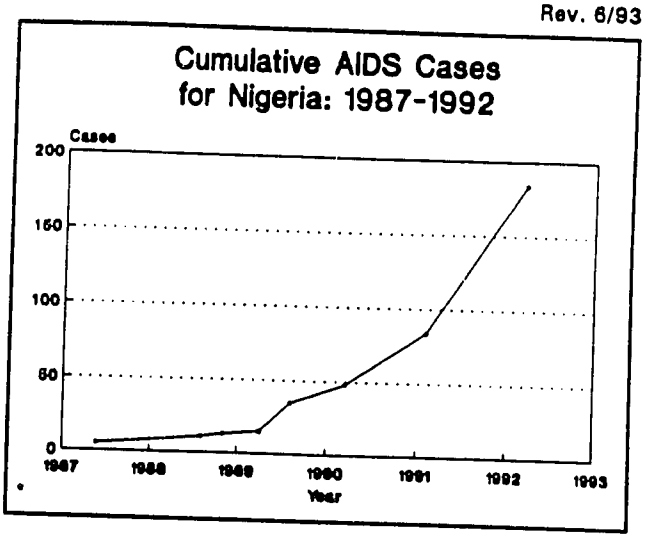
W0054 World Health Organization, 1991, World Health Organization Global AIDS Statistics, AIDS Care, vol. 3, no. 4, pp. 481-484.

W0072 World Health Organization, 1993, World Health Organization Global AIDS Statistics, AIDS, vol. 5, no. 1, pp. 125-128.

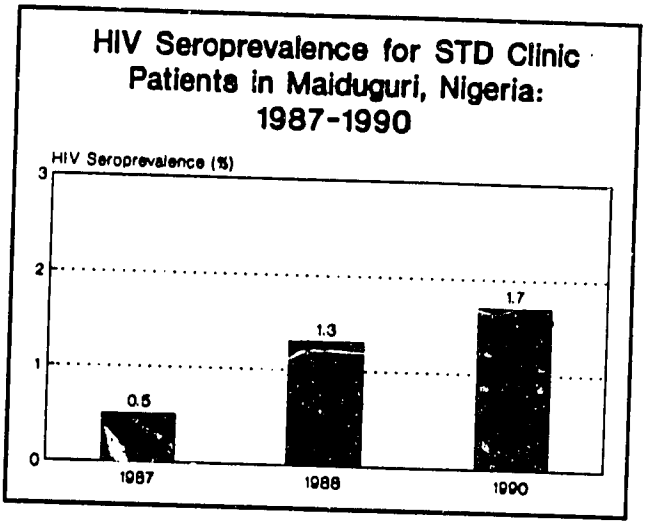
Nigeria

Rev. 6/93

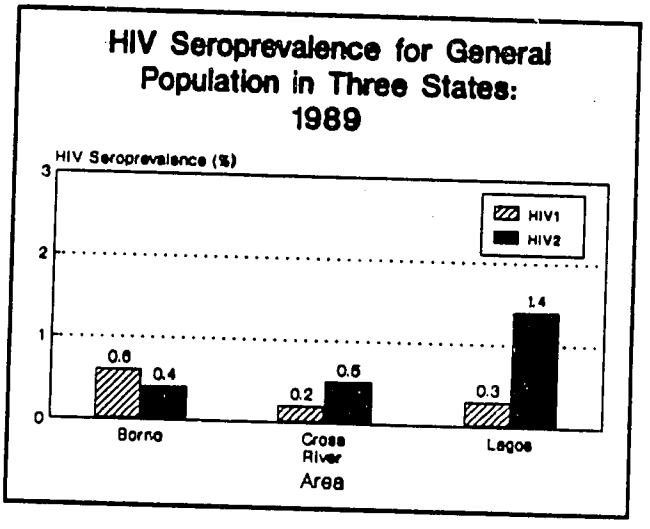
- AIDS cases in Nigeria are slowly increasing. In 1991, Nigeria reported 84 cumulative AIDS cases to the World Health Organization. In March 1992, they reported an increase in cumulative AIDS cases to 184 cases.



- 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.

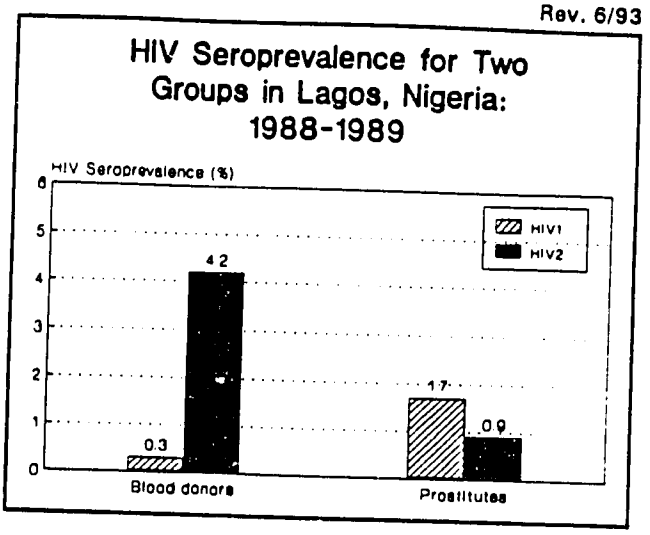


- Nigeria is a large and diverse nation and to date relatively few HIV seroprevalence studies have been conducted. One recent study in three states found HIV-1 infection levels in the general population below 1 percent. HIV-2, spreading from West Africa, was under 1 percent in Borno and Cross River,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

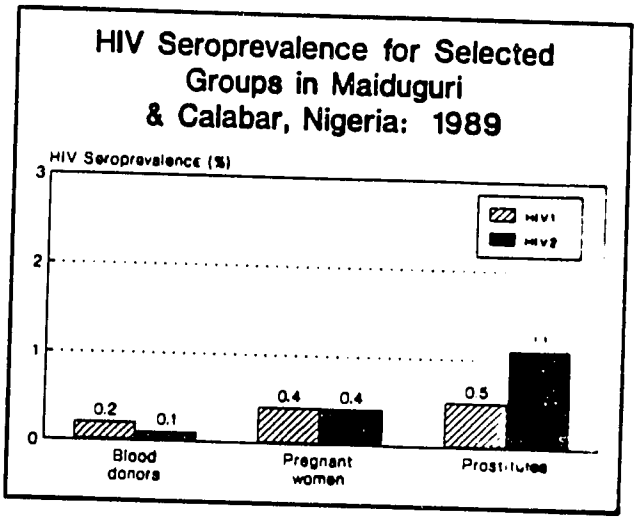


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

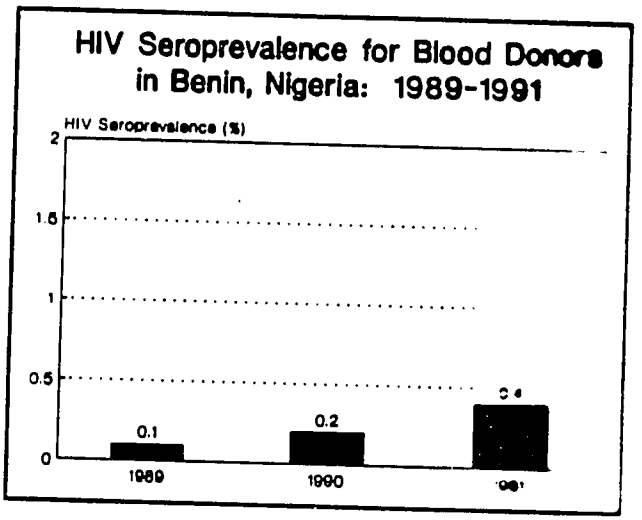
- Other studies in Lagos have found levels of HIV-1 infection among prostitutes to be several times that found among blood donors, although HIV-1 seroprevalence for prostitutes in these studies is much lower than in many other African countries. The level of HIV-2 infection in this small sample of blood 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.



- In Benin city, the HIV infection levels among the blood donors show a slow but steady increase to 0.4 percent in 1991.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

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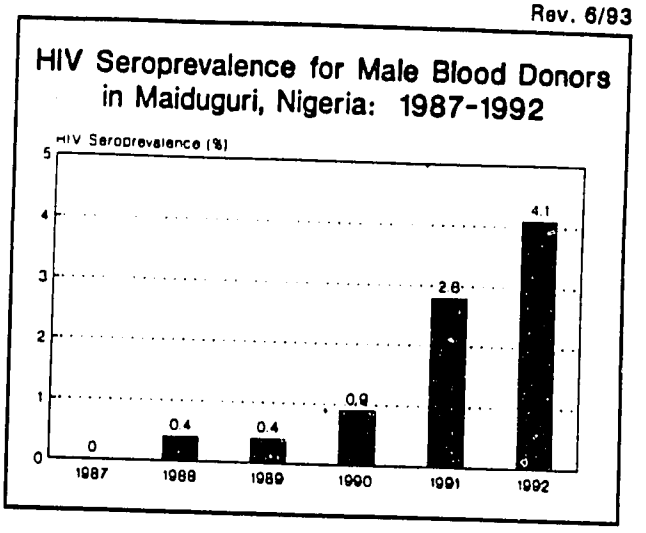
- Studies conducted between 1987 and 1992 showed an increase in the HIV infection levels among the blood donors. Maiduguri city experienced a great increase from no evidence of HIV in 1987 to 4.1 percent in 1992.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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A0043 Akinsete, I., A. Nasidi, S. A. Egbewunmi, et al., 1989, Seroprevalence of HIV-Infection in Various Groups Tested at the Lagos University Teaching Hospital, Lagos, Nigeria, between ..., IV Internat. Conf.: AIDS and Assoc. Cancers in Africa, Marseille, Oct. 18-20, Poster 400.

C0109 Chikwem, J. O., I. Mohammed, H. G. Bwala, et al., 1990, Human Immunodeficiency Virus (HIV) Infection in Patients Attending a Sexually Transmitted Diseases Clinic in Borno State of ..., Tropical and Geographical Medicine, vol. 42, pp. 17-22.

H0055 Harry, T. O., W. Gashau, O. Ekenna, et al., 1990, Growing Threat of HIV Infection in a Low Prevalence Area, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.E.21.

H0087 Harry, T. O., A. E. Moses, T. O. Ola, et al., 1992, Increasing Risk of Transfusion-Associated AIDS as the Pandemic Spreads: Experience in Maiduguri, Nigeria, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.154.

M0107 Mohammed, I., A. Nasidi, J. O. Chikwem, et al., 1989, Nigeria - A Possible Buffer Zone for HIV in Africa, IV Internat. Conf.: AIDS and Assoc. Cancers in Africa, Marseille, Oct. 18-20, Poster 033.

O0039 Offor, E., I. Okafor, I. Osunde, 1992, Changes in Prevalence Rate of HIV Transmission among Blood Donors in Benin City, Nigeria, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4213.

W0002 Wellcome Foundation, 1987, AIDS and Its Management, The Wellcome Foundation Limited Berkhamsted Herts England, B.5676/09.87/5.0/R, pp. 4-5.

W0003 World Health Organization, 1989, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 3, no. 3, pp. 187-188.

W0013 World Health Organization, 1988, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 2, no. 6, pp. 487-490.

W0032 World Health Organization, 1989, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 3, no. 6, pp. 405-406.

W0034 World Health Organization, 1989, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 3, no. 12, pp. 863-864.

W0040 World Health Organization, 1990, Statistics from the WHO and the Centers for Disease Control, AIDS, vol. 4, no. 9, pp. 937-941.

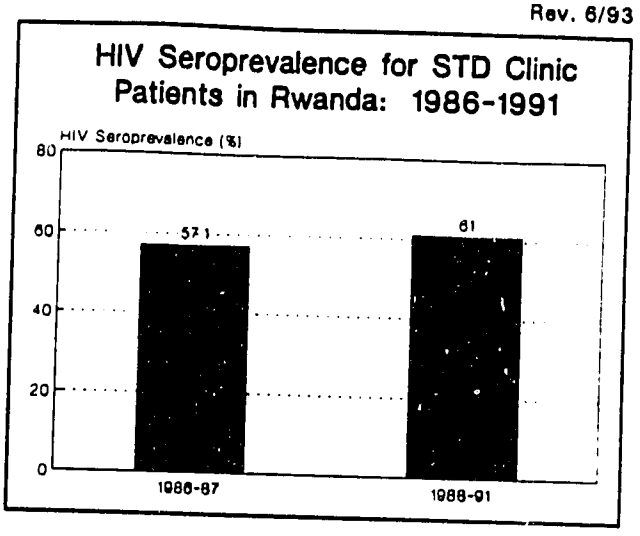
W0054 World Health Organization, 1991, World Health Organization Global AIDS Statistics, AIDS Care, vol. 3, no. 4, pp. 481-484.

