

HIV/AIDS IN ASIA

**Health Studies Branch
International Programs Center
Population Division
U.S. Bureau of the Census**

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Preface

The International Programs Center of the Population Division conducts specialized studies of population, economics, labor force, health and aging issues. However, the use of data not generated by the Bureau of the Census precludes performing the same statistical reviews normally conducted on its own data.

This research note is the eighteenth of a series of short research documents resulting from analysis conducted in the Health Studies Branch. Distribution in the research note format is intended to allow for rapid dissemination of results to a specialized audience, highlighting recent developments or emerging trends. Reports containing a more thorough presentation and discussion of research findings will continue to be issued in the International Programs Center Staff Paper series.

This note was prepared by the staff of the Health Studies Branch--Jinkie Corbin, Anne Ryan, Peggy Seybolt, Lisa Mayberry, and David Rudolph and edited by Karen Stanecki De Lay, Chief, Health Studies Branch. Peter O. Way, Special Assistant, International Programs Center, Population Division, also reviewed the report and provided comments. The preparation of this report was supported by funding from the U.S. Agency for International Development.

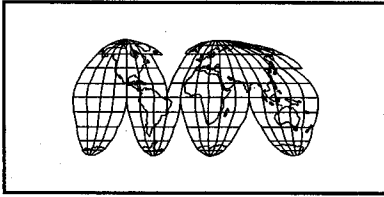
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Country Profiles for Asia Countries:

Burma
Cambodia
China, Mainland
India
Indonesia
Laos
Malaysia
Philippines
Singapore
Thailand



International Programs Center Population Division

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HIV/AIDS in Asia

Introduction

This report provides an overview of the epidemiological patterns and trends of the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) in Asia. Due to limited data, it is difficult to accurately show the extent of HIV infection for all Asian countries. Therefore, the focus of this paper is limited to the following:

Southeast Asia: Brunei, Burma, Cambodia, Indonesia, Laos, Malaysia, Papua New Guinea, Philippines, Singapore, Thailand, and Vietnam

South Asia: Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka

East Asia: China (Mainland and Taiwan), Hong Kong, Macau, Mongolia, South Korea

This paper presents data from the July 1995 version of the HIV/AIDS Surveillance Database maintained by the International Programs Center, Population Division, U.S. Bureau of the Census. The database contains about 24,000 data items drawn from 3,100 publications and presentations.

Based on a review of available data, we examine the current status of the HIV

epidemic by presenting selected and illustrative HIV prevalence data among various population groups within each Asian region. Furthermore, we describe trends and patterns and geographic variation of the HIV virus.

In this paper, the terms "high risk" and "low risk" describe various sampled populations. The high-risk category refers to studies of intravenous drug users (IVDU), commercial sex workers (CSWs) and sexually transmitted disease (STD) patients. The low-risk category refers to studies of pregnant women, blood donors and general populations.

Additional and more detailed information may be available at the country level and are presented in the annex.

Background

As the AIDS epidemic starts to unfold in Asia, the home of half the world's population, HIV infection rates in certain population groups have already become among the highest in the world. The recent explosion of the AIDS epidemic in South and Southeast Asia shows that no society can consider itself immune to AIDS.

As of July 1995, the World Health Organization Global Programme on AIDS

estimated that over 3.5 million people are HIV infected in Asia. As the epidemic takes hold in South and Southeast Asia, there has been an 8-fold increase in the number of AIDS cases in the past year from 30,000 to about 250,000. The percent of AIDS cases estimated in Asia has risen from 1 percent in mid-1993 to 6 percent in mid-1995 of the global total^{1,2,3} primarily due to the rapid growth of AIDS in South/Southeast Asia.

By the turn of the century, experts estimate that the majority of new HIV infections in the world will occur in Asia⁴ and that the epidemic in Asia will eventually surpass the one that has been ravaging Sub-Saharan Africa⁵. Furthermore, India will probably have the largest number of infected persons of any single country in Asia. With the population of India reaching 1 billion within 5 years, the HIV epidemic has the potential to have a dramatic impact on this country.

In addition to India, major HIV epidemics already exist in Thailand and Burma (Myanmar). HIV infection in these countries has already progressed beyond the groups whose behavior puts them at highest risk and has spread to the general population. Also, the epidemic has begun to emerge in Cambodia, Vietnam, Indonesia, China, Taiwan, Singapore and the Philippines. However, within each country the extent of the epidemic varies.

As the epidemic emerges in Asia in the 1990's, the experience and lessons learned in Africa should be used to develop strategies for control and prevention of AIDS. Additionally, lessons already learned in some Asian countries, such as in Thailand, can speed the development of Asian models to be adapted for use in other countries of the region.

Epidemiological Aspects

Epidemiological studies throughout the world have been conducted to assay the prevalence of HIV. Although the extensive spread of HIV in Asia has been predominantly in South and Southeast Asia, this spread began only in the mid 1980's or even later and the progression has been rapid.

The pattern of HIV spread in Asia appears to be different from those seen in the U.S., Europe, and Africa. HIV was introduced much later in Asia than the rest of the world and was first noted among IVDU. Subsequently, as described by researchers in Thailand, rapid increases were detected among CSWs and their clients (e.g., men attending STD clinics). The HIV epidemic is now spreading to their girlfriends, wives, and children.

The following discussion describes HIV seroprevalence levels among these various groups.

1. IV Drug Users

The largest increases in HIV infection have been among IVDU in at least three countries, Thailand, Burma, and India. In addition, China's Yunnan Province, which is a part of the "Golden Triangle," has reported high prevalence rates among IVDU.

In Thailand, HIV prevalence among IVDU rapidly increased within a few years. Figure 1 displays seroprevalence rates reported for Bangkok from 1988 to 1991. The HIV seroprevalence level increased dramatically during 1988, jumping from a level of 1.2 percent in January to 31.2 percent in September. From there, the rate

steadily increased to 45.0 percent in June 1991. Sentinel surveillance data for December 1994 from the Thailand Ministry of Health reported over 35 percent of the IVDU in all four regions of Thailand were infected with HIV.

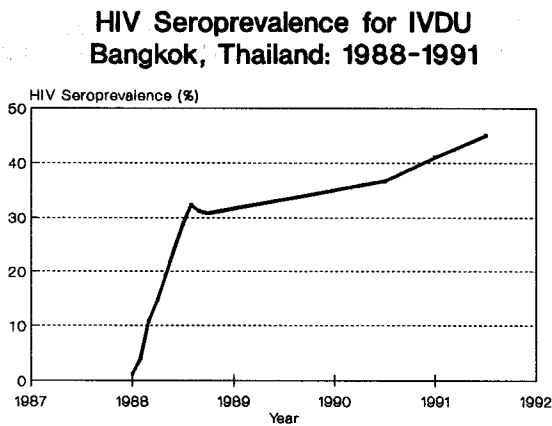


Figure 1

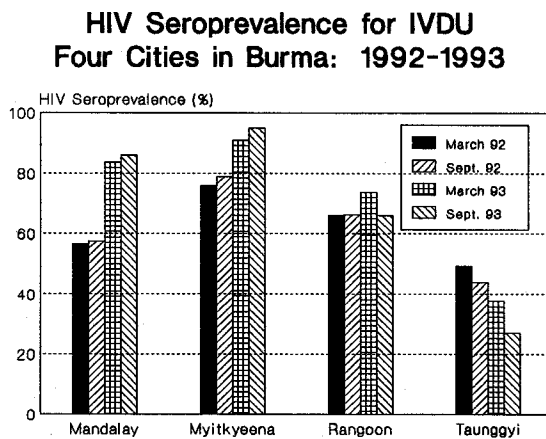


Figure 2

High levels of HIV infection among IVDU were already being reported as of 1989 in Burma (over 30 percent). Since then, the rates have continued to escalate.

Over 80 percent of IVDU tested in Mandalay and Myitkyeena are HIV positive and 75 percent in Rangoon are HIV positive (Figure 2).

In India, studies of HIV infection among IVDU in various areas reported levels up to 80 percent. (Figure 3).

**HIV Seroprevalence for IV Drug Users
Selected Areas in India: 1985-1994**

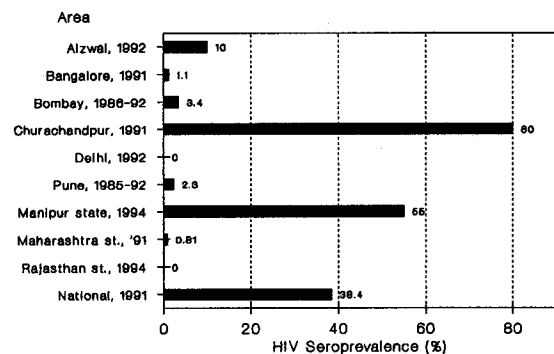


Figure 3

Data from the northeastern state of Manipur indicate an HIV infection level of 55 percent for the first quarter of 1994. In addition, a 1991 National survey of 3,521 IVDU reported a seroprevalence level of 38.4 percent.

A concentration of HIV infection has been detected in Yunnan Province, China, bordering on Burma and Laos and near Thailand. In this province, a study conducted in Ruili county and two neighboring counties, Luxi and Longchuan, revealed prevalence levels of 81.8 percent, 5.1 percent and 44.6 percent, respectively, among IVDU (Figure 4). These three counties are located just across the border from Burma. Another study in Yingjiang county found an HIV prevalence level of 17.4 percent among IVDU.

**HIV Seroprevalence for IVDU in Four Counties, Yunnan Province
China, Mainland: 1992**

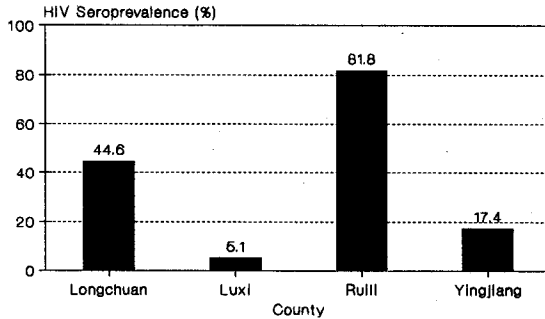


Figure 4

Recent data from Malaysia and Vietnam also show increases in HIV levels (Figure 5). In Malaysia, HIV prevalence levels among IVDU are not as high as in Thailand and Burma but show a steady increase from 0.1 percent in 1988 to 6.9 percent in 1991. However, a study conducted in Kota Bharu, near the border with Thailand, reported HIV levels to be nearly 30 percent among IVDU in 1992. In Vietnam, HIV seroprevalence rates for IVDU increased from 0.2 percent in 1989-92 to 14 percent in 1993.

**HIV Seroprevalence for IVDU
Malaysia and Vietnam
1988-1993**

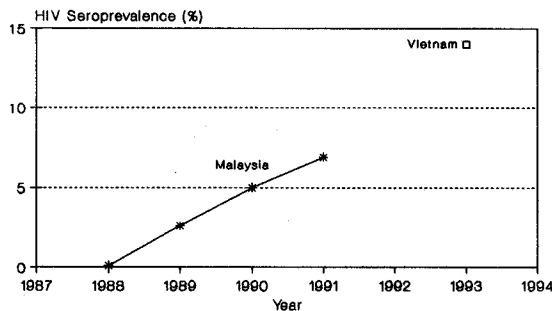


Figure 5

Since 1988, HIV seroprevalence studies among IVDU have been conducted in a few other Asian countries. Relatively low levels

**HIV Seroprevalence for IV Drug Users
Asia: Circa 1993**

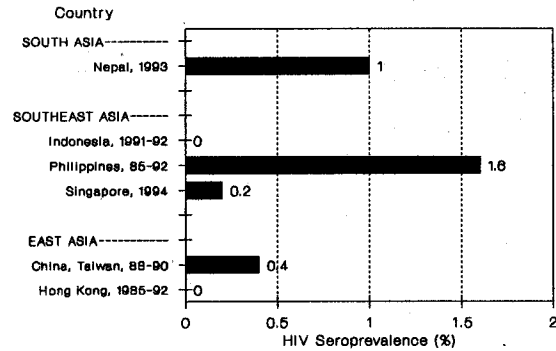


Figure 6

of HIV infection were found among IVDU in Nepal, Taiwan, Philippines, and Singapore (Figure 6). There was no evidence of HIV among IVDU reported from studies conducted in Indonesia and Hong Kong through the early 1990's.

2. Commercial Sex Workers

HIV infection has been reported among commercial sex workers in Southeast Asia and South Asia, especially in Thailand and India. A few studies from selected East Asian countries report no HIV infection found as yet among commercial sex workers.

In Southeast Asia, all four regions of Thailand reported levels of HIV infection over 20 percent among commercial sex workers. The North region of Thailand has consistently had the highest level of infection among the regions. The Central region has recently reported similar seroprevalence levels, 39 percent in the December 1994 reporting period (Figure 7).