W0067 World Health Organization, 1992, World Health Organization Global AIDS Statistics, AIDS Care, vol. 4, no. 3, pp. 365-368.

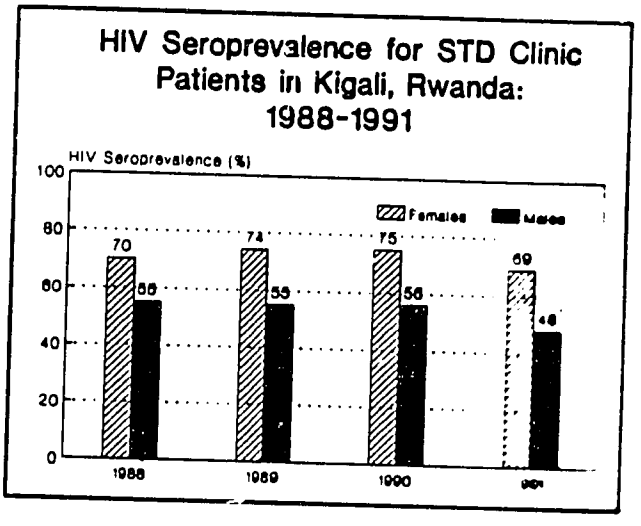
Rwanda

Rev. 6/93

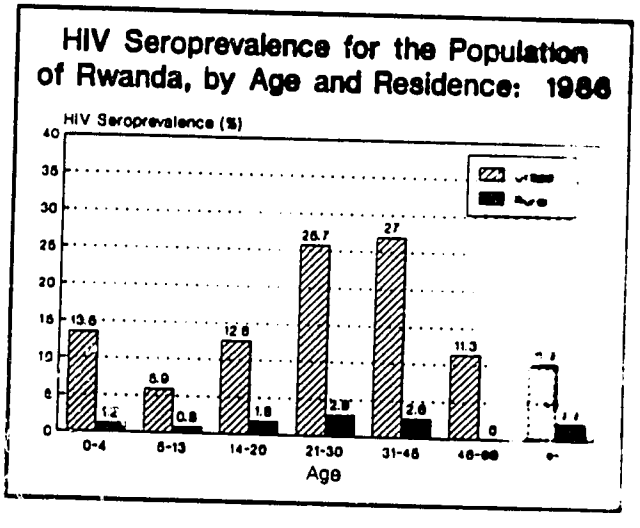
- A 1986-87 study in Rwanda reported a high level of HIV infection among STD patients, with nearly 3 out of 5 infected. A study done in 1988-91 shows the HIV infection level among STD patients remains at this high level.



- 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.

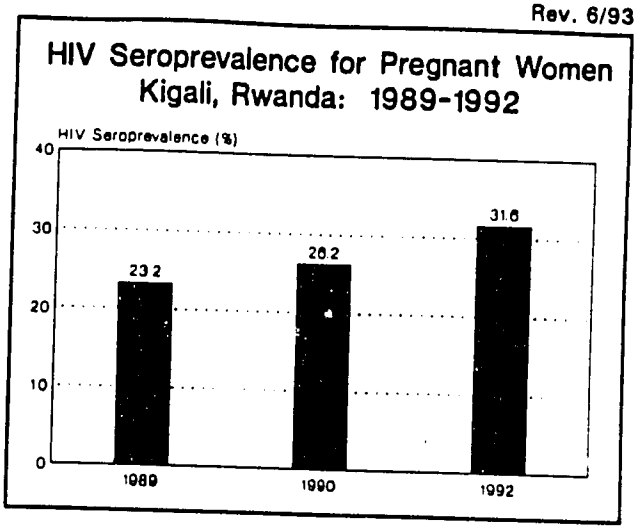


- A representative population survey in Rwanda in 1986 showed a large differential in HIV infection levels between urban and rural areas. In Kigali, a study found 17 percent of the adult population to be infected, while only 2.1 percent of the rural population sampled were HIV positive.

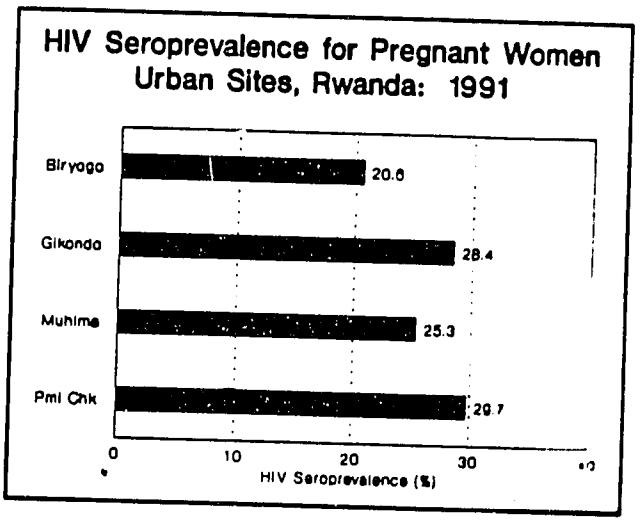


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

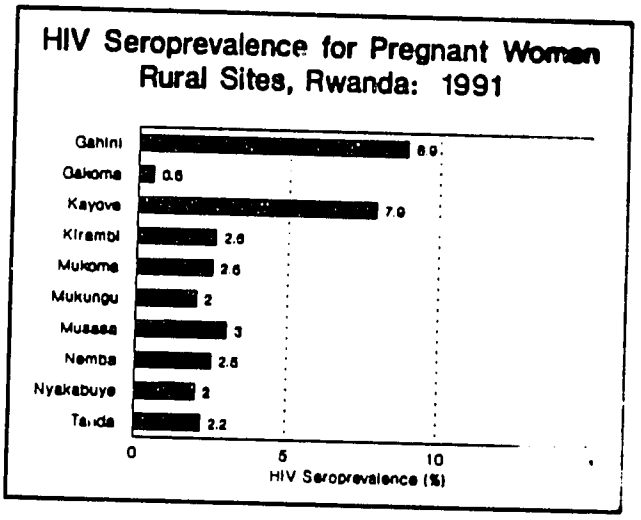
- HIV infection levels for Kigali show a increase from 23.2 percent in 1989 to 31.6 percent in 1992.



- During the 2nd semester of 1991 a sentinel surveillance study was conducted among pregnant women. The HIV infection levels showed only moderate variation between the different urban sites and were moderately high ranging from 20 percent to 30 percent.

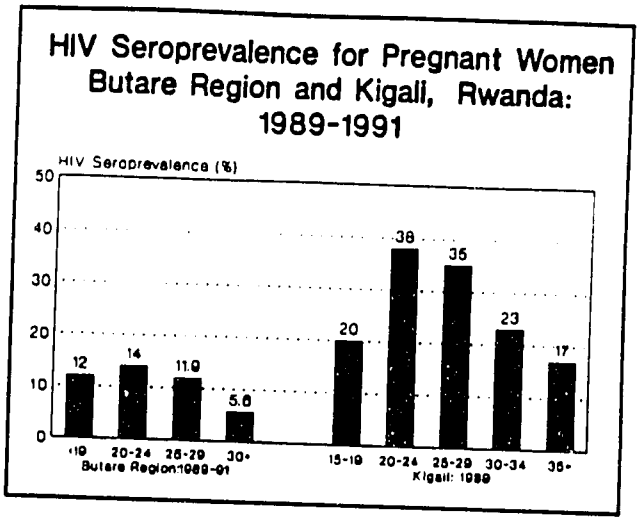


- According to the same sentinel surveillance study, pregnant women from the rural areas had much lower levels of HIV infection than urban women. In most rural areas, HIV infection levels among pregnant women were moderately low ranging from 0.5 percent to 3.0 percent, except for in Gahini and Kayove, with 8.9 percent and 7.9 percent, respectively.

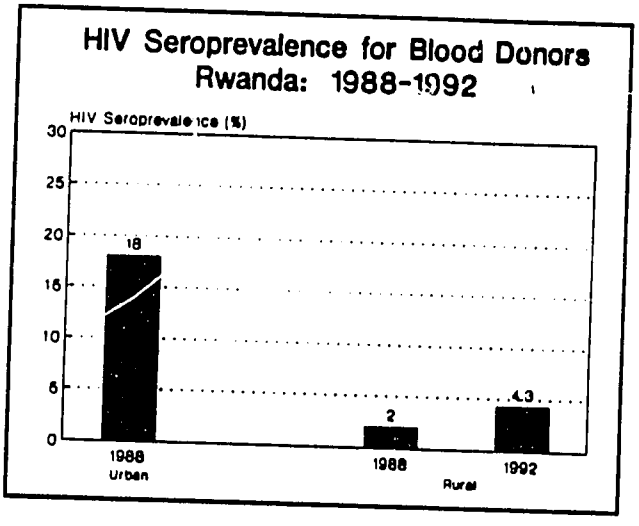


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

- 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 sero-prevalence 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, June 1993.

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B0128 Bucyendore, A., E. Karita, P. Van de Perre, et al., 1991, Evolution de la Seroprevalence VIH-1 dans la Population Urbaine de la Ville de Kigali (Rwanda) Pendant les Annees ..., VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster T.A.150.

B0134 Bugingo, G., A. Ntilivamunda, D. Nzaramba, et. al., 1988, Etude Sur la Seropositivite liee a l'Infection au Virus de l'Immunodeficience Humaine au Rwanda, Revue Medicale Rwandaise, 20 (54), p. 37-42.

C0132 Chao, A., P. Habimana, M. Bulterys, et al., 1992, Oral Contraceptive Use, Cigarette Smoking, Age at First Sexual Intercourse, and HIV Infection among Rwandan Women, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4338.

F0046 Francois-Gerard, C., J. Nkurunziza, C. De Clerq, et al., 1992, Seroprevalence of HIV, HBV and HCV in Rwanda, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4027.

K0127 Karita, E., P. Van de Perre, A. Nziyumvira, et al., 1992, HIV Seroprevalence among STD Patients in Kigali, Rwanda, during the Four-Year Period 1988-1991, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4468.

L0020 Le Page, P., P. Van de Perre, 1988, Nosocomial Aspects of HIV Infection in Central Africa, In: AIDS in Children, Adolescents and Heterosexual Adults, Elsevier Science Publishing Company, Inc., pp. 188-189.

L0035 Le Page, P., F. Dabis, A. Serufilira, et al., 1989, Transmission of HIV-1 Virus from Mother to Children in Central Africa: A Study of Cohort in Kigali, Rwanda, IV Internat. Conf.: AIDS and Assoc. Cancers in Africa, Marseille, Oct. 18-20, Poster 243.

L0104 Ladner, J., A. De Clercq, C. Ukulikiyimfura, et al., 1992, Seroprevalence de l'Infection par le VIH-1 et Counselling chez les Femmes Enceintes: Une Etude de Cohorte a Kigali, Rwanda ..., VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster W.P.179.

P0030 Piot, P., E. Van Dyck, R. W. Ryder, at al., 1989, Serum Antibody to Haemophilus Ducreyi as a Risk Factor for HIV Infection in Africa, but not in Europe, V International Conference on AIDS, Montreal, 6/4-9, Abstract M.A.O. 32.

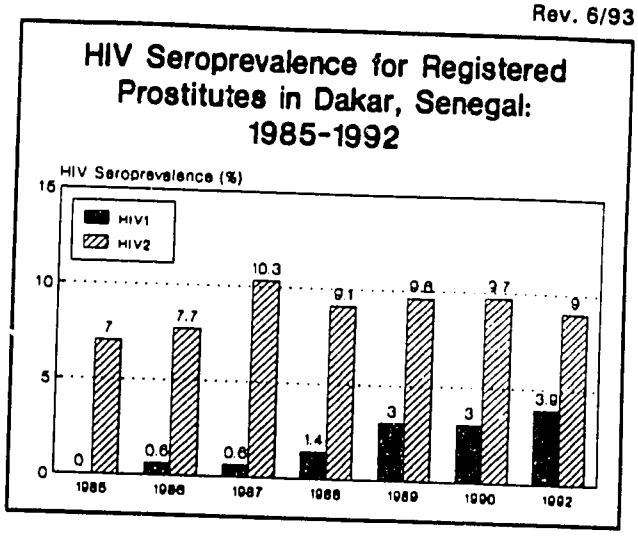
T0076 Twagirakristu, J. B., E. Fox, A. Nziyumvira, et al., 1992, Etat de l'Infection VIH au Rwanda en 1991, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.014.

V0001 Van de Perre, P, J. B. Kanyamupira, M. Carael, et al., 1985, HTLV-III/LAV Infection in Central Africa, International Symposium on African AIDS, Brussels, Nov. 22-23, Abstract.

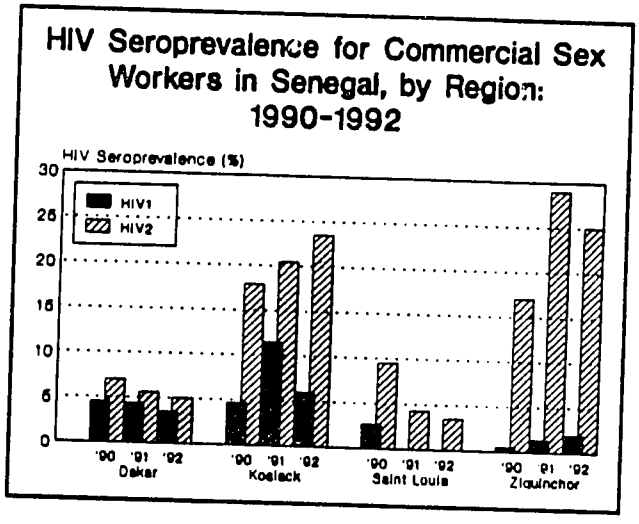
Senegal

Rev. 6/93

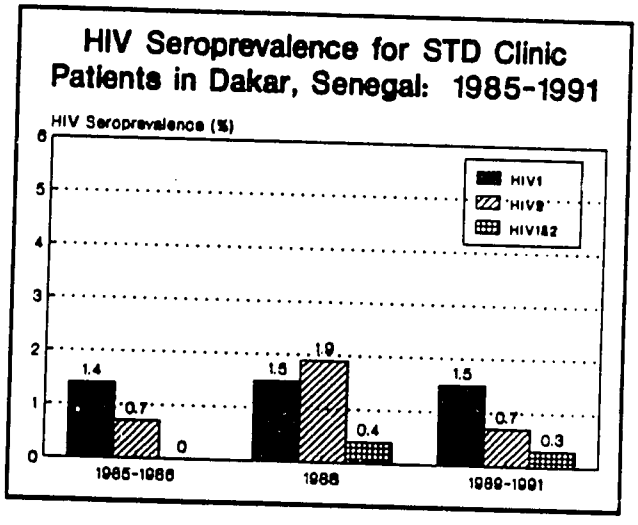
- In studies of registered prostitutes in Dakar over the past 7 years, HIV1 infection levels have increased from 0 in 1985 to 3.9 percent in 1990. Over the same period, infection levels of HIV2 have increased from 7.0 percent in 1985 to 9.0 percent in 1992. Studies in other cities in Senegal among registered 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 HIV2 is higher than the rate if HIV1.

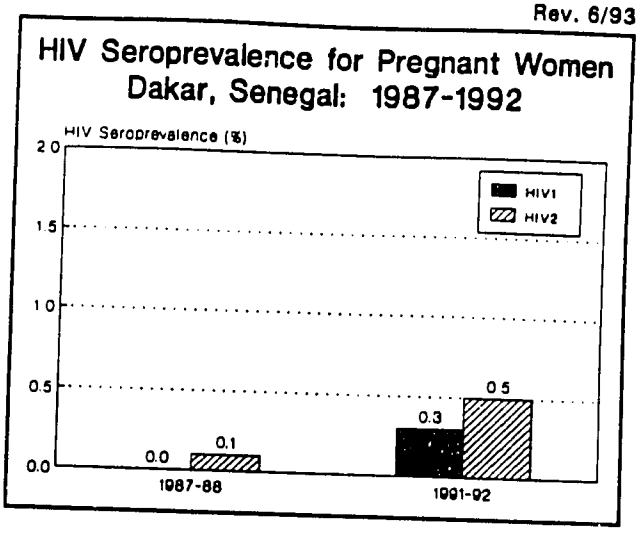


- Since 1985 in Dakar, levels of HIV1 infection among STD clinic attendees have remained relatively steady, while there has been some fluctuation in HIV2 and dual infections. Other studies in Senegal over this period document the gradual spread of HIV1 to other region of the country.

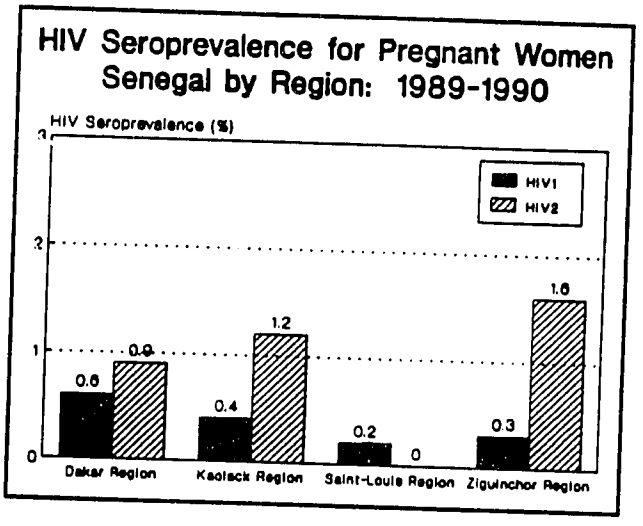


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

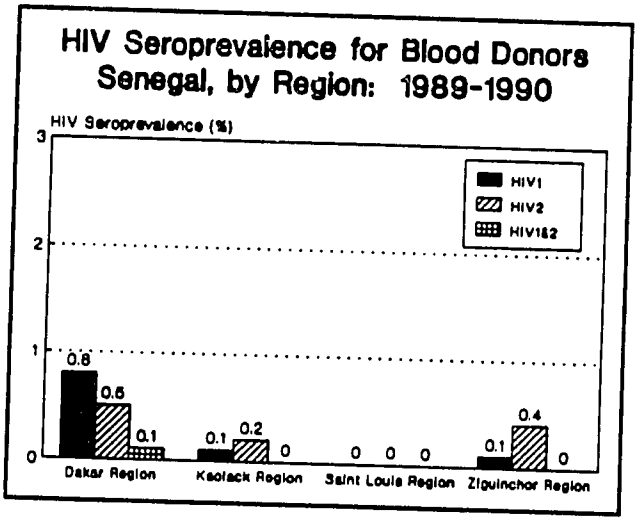
- In a 1987-88 study of pregnant women in Dakar, no evidence of HIV1 was found and HIV2 had a prevalence of 0.1 percent. However, in a more recent study during 1991-92, the HIV2 levels increased to 0.5 percent and HIV1 was found to be 0.3 percent.



- The HIV infection level among pregnant women vary by region. This study found that HIV2 seroprevalence levels where higher than HIV1 except in the Saint Louis region where no evidence of HIV2 was found.



- 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 HIV1, 0.5 percent for HIV2 and 0.1 percent for dual infection.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillence Data Base, June 1993.

- Analysis of data for blood donors from November 1987 to March 1990 shows that HIV2 seroprevalence declined over the study period. HIV1 was evident in 1988 and has been constant throughout the study period.

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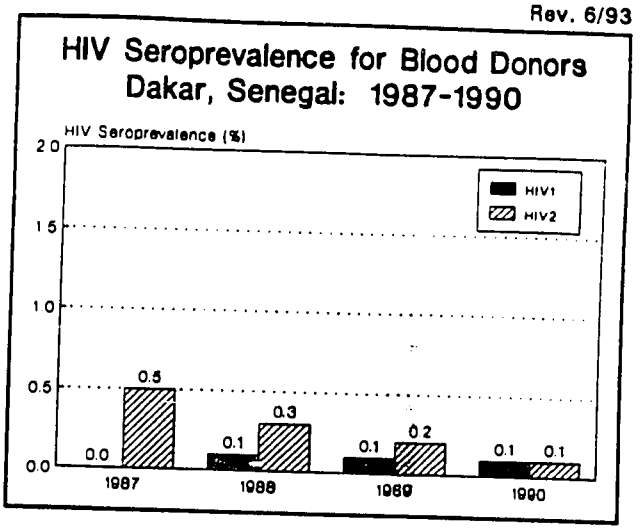

Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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D0105 Diaw, I., T. Siby, I. Thior, et al., 1992, HIV and STD Infections among Newly Registered Prostitutes in Dakar, VIII International Conference on AIDS, Amsterdam, 7/19-24, Abstract PoC 4333.

D0113 Diouf, A., N. G. Mbaye, F. Kebe, et al., 1992, Infections a VIH et Perinatalite a Dakar, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.223.

L0009 Le Guenno, B., 1988, Affections a HIV et Grossese a Dakar, Unpublished.

M0037 M'Boup, S., L. Diakhate, K. Seck, et al., 1989, HIV-1 and HIV-2 in Blood Donors and MST Patients in Dakar, III International Conference: AIDS and Associated Cancers in Africa, Sept. 14-16, Abstract FP 19.

M0129 M'Boup, S., P. Kanki, I. N'Doye, et al., 1990, Emergence of HIV-1 in a High Risk Group from an HIV-2 Endemic Area (Sengal), VI International Conference on AIDS, San Francisco, 6/20-24, Session F.C.102.

M0163 Mboup, S., et al., 1990, Surveillance Sentinelle des Infections a HIV, Bulletin Epidemiologique HIV, December, no. 2.

M0172 Mboup, S., et al., 1991, Surveillance Sentinelle des Infections a HIV, Bulletin Epidemiologique HIV, December, no. 3.

T0041 Thiam, D., B. Le Guenno, K. Seck/Fall, et al., 1990, La Prevalence de l'Infection VIH au Sein de la Population des Donneurs de Sang dans la Region de Dakar, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.E.9.

W0071 Wade, A., A. Dieng-Sarr, A. A. Diallo, et al., 1992, Tendances Epidemiologiquos des Infections HIV-2 et HIV-1 dans une Zone d'Endemicite HIV-2: Experience du Senegal, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.004.

Sierra Leone

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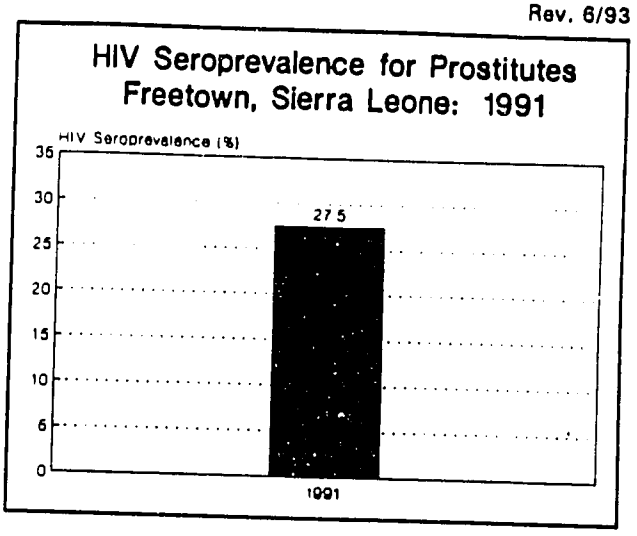
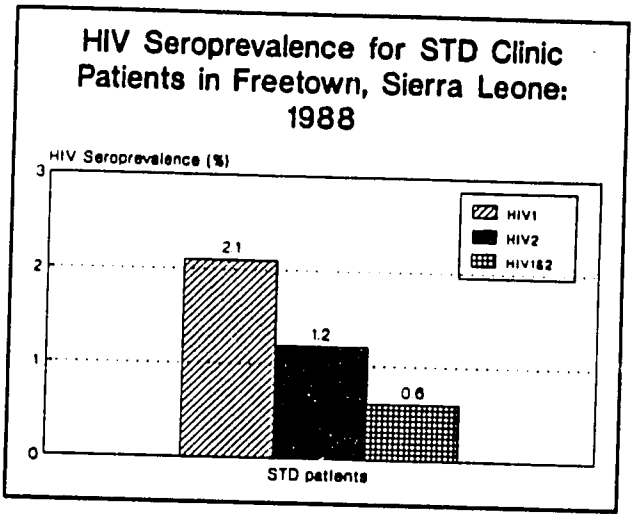
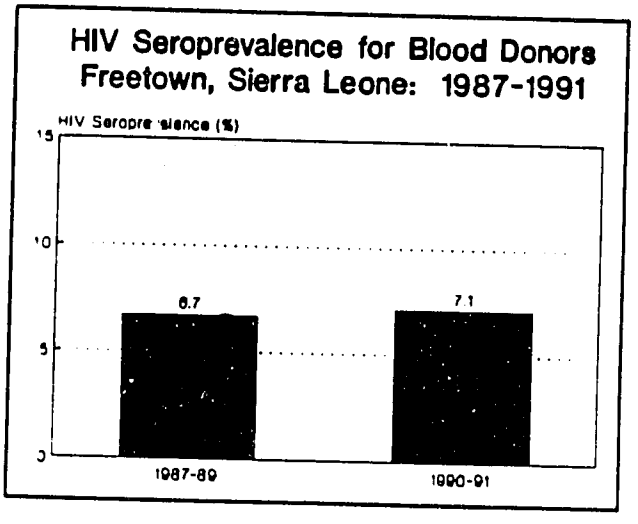
- There are few studies available on the HIV seroprevalence among prostitutes in Sierra Leone. However, one recent study conducted in Freetown, the capital city, during a one day workshop in December 1991 found the HIV infection level to be 27.5 percent.