**HIV Seroprevalence for Commercial Sex Workers
Thailand: 1990-1994**

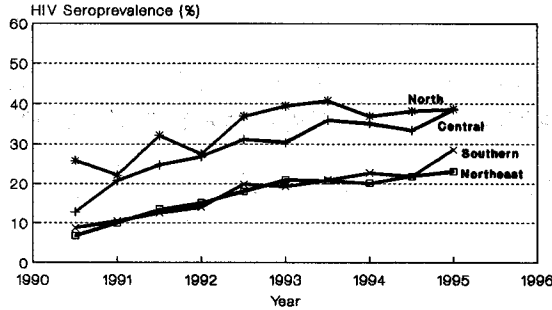


Figure 7

Data from sentinel surveillance in Burma indicate HIV seroprevalence among CSW increased from 0 to 7 percent in Rangoon and from 5 to 15 percent in Mandalay in just one year (Figure 8). Other studies in Cambodia, Malaysia, and the Philippines found HIV prevalence levels less than 10 percent, as shown in Figure 9.

HIV Seroprevalence for Commercial Sex Workers in Rangoon & Mandalay, Burma: 1992-1993

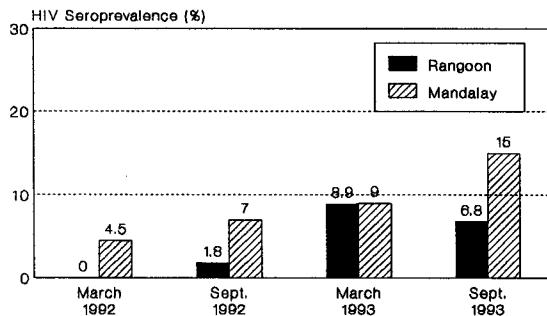


Figure 8

In India, located in South Asia, the levels of HIV infection among commercial sex workers vary greatly. Figure 10 shows HIV levels in 8 out of 12 areas in India for which data are available are 15 percent or above.

HIV Seroprevalence for Commercial Sex Workers in Southeast Asia: 1991-1992

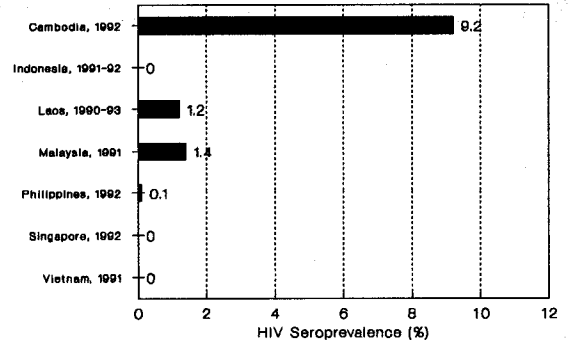


Figure 9

HIV Seroprevalence for Commercial Sex Workers in Cities, India: 1986-1994

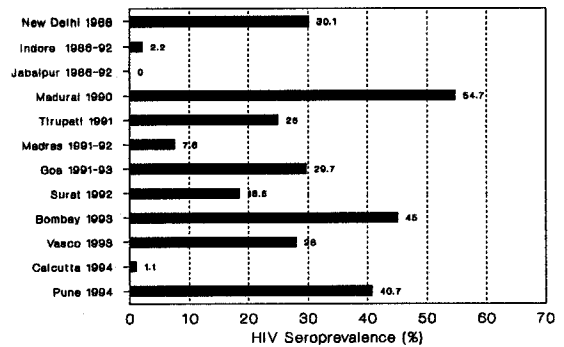


Figure 10

Figure 11 displays the trend in HIV seroprevalence among CSWs in India. Studies in all of the cities, with the exception of Calcutta, report a dramatic increase in HIV levels. HIV seroprevalence levels are highest in Bombay at 45 percent

in 1993. Studies in Calcutta indicate a steady seroprevalence level around 1 percent.

HIV Seroprevalence for Commercial Sex Workers in India: 1986-1994

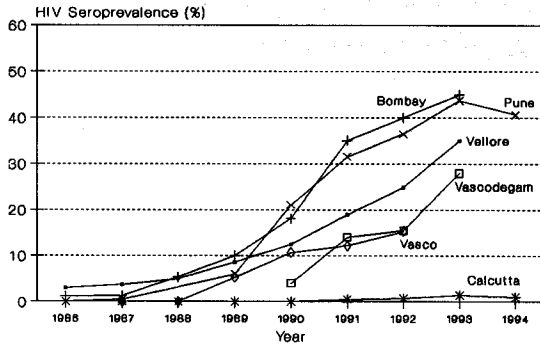


Figure 11

In Figure 12, data from sentinel surveillance in Yunnan Province, China, show seroprevalence levels among CSWs still under 1 percent despite the high levels of infection among IVDU already noted.

HIV Seroprevalence for Commercial Sex Workers in Yunnan Province China: 1989-1993

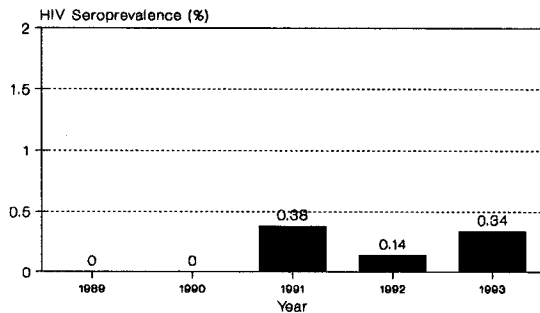


Figure 12

3. STD Patients

Various studies clearly document the spread of HIV among sexually transmitted disease (STD) patients. All of the areas for which data are available show that HIV is present among this population group. Once again, the highest show HIV infection levels are found in South and Southeast Asia, mainly India and Thailand.