- One study conducted of HIV seroprevalence among STD clinic patients 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.

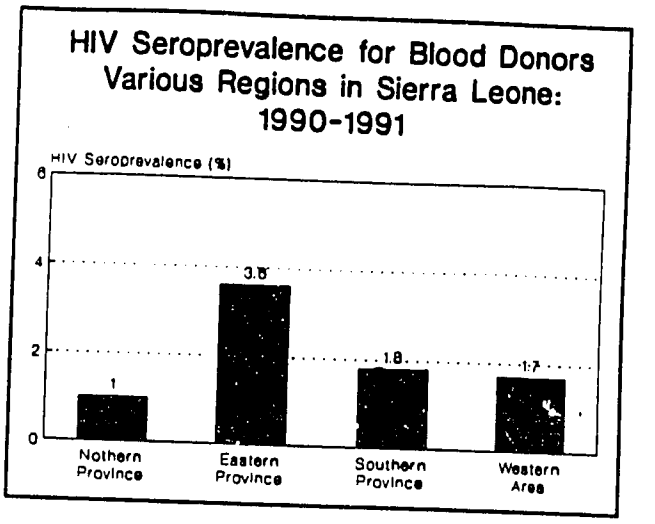


- Studies conducted in Freetown among blood donors showed a slight increase in the level of HIV infection, 6.7 percent to 7.1 percent between 1987-89 and 1990-91. These studies have indicated that recipients of transfused blood are at risk of contracting the HIV virus.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

- 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.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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K0060 Kosia, A., T. Kargbo, E. Makiu, et al., 1989, Prevalence of HIV-I and HIV-II among Blood Donors in Sierra, Leone, IV Internat. Conf.: AIDS and Assoc. Cancers in Africa, Marseille, Oct. 18-20, Poster 390.

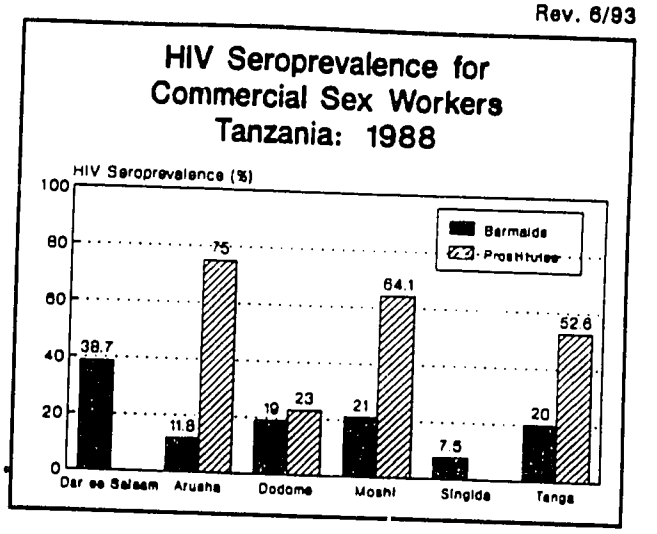
M0185 Makiu, E. J. K., A. Kosia, 1991, The Impact of a Decentralised HIV Testing Approach in the Prevention of Blood Born HIV Transmission in Sierra Leone, VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster M.A.251.

M0237 Makiu, E. J. K., A. M. Kosia, N. Mansaray, 1992, A Strategy to Control HIV Infection among Female Commerical Sex Workers (CSW) and Their Clients in Freetown, Sierra Leone, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Abstract T.P.098.

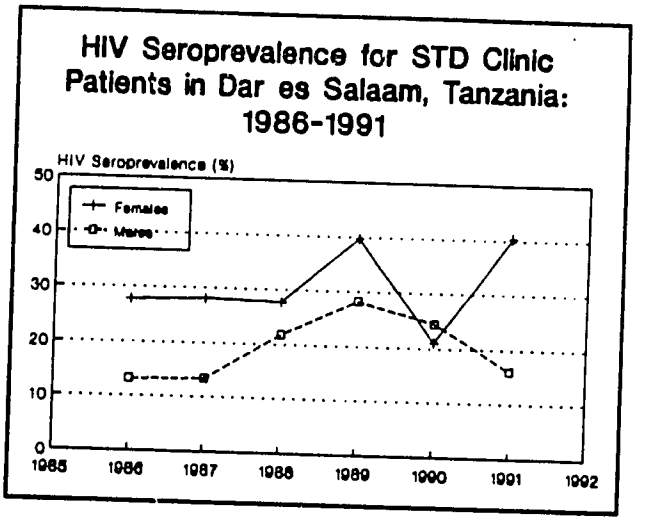
Tanzania

Rev. 6/93

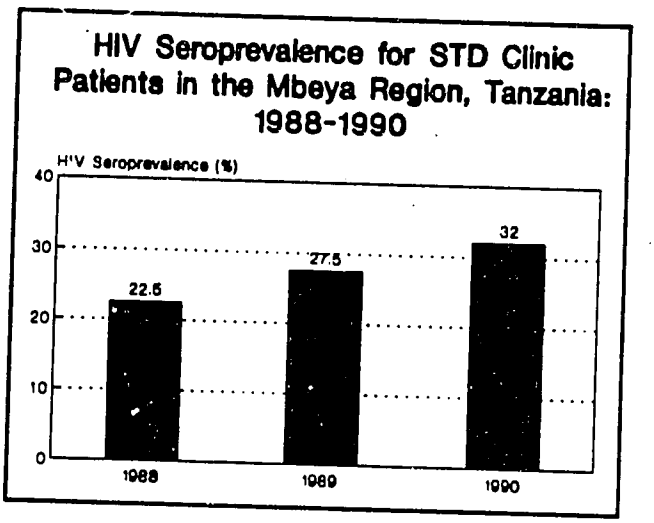
- The level of HIV infection varies by region and by type of commercial sex worker. Prostitutes generally have higher seroprevalence than barmaids, probably due to differences in the number of sexual partners.



- Female STD clinic patients in Dar es Salaam generally have higher HIV seroprevalence levels than male STD clinic patients. From 1986 to 1991, the seroprevalence levels for females nearly doubled from 27.8 percent to 40.4 percent.

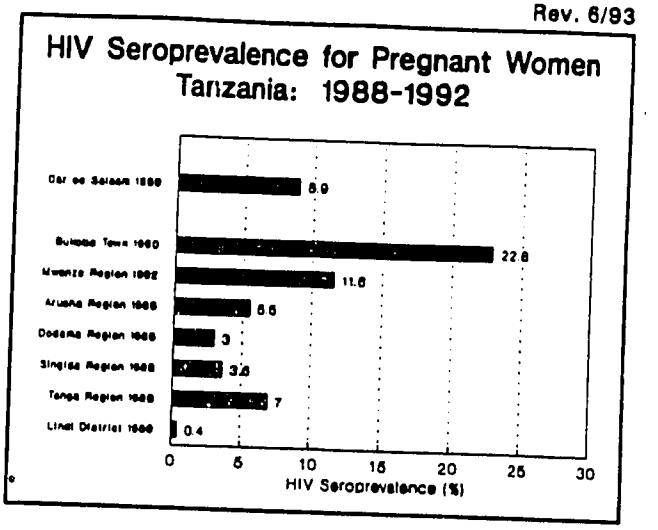


- In the Mbeya region, the HIV infection level among STD clinic patients has shown a steady increase over a 3 year period from 22.5 to 32 percent.

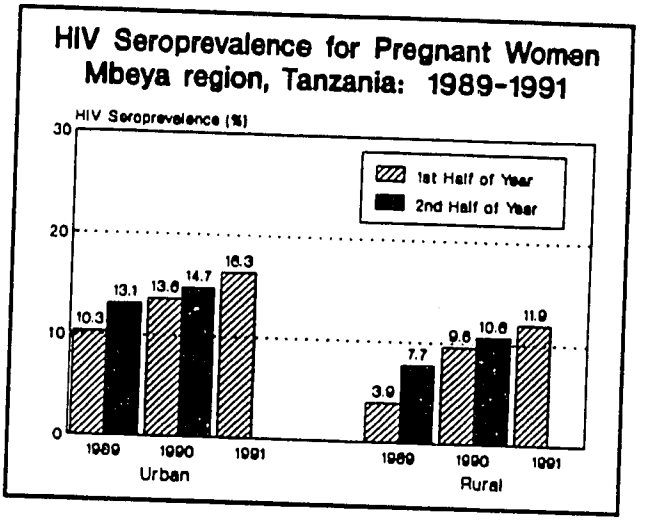


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

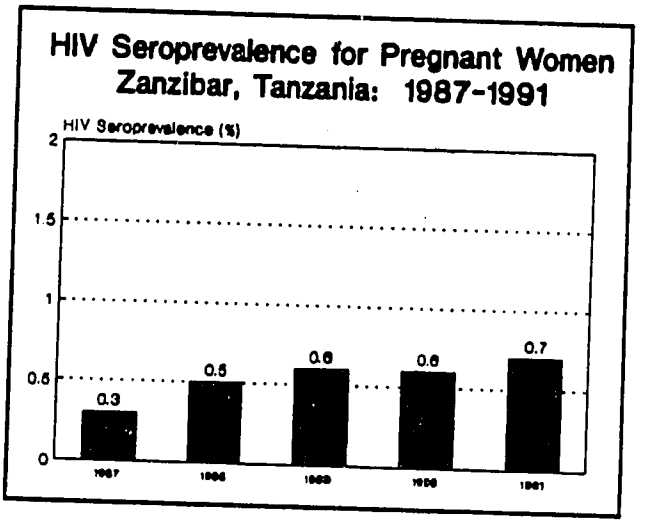
- In different areas of Tanzania, the level of HIV infection among pregnant women varies greatly. The levels of infection in Mwanza region and Bukoba town, capital of Kagera region, are high, while in other regions levels of infection range from 0.4 percent to 8.9 percent.



- 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.

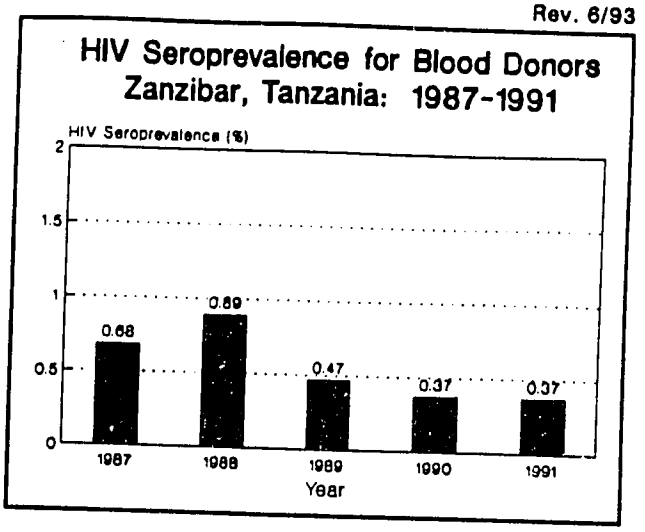


- Sentinel surveillance data collected in four centers from towns and rural areas of Unguja and Pembra Islands indicates the spread of HIV infection to Zanzibar. Among pregnant women the HIV levels are under 1 percent.

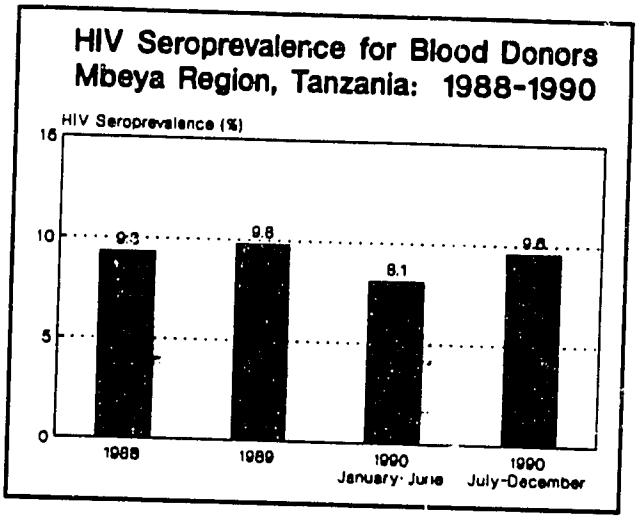


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Date Base, June 1993.