HIV Seroprevalence for Male STD Clinic Patients Thailand: 1990-1994

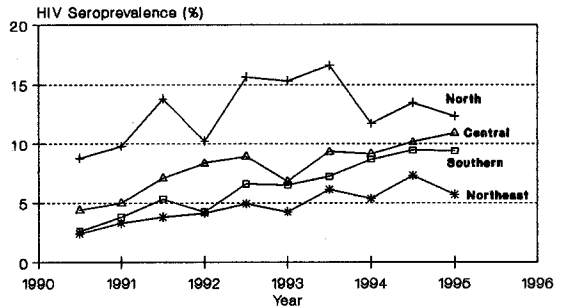


Figure 13

HIV Seroprevalence for STD Clinic Patients in Burma: 1989-1992

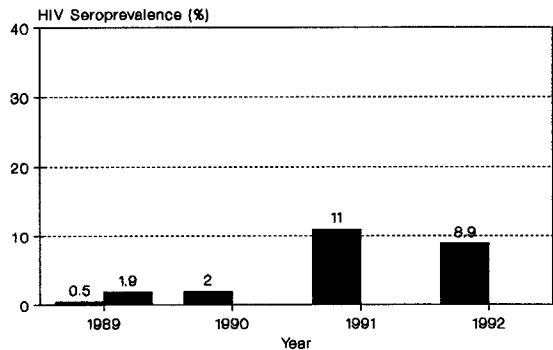


Figure 14

From Thailand's sentinel surveillance system, HIV prevalence among male STD patients steadily increased from June 1990 to December 1994 in all regions except the North (Figure 13). North region data reported through the sentinel surveillance program indicate a decrease in HIV seroprevalence among STD clinic patients since December of 1993 where rates were the highest. Similar decreases in STD rates have been seen in Bangkok. Officials credit the AIDS education programs and the condom-only brothels with this decrease.

HIV seroprevalence levels within Burma have also increased among STD clinic patients since 1989 (Figure 14). By early 1991, HIV seroprevalence had reached 11 percent. The 1992 sentinel data show HIV seroprevalence at 8.9 percent.

HIV Seroprevalence for STD Clinic Patients in Four Cities in India: 1985-1994

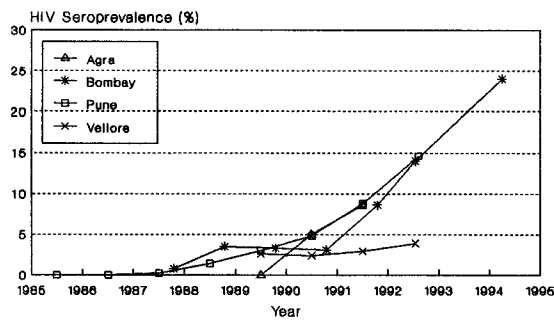


Figure 15

Studies conducted in Agra, Bombay, Pune, and Vellore show HIV infection levels among Indian STD patients increased rapidly over the past few years (Figure 15). Studies in other cities in India (Figure 16) report HIV prevalence levels from 1 to 22 percent from 1991 to 1994.

HIV Seroprevalence for STD Patients India: 1991-1994

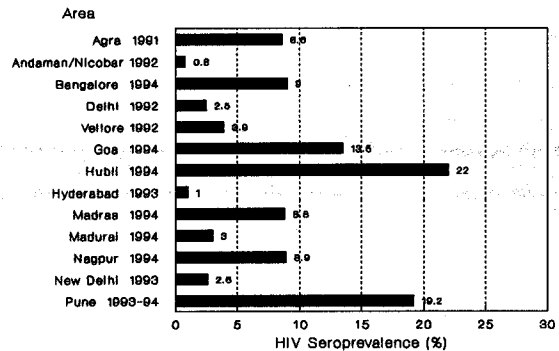


Figure 16

Meanwhile, various studies among STD clinic patients in other parts of Asia found HIV prevalence levels ranging from no evidence of the virus in the Philippines, Indonesia, and Mongolia to 4.2 percent among STD clinic patients in Cambodia (Figure 17).

HIV Seroprevalence for STD Clinic Patients in Asia: 1986-1994

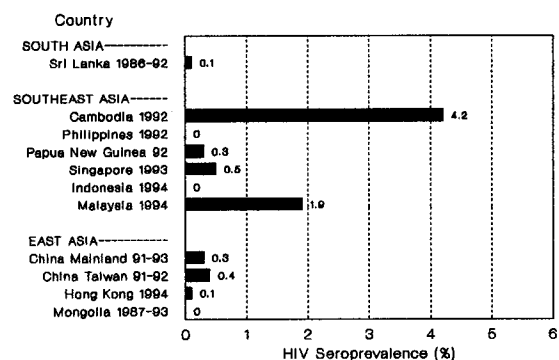


Figure 17

4. Pregnant Women

Seroprevalence studies among pregnant women in Asia have reported generally low levels of HIV infection, but these data may indicate the beginning of a substantial epidemic in the general population.

HIV Seroprevalence for Pregnant Women, by Region, Urban Areas, Thailand: 1990-1994

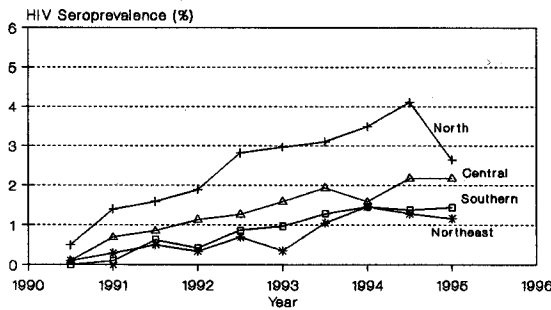


Figure 18

HIV Seroprevalence for Pregnant Women Seven Cities in Burma: 1992-1993

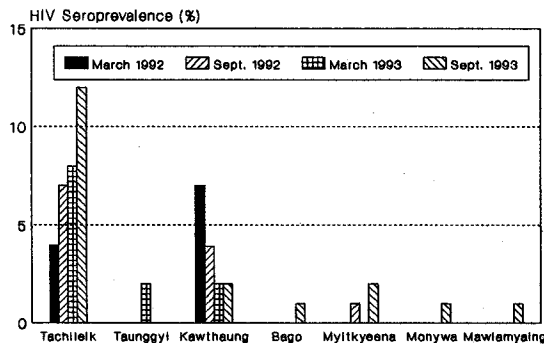


Figure 19

In Thailand, sentinel surveillance among pregnant women in urban areas provides firm evidence that HIV is spreading to the general population. HIV seroprevalence

increased in all four regions from June 1990 to June 1994 among pregnant women (Figure 18). However, in the North, after reporting HIV seroprevalence over 4 percent in June 1994, a decrease was reported in December 1994, mirroring decreases seen among the male STD clinic patients.

HIV infection was detected in Burma among pregnant women in early 1991 at 0.3 percent. Sentinel surveillance in 1992-1993 did not detect HIV infection among pregnant women in Rangoon or Mandalay. However, in 7 other cities, HIV infection has been detected among this population. HIV infection rates have increased dramatically in Tachileik (Figure 19).

HIV Seroprevalence for Pregnant Women India: 1990-1994

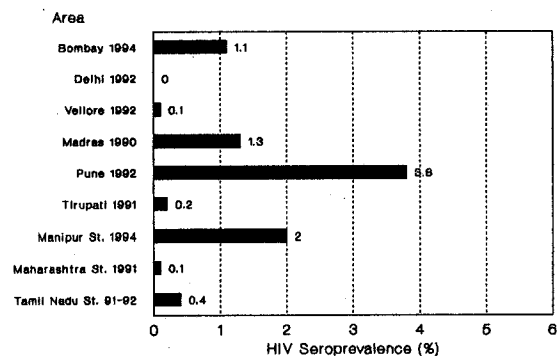


Figure 20

HIV infection has also been found among pregnant women in India. Studies from different areas in India indicate HIV infection among pregnant women at varying levels up to 3.8 percent (Figure 20).

Other studies in Asia from Nepal, Indonesia, Cambodia, Mongolia, China, and Macau have shown no evidence of the HIV virus among pregnant women as yet.

5. Blood donors

Data for HIV infection among blood donors in Asia confirms the spread to the general population, as noted above, while also reflecting the varying effectiveness of blood screening programs.

HIV Seroprevalence for Blood Donors Southeast Asia: 1989-1994

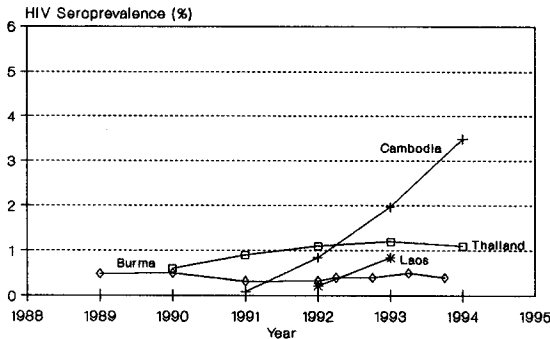


Figure 21

HIV seroprevalence data from the Cambodia National Center for Blood Transfusion show a dramatic increase from less than 0.1 percent in 1991 to 3.5 percent in 1993 among blood donors (Figure 21). Data from the Thailand Ministry of Health National Sentinel Surveillance indicate a relatively low but steady infection level. HIV seroprevalence levels in Burma have remained below 1 percent. From 1992 to 1993, studies in Laos reported a fourfold increase among blood donors, though the infection level still had not exceeded 1 percent. These variations may reflect differences in blood screening programs.

Figure 22 shows HIV seroprevalence data for voluntary blood donors in India. These five cities show different patterns over time. The HIV prevalence level among blood donors in Pune more than doubled in just one year. In Calcutta, Hyderabad,

HIV Seroprevalence for Volunteer Blood Donors in Selected Cities India: 1987-1993

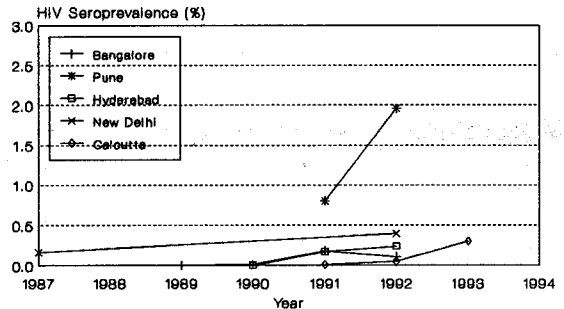


Figure 22

HIV Seroprevalence for Blood Donors Bombay, India: 1999 -1993

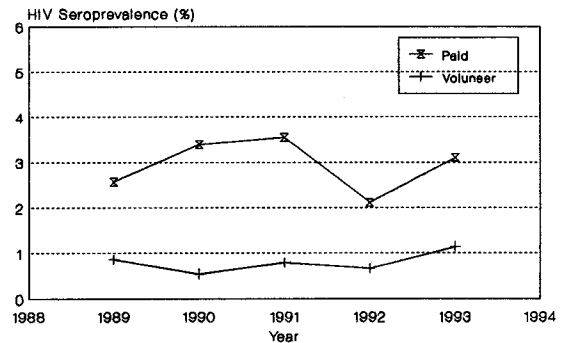


Figure 23

Bangalore and New Delhi all report positive HIV seroprevalence levels but at a level below 0.5 percent through 1992-93. In Bombay, HIV seroprevalence levels were higher among paid donors from 1989 to 1993 than among volunteers. Infection levels among the volunteer donors remained steady around 1 percent over the 5 year period. (Figure 23)

Geographic Distribution

Data are not currently available to provide a detailed geographic picture of HIV for all countries in Asia. However, for Thailand, India and China sufficient data are available to look at the geographic variation in current levels of HIV infection.

The Thailand Ministry of Health National Sentinel Surveillance data for December 1994 indicate HIV infection among pregnant women is highest in the north region where several provinces have prevalence levels over 5 percent. Phayao Province, located in the north region, reported a prevalence rate of 10.7 percent among pregnant women, the highest prevalence rate among all of the provinces for which data were available.

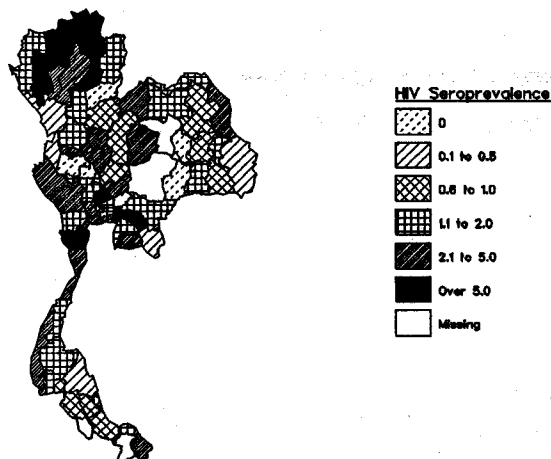
The HIV virus has moved into the general population of Thailand. Among pregnant women, the HIV virus is present throughout Thailand (Map 1). Most striking is that only four years ago there were no provinces with HIV levels over 5 percent and only 13 provinces reporting any HIV infection at all.

Thailand's "Direct" commercial sex workers are those working in brothels; they represent a population at very high risk of infection. In June 1994, most of the provinces reported HIV levels among this group over 15 percent. Lamphun Province, located in the north region, reported the highest percent infected, 62.7 percent. In every region at least one province reported a prevalence rate over 25 percent among direct commercial sex workers.