- From the same sentinel surveillance data, HIV infection was found among male blood donors. Also, it was reported that town areas had higher prevalence levels compared to rural areas.



- 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, June 1993.

Sources for Tanzania

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H0056 Hemed, Y., F. Minja, E. Nagele, et al., 1990, The Use of HIV Sentinel Surveillance for the Mbeya Regional AIDS Control Programme: A 5-Year Experience, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.O.B.5.

H0075 Hemed, Y., F. Minja, E. Nagele, et al., 1991, HIV Sentinel Surveillance and Reported AIDS Cases in the Mbeya Region, Tanzania: Trends Since 1986, VI International Conference on AIDS in Africa, Dakar, Senegal, 12/16-19, Poster T.A.145.

K0144 Kwesigabo, G., J. Killewo, A. Sandstrom, 1992, The Accuracy of Sentinel Surveillance Systems in Monitoring the Prevalence of HIV-1 Infection, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster T.P.031.

M0050 Mhalu, F. S., J. F. Shao, U. Bredberg Raden, et al., 1988, Rising Prevalence of HIV Infection and General Attitude to Condom Utilisation among Restaurant and Bar Workers in Dar es Salaam, III International Conference: AIDS and Associated Cancers in Africa, Sept. 14-16, Abstract PS 7.3.

M0249 Mwakagile, D. S. M., A. B. M. Swai, K. J. Pallangyo, et al., 1992, Trend of Anogenital Warts among Patients Seen at a Referral Clinic for Sexually Transmitted Diseases in Dar es Salaam, Tanzania, VII International Conference on AIDS in Africa, Yaounde, Cameroon, 12/8-11, Poster W.P.190.

N0029 Nkya, W. M. M. M., W. P. Howlett, C. Assenga, et al., 1988, AIDS Situation in Northern Tanzania, III International Conference: AIDS and Associated Cancers in Africa, Sept. 14-16, Poster TP 9.

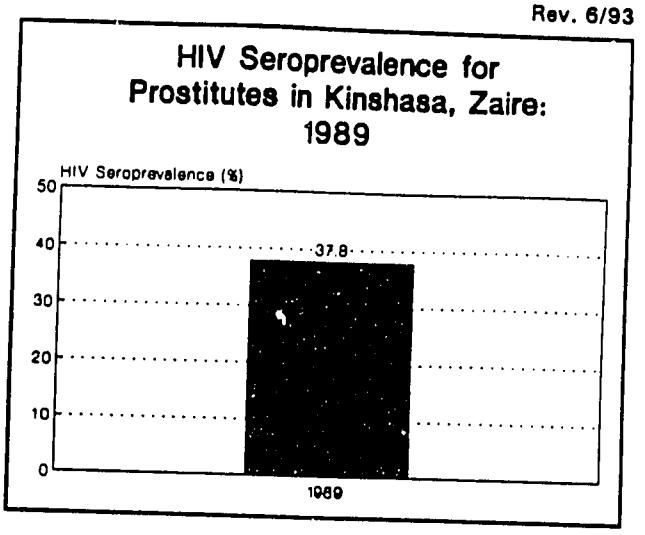
P0060 Petry, U., H. Kingu, K. Sally, et al., 1990, Remarkable Low Prevalence of HIV Antibodies among Pregnant Women in South-Eastern Tanzania, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.E.19.

U0006 Urassa, E., F. S. Mhalu, E. Mbena, et al., 1990, Prevalence of HIV-1 Infection among Pregnant Women in Dar es Salaam, Tanzania, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.E.22.

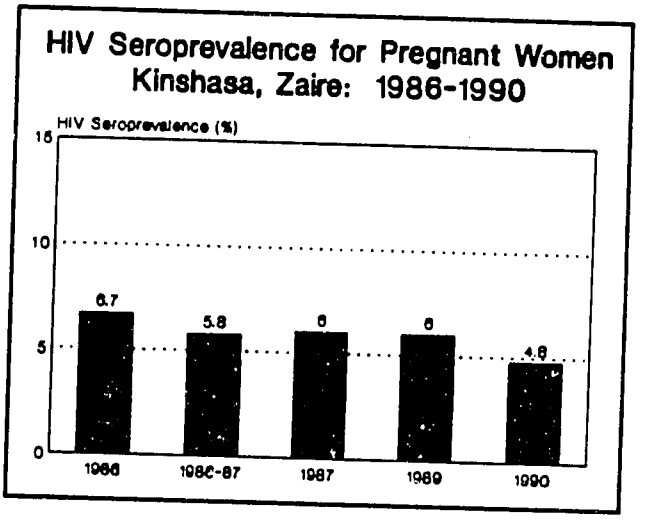
Zaire

Rev. 6/93

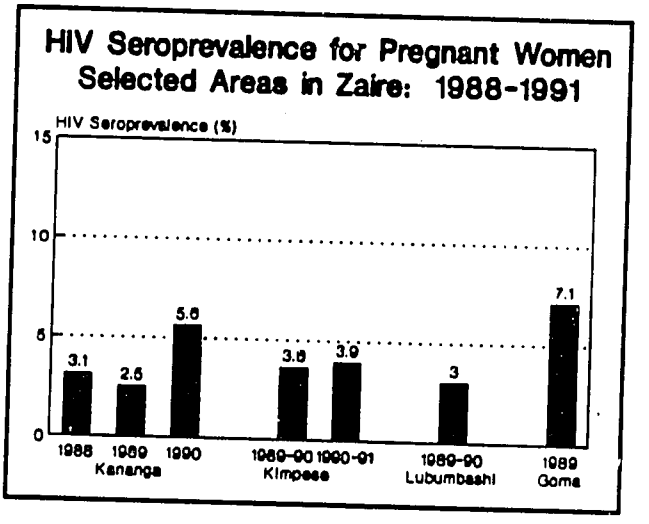
- In the capital city of Zaire, Kinshasa, the HIV infection level for prostitutes was reported to be nearly 40 percent in 1989.



- 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.

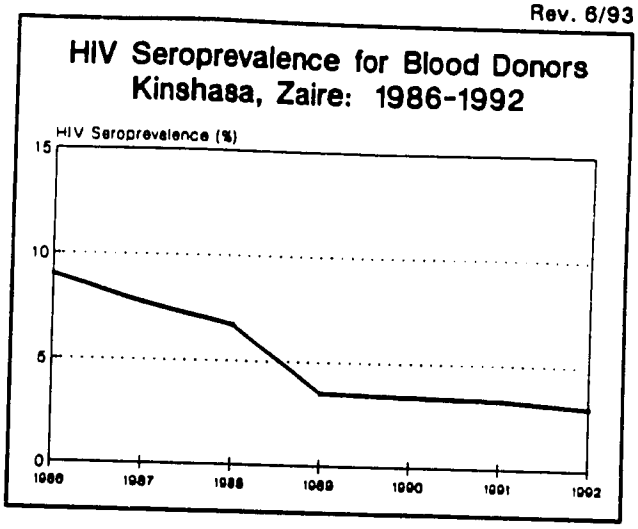


- In Kananga, the capital city of the west Kasai Region, HIV infection levels reached 6 percent among pregnant women in 1990. Data for 1989 in Goma found HIV levels to be 7.1 percent, in Lubumbashi for 1989-90, 3 percent, and in Kimpese for 1990-91, 3.9 percent among pregnant women.

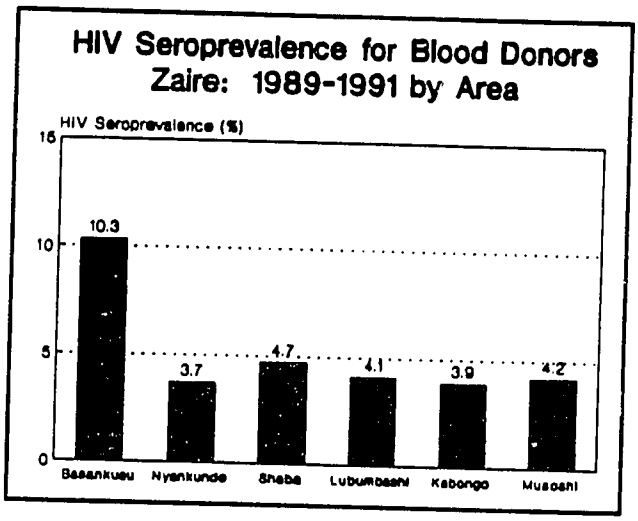


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

- 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, and continues to slowly decline. This may be due to donor screening programs and reduced donations from high risk individuals.



- Several studies of blood donors have been carried out in various regions of Zaire. Nyankunde is a rural area in the northeast. Shaba province is in the south and includes Lubumbashi, a major urban area, 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, June 1993.

Sources for Zaire

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G0098 Green, S. D. R., J. K. L. Mokili, M. Nganzi, et al., 1992, Seroprevalence and Determinants of HIV-1 Infection in Pregnancy in Rural Zaire, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4016.

L0063 Luyeye, M., M. Gerniers, N. Lebughe, et al., 1990, Prevalence et Facteurs de Risque Pour les MST Chez les Femmes Enceintes dans les Soins de Sante Primaires a Kinshasa, V International Conference: AIDS in Africa, Kinshasa, Zaire, Oct. 10-12, Poster T.P.C.8.

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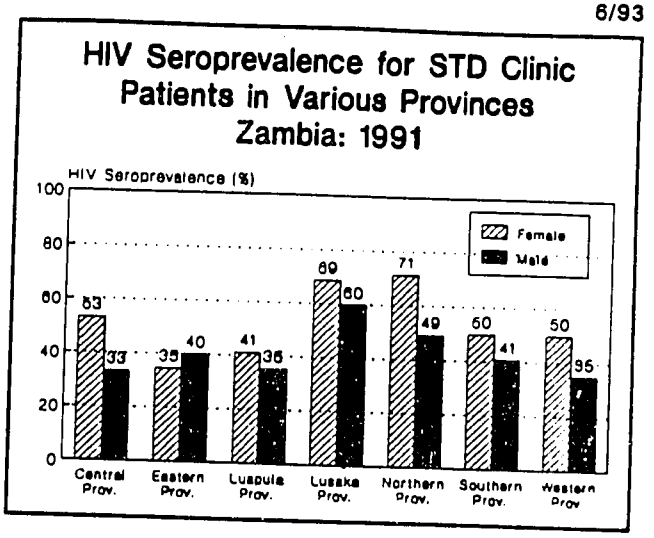
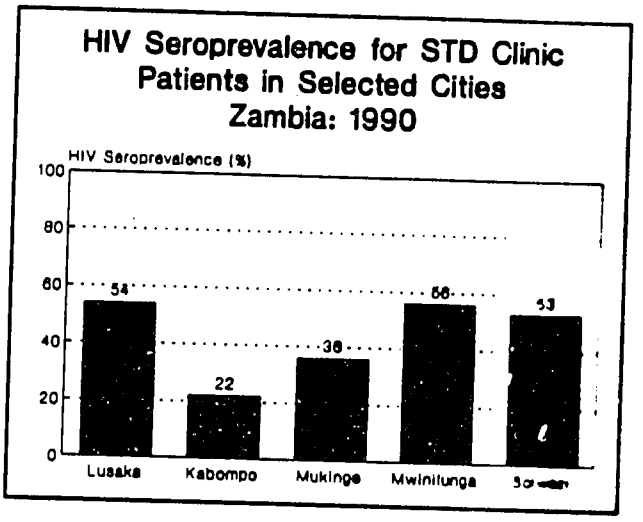
Zambia

6/93

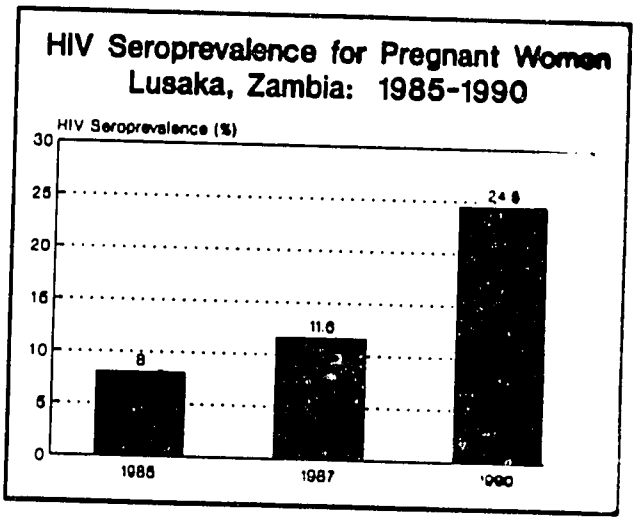
- Studies in Zambia show high levels of HIV infection among both male and female STD clinic attendees, in all regions of the country. By province, no fewer than 33 percent and as many as 71 percent of STD clinic patients were found to be HIV seropositive in a 1991 study.