In India, high levels of HIV seroprevalence among CSWs are found in Maharashtra state, Rajasthan state and Tamil Nadu state (Map 3). The data available suggest that

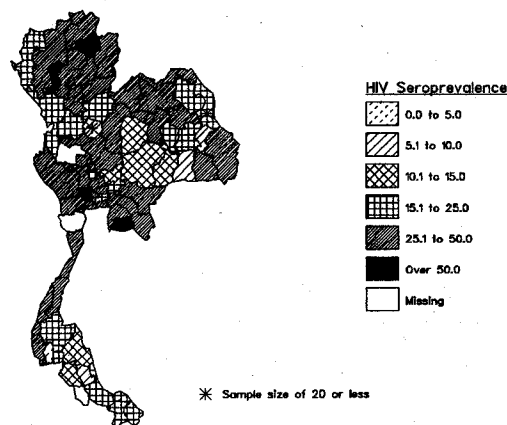
HIV infection among CSWs in India is concentrated in the western and southern states.

HIV Seroprevalence among Pregnant Women, Thailand: December 1994



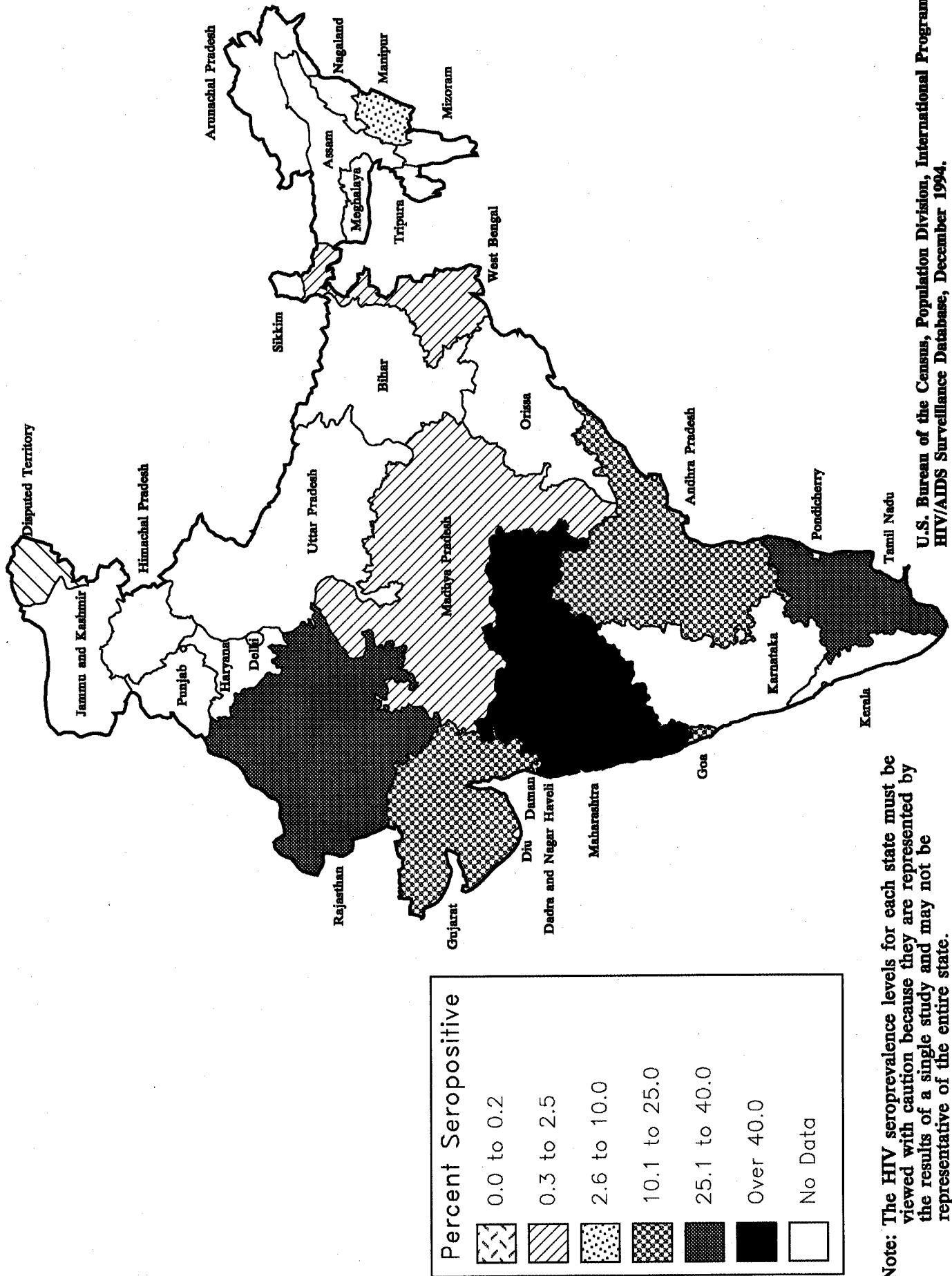
Map 1

HIV Seroprevalence among Direct Commercial Sex Workers, Thailand: June 1994



Map 2

HIV Seroprevalence for Commercial Sex Workers in India



Note: The HIV seroprevalence levels for each state must be viewed with caution because they are represented by the results of a single study and may not be representative of the entire state.

HIV Seroprevalence for Commercial Sex Workers in Yunnan Province, China



U.S. Bureau of the Census, Population Division, International Programs Center, HIV/AIDS Surveillance Database, December 1994.

Map 4

Map 4 depicts HIV seroprevalence levels among commercial sex workers in Yunnan Province, China. The highest levels are located in the prefectures bordering Burma. Sentinel surveillance of CSWs conducted in Simao prefecture revealed a seroprevalence level of 3.3 percent. The second highest level, 0.6 percent, was reported in Dehong prefecture. The remaining six prefectures for which data are available found no evidence of HIV infection. HIV has reached the CSW population in this region;

however, the data available imply that the epidemic still is low.

Conclusion

HIV prevalence studies show wide differences in infection rates between population groups. However, in most Asian countries, except for Thailand, India, Burma and Malaysia, it is difficult to show the extent of HIV infection and to determine trends because of the limited data available.

Although HIV was introduced into Asia at a later date than much of the rest of the world, the virus has already been detected in the general populations of a number of countries in the region. The situation and trends are still unfolding and HIV continues to spread, revealing itself in one location after another. Governments in the region, as elsewhere in the world, have been slow to react to this threat to their population.