- 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.

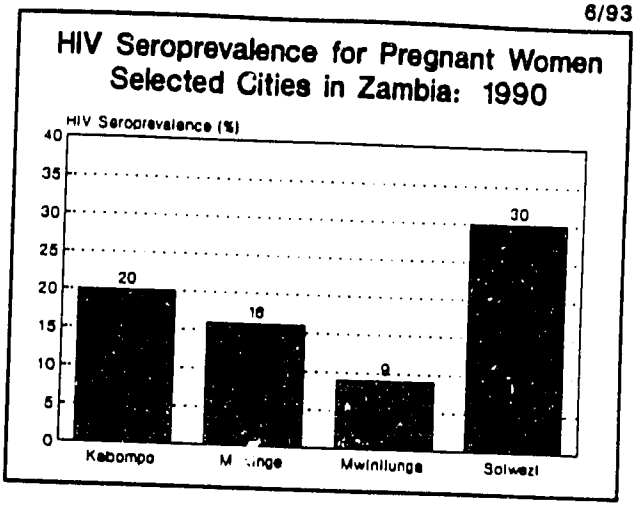


- The level of HIV seroprevalence has been increasing rapidly in Zambia. In Lusaka, the level of infection in pregnant women has increased from 8 percent in 1985 to nearly 25 percent in 1990.

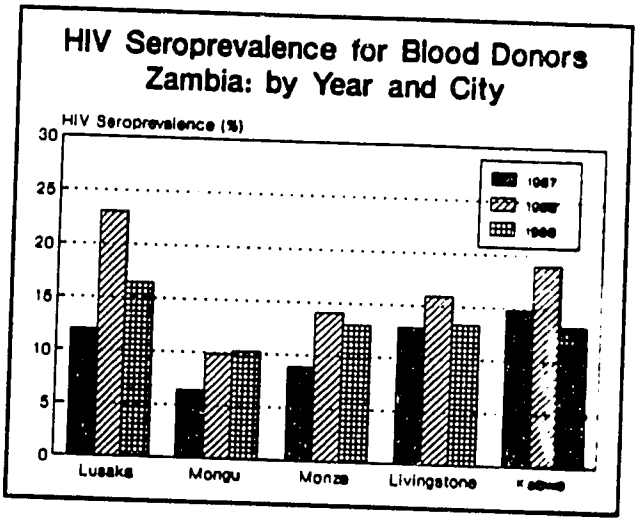


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Date Base, June 1993

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



- The percent of HIV seropositive blood donors declined from 1988 to 1989 in Lusaka and Kabwe, but remains nearly the same in the other three cities reported here. The lack of increase is probably due to either screening at the blood banks for high risk individuals or to self selection.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993

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K0096 Kanyama, I. D. A., 1991, Sentinel Surveillance of HIV Infection in Northern Zambia, VII International Conference on AIDS, Florence, Italy, 6/16-21, Abstract M.C.3301.

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Zimbabwe

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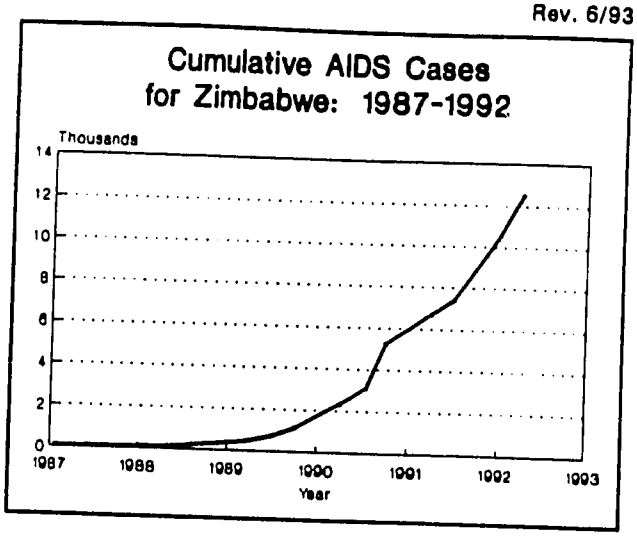
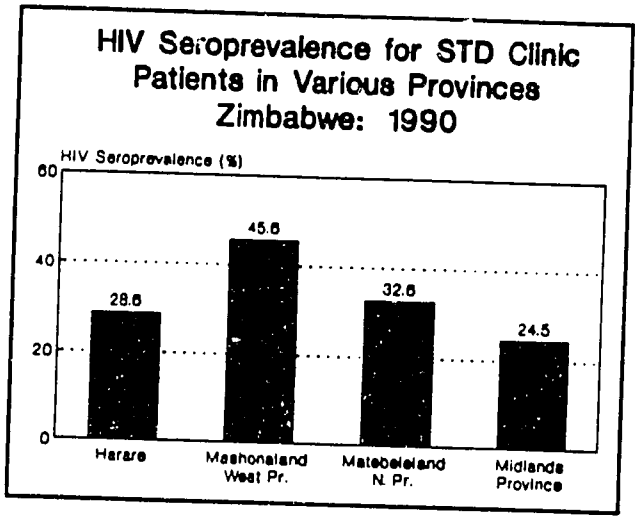
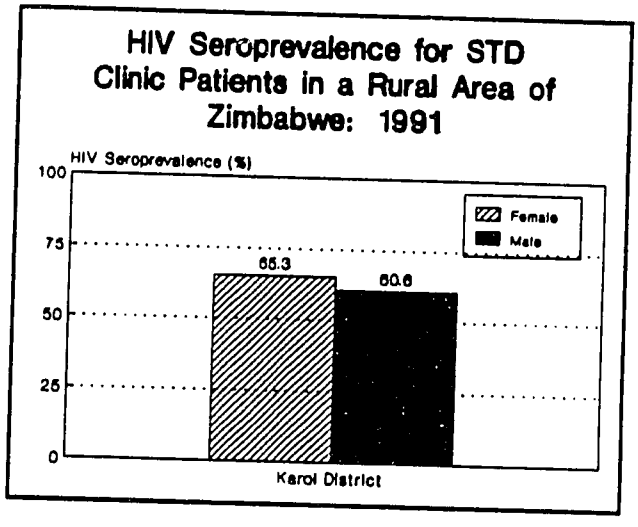
- Through 1992, Zimbabwe has reported a total of 12,514 AIDS cases to the World Health Organization. The latest report was as of March 31, 1992. This corresponds to a cumulative incidence of 1.2 per 1,000 population.



- 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.

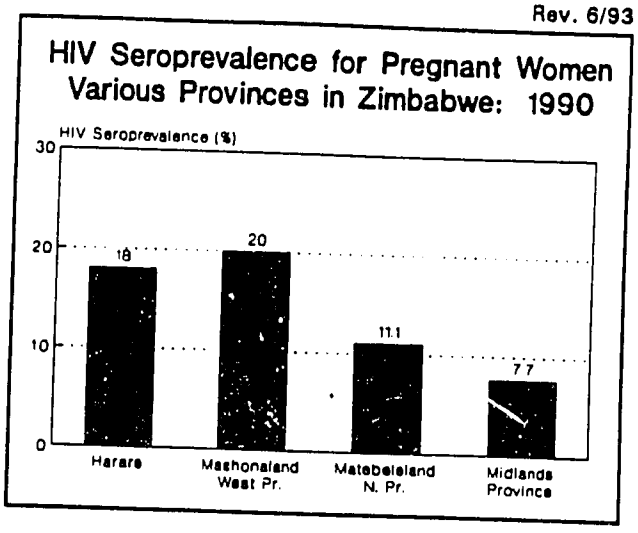


- The rural population of Zimbabwe is also at risk of infection. Zimbabwe's well-developed roads facilitate communication and the spread of infection. In a study conducted in Karoi District in 1991, STD patients showed a significantly high level of infection among both males and females.

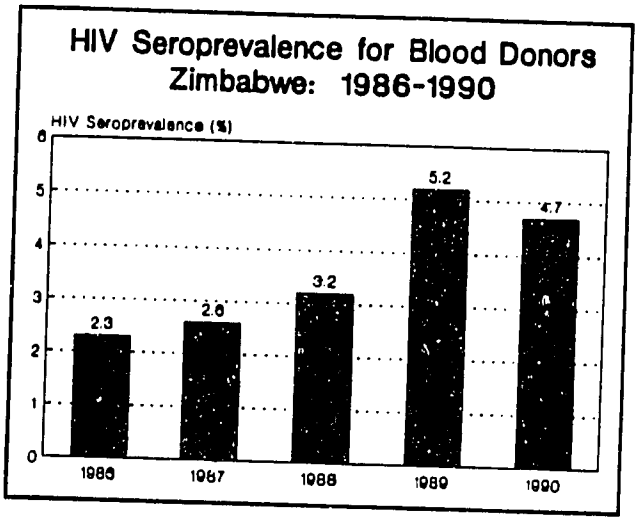


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

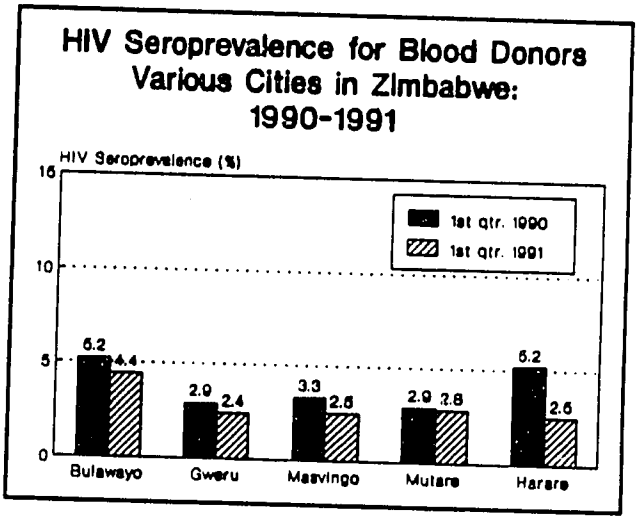
- A study conducted at Harare Maternity Hospital and two Municipal clinics reported that 18 percent of expectant mothers tested positive for the HIV virus. Another study, conducted among the Provinces, found Mashonaland West Province to have the highest level of HIV infection, 20 percent, in pregnant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



- 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.



- 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 1993.

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ASIA

India

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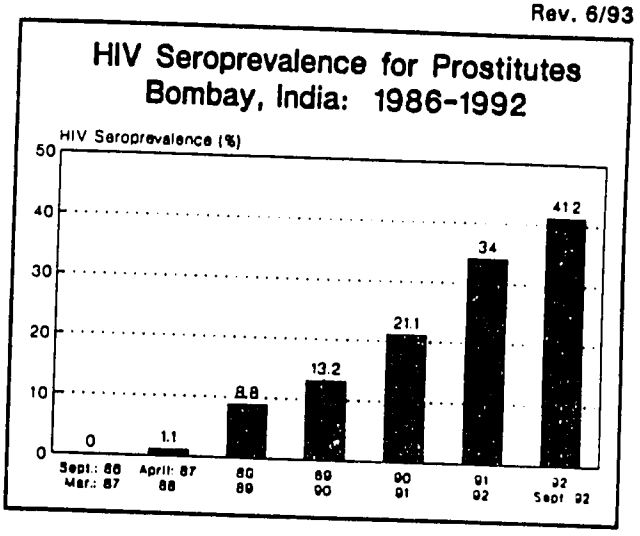
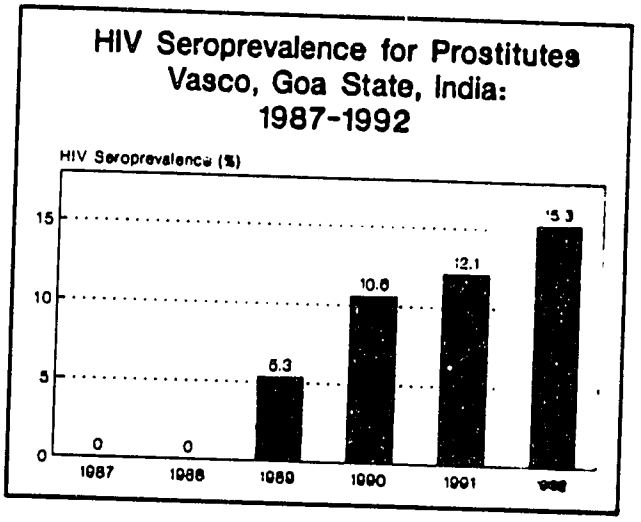
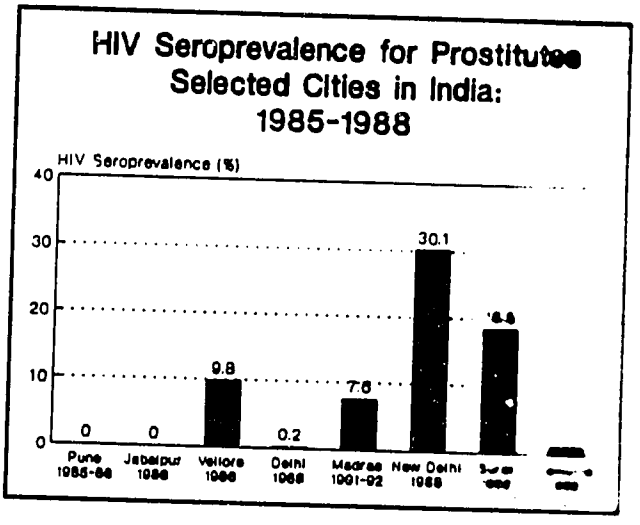
- Studies in Bombay document the spread of HIV among prostitutes. In this high-risk population, HIV has increased sharply over the past 7 years, reaching 41.2 percent in 1992.



- In Vasco, located in Goa state, studies show patterns of HIV infection increase among prostitutes similar to Bombay. A steady increase has occurred over the past 5 years to 15.3 percent in 1992.

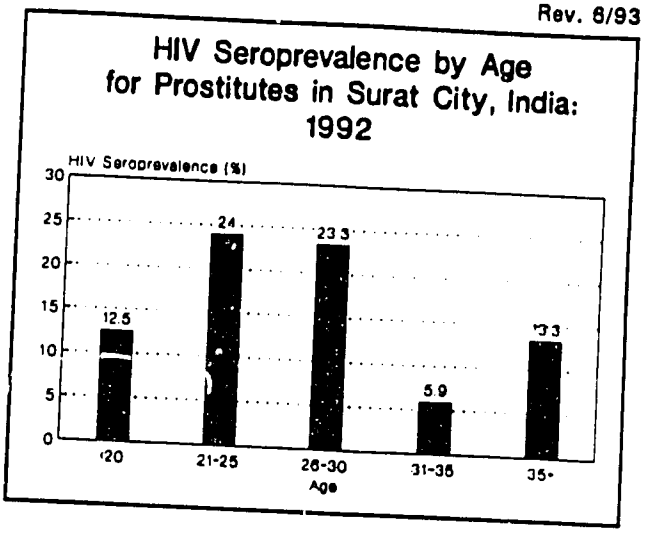


- In other Indian cities, the levels of HIV infection among prostitutes vary greatly. The highest level of HIV infection among these studies was in the capital city, New Delhi--30.1 percent.

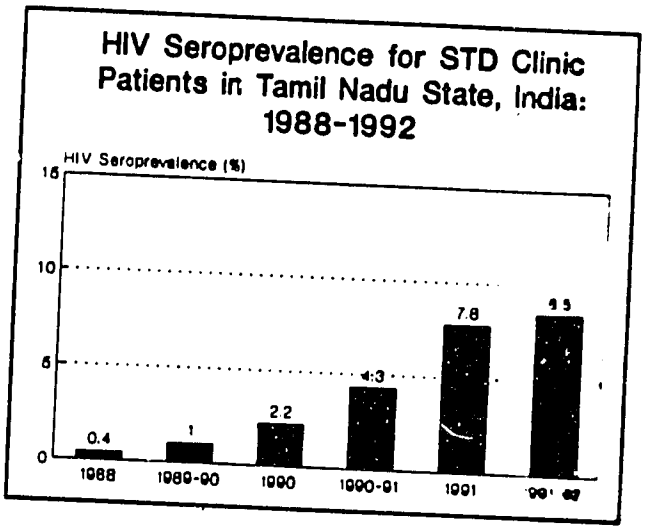


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS surveillance Data Base, June 1993

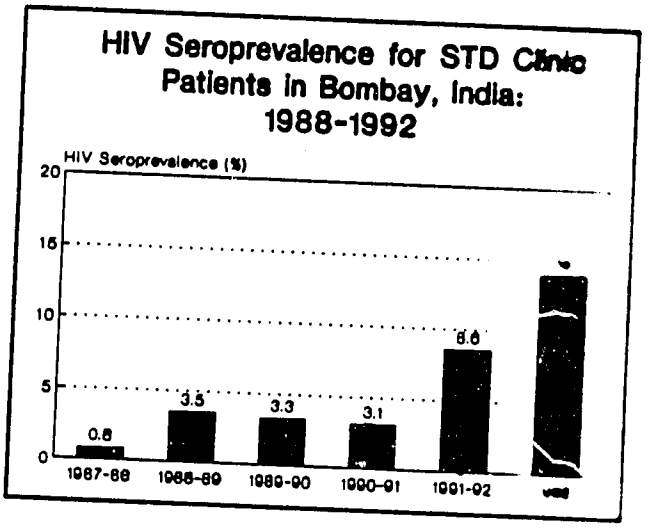
- The age pattern of infection in Surat city is similar to that found in other countries. Peak HIV infection levels among prostitutes were in those aged 21-30 years.



- HIV infection levels among STD clinic patients in Tamil Nadu state have steadily increased from 0.4 in 1988 to 8.5 percent in 1991-92.

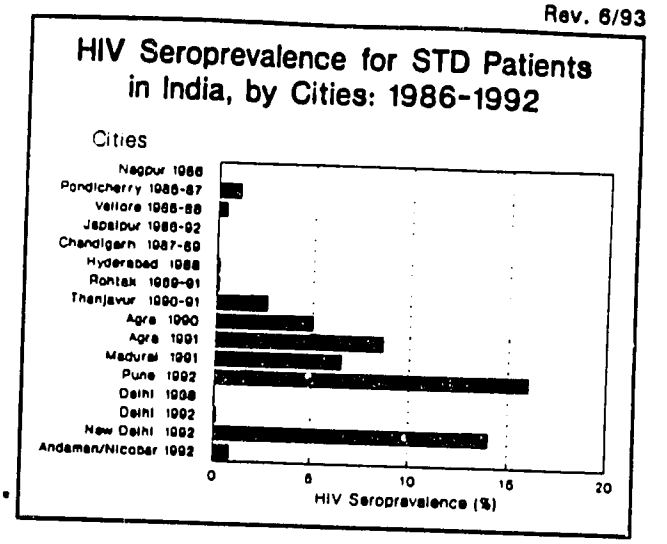


- Similarly, in Bombay HIV prevalence level among STD clinic patients increased from 0.8 in 1987-88 to 14.0 percent for 1992.

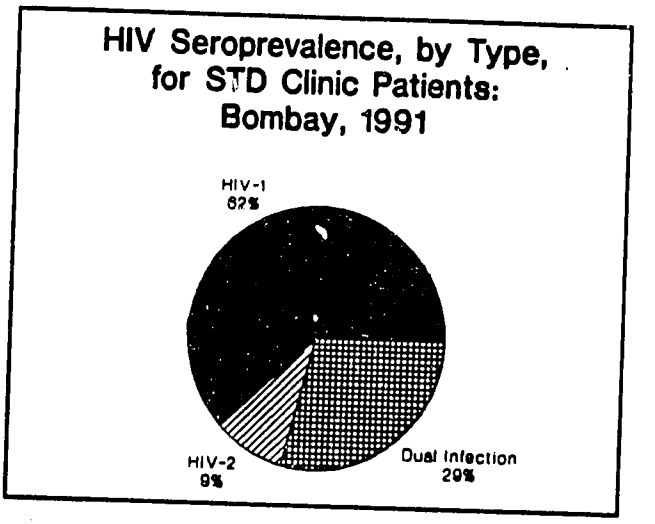


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS surveillance Data Base, June 1993

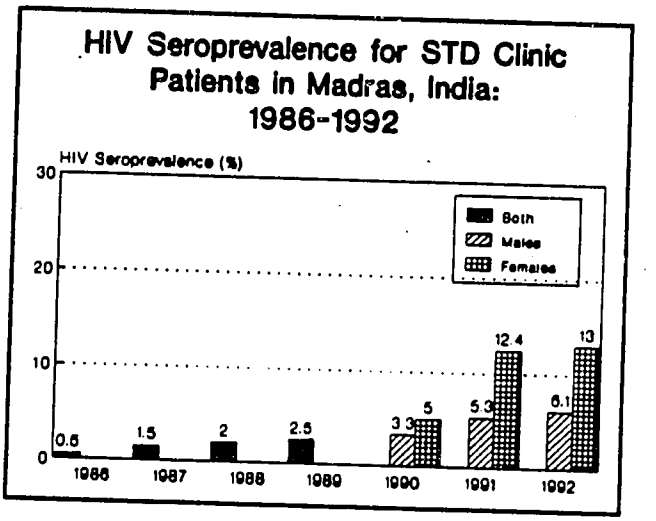
- A variety of studies of STD patients conducted in other cities in India since the late 1980's document the toehold that HIV has achieved across India. India appears poised for explosive growth in infection.



- Evidence of HIV-2 and dual infection in India is shown in these recent data from Bombay. Of the HIV positive STD clinic patients, 62 percent had HIV-1, 9 percent had HIV-2 and 29 percent had dual infection.



- Samples from the Government General Hospital, STD Department, in Madras show female STD clinic patients with a higher rate of infection than male STD clinic patients in the 1990-1992 period.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS surveillance Data Base, June 1993.

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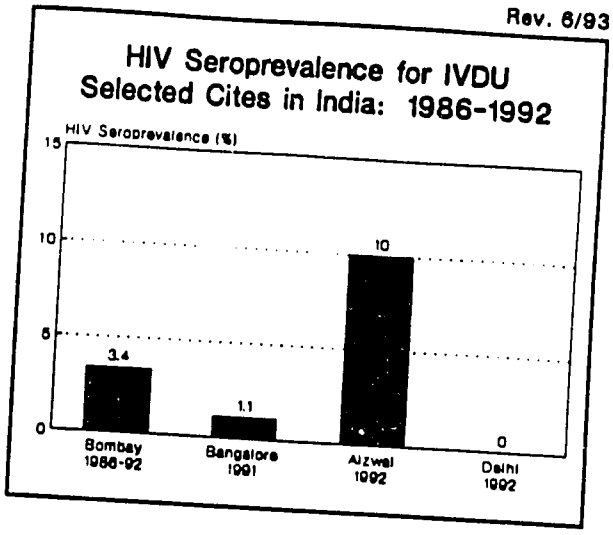
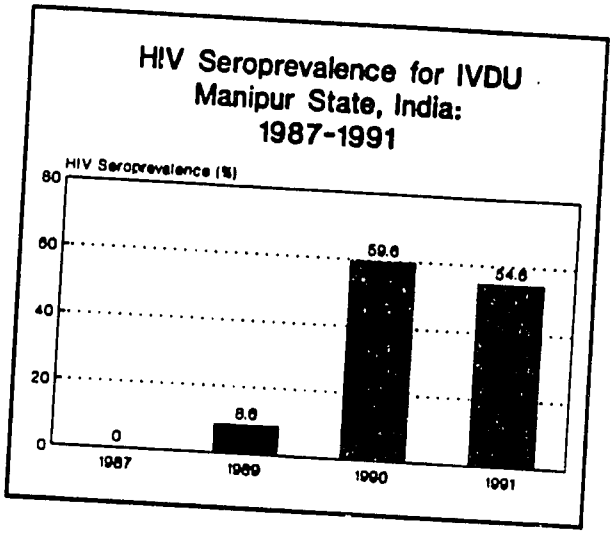
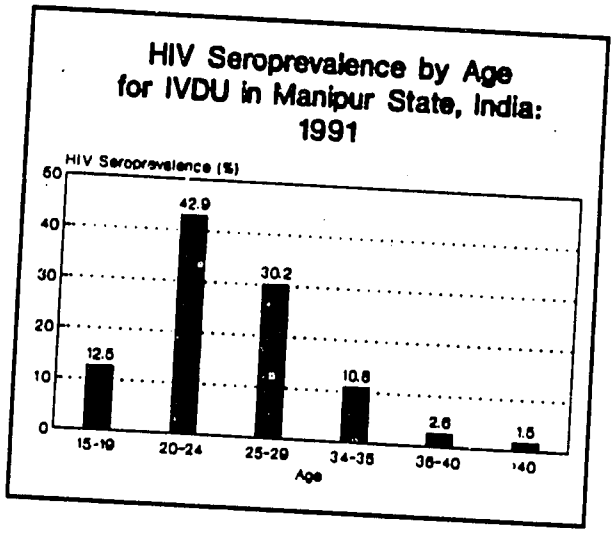
- Seroepidemiological studies of HIV infection among intravenous drug users in various areas of India showed levels up to 10 percent.