Notes

1. World Health Organization, 1995, "The Current Global Situation of the HIV/AIDS Pandemic", July.
2. World Health Organization, 1994, *AIDS Surveillance Report, Western Pacific Region*, no. 3, July.
3. Shiokawa, Y., 1994, "Tenth International Conference on AIDS in Yokohama: A Common Approach for the Future", *TB & HIV*, no.4.
4. Chin, J., 1991, "Global Estimates of HIV Infections and AIDS Cases: 1991", *AIDS*, 5(suppl. 2):S57-S61.
5. Rowley, J. T., R. M. Anderson, T. W. Ng, 1990, "Reducing the Spread of HIV Infection in Sub-Saharan Africa: Some Demographic and Economic Implications", *AIDS*, 4(1):47-56.

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Sources for HIV/AIDS in Asia

The following list contains the complete citation for data used in the graphs and maps of the "HIV/AIDS in Asia" paper.

- A0105 Abeyewickreme, I., 1993, Sexually Transmitted Diseases and HIV in Sri Lanka - 7 Year Review, IX International Conference on AIDS, Berlin, 6/6-11, Abstract PO-C10-2808.
- B0046 Bose, M., K. M. Pavri, Z. Israel, et al., 1988, Seroepidemiological Investigations on Human Immunodeficiency Virus Infections in some Parts of India, Indian Journal of Medical Research, vol. 87, pp. 209-212.
- B0095 Bhawe, G. G., U. D. Wagle, S. P. Tripathi, et al., 1990, HIV Sero Surveillance in Promiscuous Female of Bombay India, VI International Conference on AIDS, San Francisco, 6/20-24, Poster F.C.612.
- B0153 Bhawe, G. G., U. D. Wagle, S. Desai, et al., 1992, HIV Surveillance and Prevention, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster C401.
- B0241 Bharucha, Z. S., R. M. Reporter, L. D'mello, 1994, Towards Increasing Blood Safety, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0387.
- B0247 Babu, P. G., T. Ishida, V. Nerurkar, et al., 1994, Epidemiology of Retroviral Infections in South India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0082.
- C0140 Chakma, T., P. V. Rao, S. Pall, et al., 1992, Human Immunodeficiency Virus Antibody Screening in Jabalpur, India, Virus Information Exchange Newsletter, vol. 9, no. 2, pp. 53-54.
- C0160 Chan, R., A. Fakat, C. L. Goh, 1993, HIV Surveillance in the STD Clinic in Singapore, 8th IUVDT Regional Conference, Chiang Mai, Thailand, 10/27-30, Oral Session.
- C0178 Cheng, H., J. P. Zhang, S. D. Zhao, et al., 1994, Epidemiological Pattern of HIV Infection in Yunnan Province, China, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Session 042C.
- D0107 Damodar, P., A. Jayanthi, S. Ray, et al., 1992, Implementation of Blood Safety Initiative Strategy with Special Reference to HIV-1 Infection at SJMCH, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster A207.
- F0052 Francis, A., J. Jacob, 1992, Hospital Based Serosurveillance for HIV in St. Stephen's Hospital, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster A109.
- F0055 Frerichs, R. R., M. T. Htoon, N. Eskes, et al., 1992, Comparison of Saliva and Serum for HIV Surveillance in Developing Countries, Lancet, vol. 340, no. 8834/8835, pp. 1496-1499.
- G0107 Gopalakrishnan, P. B., S. Padmarajan, M. Johnson, et al., 1992, HIV the 3rd Generation STD Problem, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster A403.
- G0153 Gilada, I., R. Mahajan, S. Hira, 1994, HIV Infection in Pregnant Women in Bombay, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0081.
- G0160 Ganapathysundaram, S., M. Mallika, S. Chandrasekaran, et al., 1992, MHA-Tp Testing on HIV Positive and Negative Women in Vigilance Home at Madurai, Indian Journal of Pathology and Microbiology, vol. 35, no. 1, pp. 44-47.
- G0161 Goh, C. L., 1995, Prevalence of Sexually Transmitted Disease among Commerical Sex Workers in Singapore (1977-1993) the Effects of Screening ..., IUVDT World STD/AIDS Congress, Singapore, 3/19-23, Roundtable Discussion 2.
- H0065 Hwa-Chen, L., S. Yuh-Horng, 1991, Seroprevalence of HIV-1 among Clients Attending STD Clinic in Taipei, VII International Conference on AIDS, Florence, Italy, 6/16-21, Poster W.C.3142.
- H0092 Hwa-Chen, L., 1993, Prevalence of HIV-1 and HIV-2 in STD Patients in Taipei, IX International Conference on AIDS, Berlin, 6/6-11, Abstract PO-C20-3087.
- H0119 Htoon, M. T., H. H. Lwin, K. O. San, et al., 1994, HIV/AIDS in Myanmar, AIDS, vol. 8, suppl. 2, pp. S105-S109.
- I0026 Indonesia AIDS Control Programme, 1992, Update, September 30, unpublished report.
- J0014 Jayaraman, K. S., 1989, HIV Problem for Indian Blood Banks, Nature, vol. 337, p. 295.
- J0021 Joshi, S. H., R. S. Patil, S. S. Chipkar, et al., 1992, Sero Prevalence of HIV-1 and HIV-2 Infection in Western India, VIII International Conference on AIDS, Amsterdam, 7/19-24, Abstract Puc 8110.

Sources for HIV/AIDS in Asia cont.