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

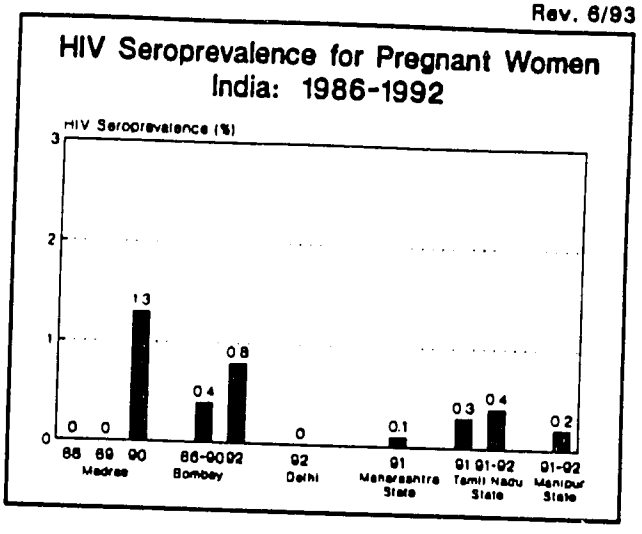


- In Manipur state, a small northeastern state, HIV among intravenous drug users by age shows HIV seroprevalence is highest in the 20-29 age group.

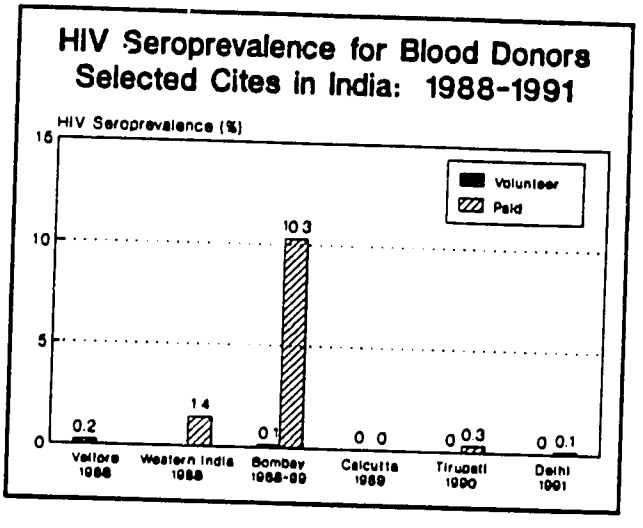


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS surveillance Data Base, June 1993.

- HIV infection has also been found among low risk populations in India. Among pregnant women, HIV infection levels range up to 1.3 percent. Studies in several areas show recent increases over past levels.



- Levels of HIV seroprevalence in blood donors vary by type of donors and area in India. Levels are generally higher among paid blood donors. One study in Bombay reported a seroprevalence level of 10.3 percent in paid blood donors.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS surveillance Data Base, June 1993.

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P0094 Pankajalakshmi, V. V., A. Uma, R. Sethuraman, et al., 1992, HIV Seropositivity among STD Patients, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B704.

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S0182 Sundararaj, A. S., R. Gopinathan, S. Deivam, 1992, Surveillance of HIV-Infection/AIDS in Thanjavur, Tamilnadu, 2nd International Congress on AIDS in Asie and Pacific, New Delhi, India, 11/8-12, Poster B341.

S0183 Sarkar, S., T. N. Naik, K. Sarkar, et al., 1992, IDU Related HIV Infections in North Eastern States of India, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B210.

S0185 Sengupta, U., V. P. Bharadwaj, 1992, HIV Antibody Positivity in Risk Groups, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B339.

T0072 Tripathy, S., K. Banerjee, S. G. Deshpande, et al., 1992, Prevalence of HIV in STD Patients in Pune, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B349.

V0060 Verenkar, M., S. Rodrigues, M. J. Pinto, et al., 1992, HIV, Hepatitis B and Syphilis among Sex Workers of Goa, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster A128.

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Thailand

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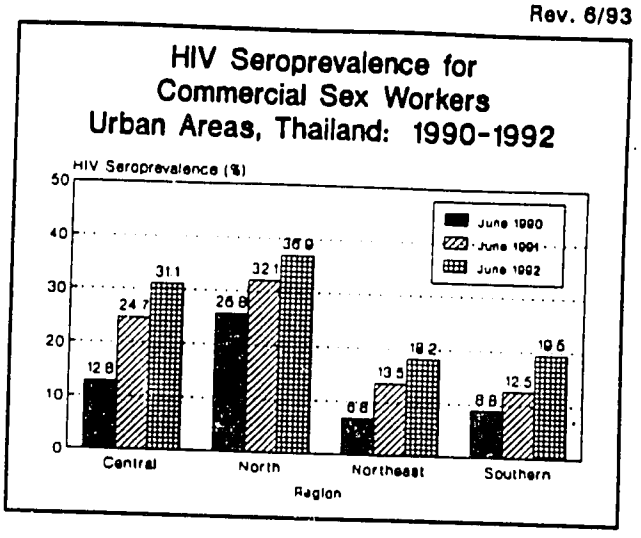
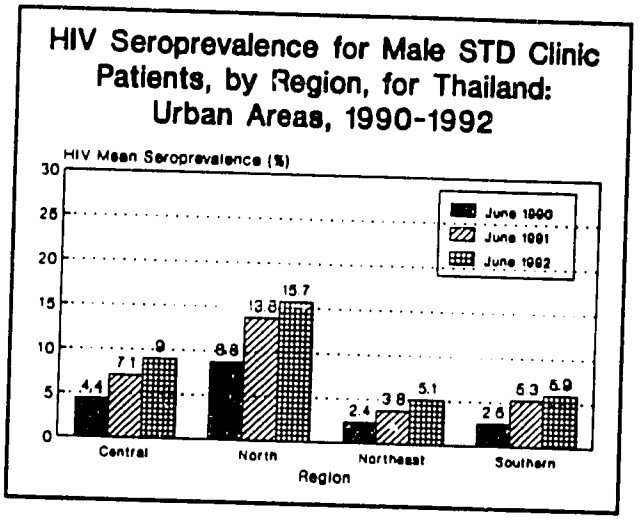
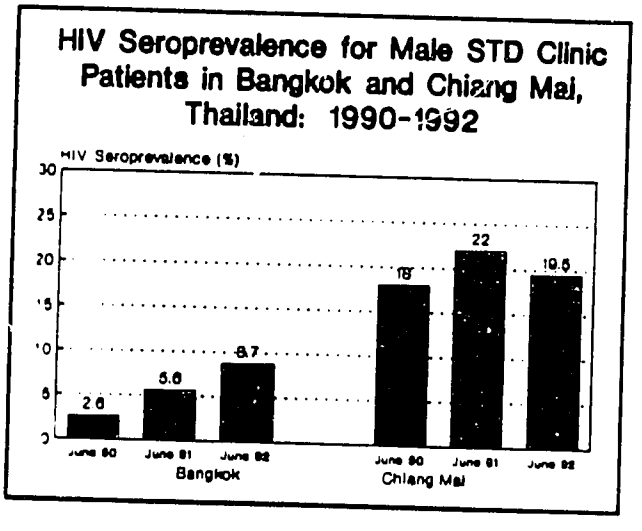
- The situation in Thailand is changing very rapidly and dramatically. Based on the sentinel surveillance data, levels of HIV seroprevalence have increased steadily among commercial sex workers in urban areas from June 1990 to June 1992. The levels are the highest in the North Region where the rates have increased from 25.8 percent to 36.9 percent. Overall, the rates for June 1992 range from 18.2 percent to 36.9 percent.



- From June 1990 to June 1992 period, Thailand's sentinel surveillance system has documented a near doubling of HIV infection among urban STD clinic attendees in all regions of the country.

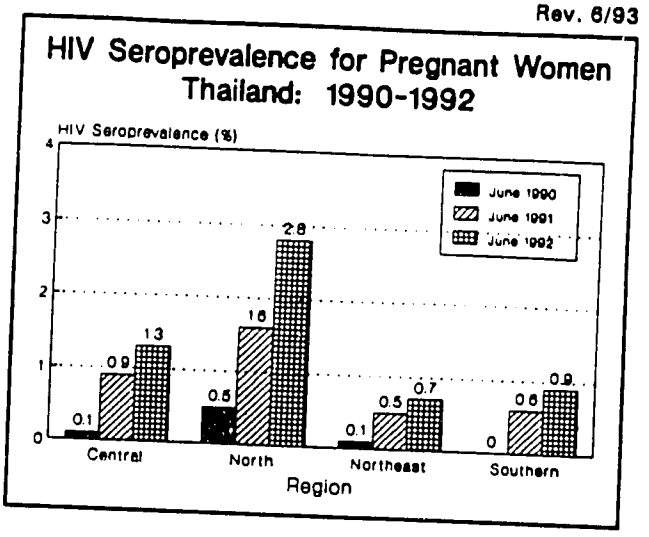


- In the capital city, Bangkok, HIV infection has steadily increased among male STD clinic patients over the past 3 years, reaching 8.7 percent in June 1992. In the city of Chiang Mai, northern Thailand, HIV infection levels are much higher, reflecting the high HIV seroprevalence levels among prostitutes in the north.

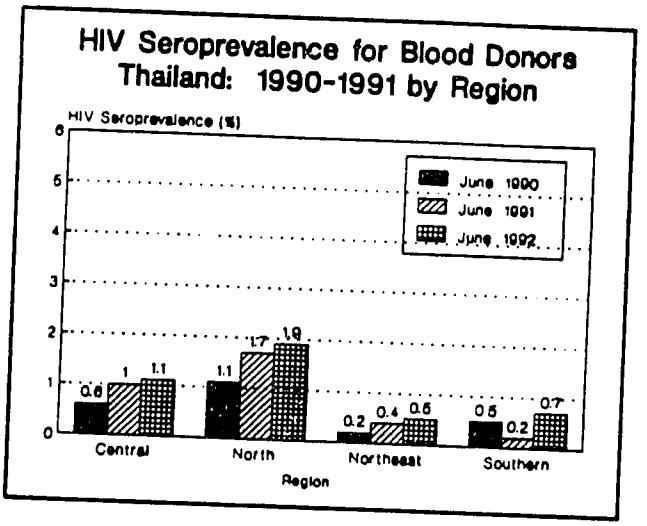


Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

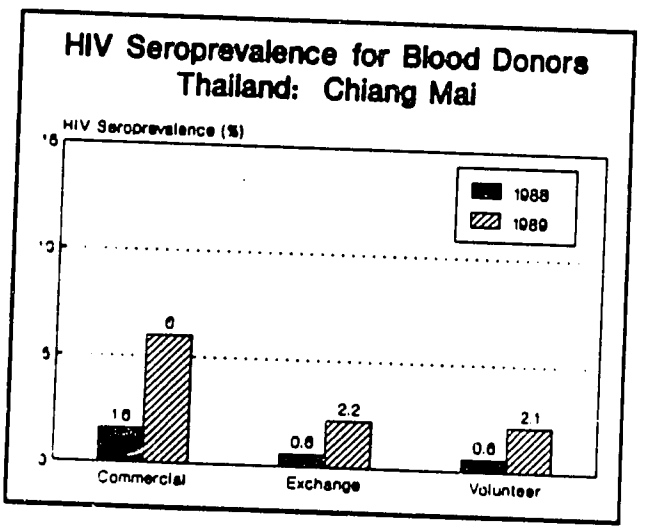
- HIV infection levels among pregnant women are also increasing in all regions, based on sentinel surveillance data. HIV levels in the North Region has approximately doubled each year.



- The rates of infection in blood donors show a marked increase over the 3 year period. As seen among other groups, HIV levels in the North Region are the highest.



- In Chaing Mai, Thailand, the levels of HIV infection vary by type of donor but once again show a marked increase in a 1 year period.



Source: Center for International Research, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, June 1993.

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T0079 Thailand Ministry of Public Health, 1992, National Sentinel Seroprevalence Survery, June, unpublished tables.

LATIN AMERICA/CARIBBEAN

APPENDIX

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.

Country	Research Note
Africa	
Benin	#8
Burkina Faso	#8
Chad	#8
Ethiopia	#8
Gabon	#8
Gambia, The	#8
Guinea	#5
Madagascar	#5
Mali	#8
Mozambique	#5
Niger	#8
South Africa	#8
Swaziland	#8
Togo	#8
Uganda	#8
Asia	
Burma	#8
Philippines	#5
Latin American/Caribbean	
Brazil	#8
Dominican Republic	#8
Haiti	#8
Jamaica	#8
Martinique	#5
Mexico	#8
Trinidad Tobago	#8