- J0032 Jain, M. K., D. S. Chitnis, 1993, HIV Seroprevalence in a Central Province of India, IX International Conference on AIDS, Berlin, 6/6-11, Abstract PO-C08-2770.
- J0044 Jalal, F., H. M. Abednego, T. Sadjimin, et al., 1994, HIV and AIDS in Indonesia, AIDS, vol. 8, suppl. 2, pp. S91-S94.
- J0045 Jain, M. K., T. J. John, G. T. Keusch, 1994, A Review of Human Immunodeficiency Virus Infection in India, Journal of Acquired Immune Deficiency Syndromes, vol. 7, no. 11, pp. 1185-1194.
- J0048 John, T. J., N. Bhushan, P. G. Babu, et al., 1993, Prevalence of HIV Infection in Pregnant Women in Vellore Region, Indian Journal of Medical Research, vol. 97, pp. 227-230.
- K0183 Kaldor, J. M., P. Effler, R. Sarda, et al., 1994, HIV and AIDS in Asia and the Pacific: An Epidemiological Overview, AIDS, vol. 8, suppl. 1, pp. S165-S172.
- L0095 Lakshmi, N., A. G. Kumar, 1991, HIV Infections in Women at Triupati, India, Virus Information Exchange Newsletter, vol. 8, no. 3, p. 122.
- L0101 Lal, S., et al., 1991, AIDS Control Programme of India, Government of India, Nirman Bhawan, New Delhi, India, Unpublished report.
- L0156 Lee, S. S., W. L. Lim, S. H. Lee, et al., 1994, Epidemiology of HIV Infection in Hong Kong, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0070.
- L0162 Liu, F., J. P. Zhu, 1994, HIV Infection among STD Clinic Patients in Zhejiang, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0571.
- L0165 Lay, K. S., 1994, The HIV Epidemic in Cambodia, TB & HIV, no. 2, p. 15.
- L0166 Lal, S., L. Khodakevich, P. Salil, 1994, HIV Infection in India - Trends Analysis, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Session 039C.
- L0172 Lye, M. S., K. Fong, K. Y. Goh, et al., 1995, Patterns of Risk Behaviour for Patients with Sexually Transmitted Diseases and Surveillance for Human Immunodeficiency Virus ..., IUVDT World STD/AIDS Congress, Singapore, 3/19-23, Free Paper 9.
- M0232 Malhotra, V. L., P. K. Pillai, A. Sharma, et al., 1992, Seroprevalence of HIV Infection in High Risk Groups, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B325.
- M0270 Malhotra, V. L., A. Sharma, P. K. Pillai, et al., 1993, Serosurveillance of HIV Infection and Its Correlation with Other Sexually Transmitted Diseases in Delhi, India, IX International Conference on AIDS, Berlin, 6/6-11, Abstract PO-C20-3062.
- M0309 Ministry of Health (Lao People's Democratic Republic), 1993, Second Quarterly Report: April - June 1993, National Committee for the Control of AIDS (NCCA), Vientiane, August, unpublished report.
- M0340 Murgditchian, D., 1994, Mongolia Trip Report, AIDSCAP Family Health International, pp. 1-15.
- M0347 Maharjan, S. H., A. Peak, S. Rana, et al., 1994, Declining Risk for HIV among IDUs in Kathmandu: Impact of a Harm Reduction Programme, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract 561C.
- M0365 Mehendale, S., J. J. Rodrigues, R. Gangakhedkar, et al., 1994, STDs and HIV Infection in CSWs of Pune, India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.C.0351.
- N0138 Ngeow, Y. F., 1994, STD and HIV Epidemiology in Asia, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Session PS7.
- O0053 O'Leary, M., W. I. Van der Meijden, C. Malau, et al., 1992, HIV Serosurveillance in Papua New Guinea, Papua New Guinea Department of Health, Port Moresby, Papua New Guinea, draft paper.
- P0095 Pal, S. C., K. Sarkar, J. S. Nagra, et al., 1992, HIV Infection in Andaman and Nicobar Islands, India, the Possibility of a New Route of Entry, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B337.
- P0118 Pavri, K. M., 1991, Status of AIDS/HIV in India, Virus Information Exchange Newsletter, vol. 8, no. 2, pp. 54-56.
- P0119 Paul, S., S. Chakrabarty, S. Chakrabarti, et al., 1994, HIV Infection amongst Commercial Sex Workers (CSW) of Calcutta. A Period of 3 Years Study, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0367.

Sources for HIV/AIDS in Asia cont.

- P0122 Prasongsith, B. C., P. Blanche, K. Phouvang, et al., 1994, HIV Infection in Lao Republic, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0084.
- R0078 Rose, A., H. Srinivasa, R. S. Macaden, et al., 1992, Anonymous HIV Screening of Pregnant Women, Women with Bad Obstetric History and Patients from Psychiatry, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Abstract A602.
- R0080 Ralte, J. S., S. Sarkar, S. Panda, et al., 1992, Drug Addiction and HIV Infection in Mizoram, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Abstract B209.
- R0082 Rubsamen-Waigmann, H., J. Maniar, S. Gerte, et al., 1994, High Proportion of HIV-2 and HIV-1/2 Double-Reactive Sera in Two Indian States, Maharashtra and Goa: First Appearance of an ..., International Journal of Medical Microbiology, Virology, Parasitology and Infectious Diseases, vol. 280, no. 3, pp. 398-402.
- R0106 Raman, R., 1994, HIV Serosurveillance in High Risk Groups and Effect of Mass Media Approach, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0452.
- R0107 Rodrigues, J., S. Mehendale, M. Shepherd, et al., 1994, The Preparation for AIDS Vaccine Efficacy Trial in India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0290.
- S0085 Seth, P., U. K. Sharma, A. N. Malaviya, et al., 1988, Serosurveillance of Human Immunodeficiency Virus (HIV) Infection in North India, IV International Conference on AIDS, Stockholm, 6/15-16, Abstract 5507.
- S0129 Sankari, S., S. Solomon, et al., 1991, Trends of HIV Infections in Antenatal/Infertility Clinic - An Ominous Sign:, VII International Conference on AIDS, Florence, Italy, 6/16-21, Poster W.C.3236.
- S0171 Solomon, S., T. Jagadeeswari, K. Anuradha, 1992, Sentinel Surveillance for HIV Infection, VIII International Conference on AIDS, Amsterdam, 7/19-24, Abstract PoC 4086.
- S0176 Saraswathi, V., 1992, HIV Donor Screening NIMS Experience, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B336.
- S0181 Saxena, D. M., J. K. Kosambiya, 1992, HIV Seropositivity in Sex Workers of Surat, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B338.
- 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.
- S0194 Sattaur, O., 1991, India Wakes Up to AIDS, New Scientist, vol. 132, no. 2, pp. 25-29.
- S0288 Salunke, S. R., 1994, Transmission and Prevalence of HIV in Bombay-India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.C.0368.
- S0295 Seth, P., N. Khanna, S. Broor, et al., 1994, HIV Infection in STD Patients in New Delhi, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0567.
- T0033 Thongcharoen, P., C. Wasi, S. Louisirirochanakul, et al., 1989, Human Immunodeficiency Virus Infection in Thailand, Human Immunodeficiency Virus Infection in Thailand, Mahidol University, Bangkok, ISBN 974-586-526-5.
- T0045 Thailand Ministry of Public Health, 1991, National Sentinel Surveillance Survey, Unpublished tables.
- T0056 Thailand Ministry of Public Health, 1991, National Sentinel Seroprevalence Survey, Aug. 24, unpublished tables.
- T0058 Thailand Ministry of Public Health, 1991, National Sentinel Seroprevalence Survey, Oct. 28, unpublished tables.
- T0059 Thailand Ministry of Public Health, 1991, National Sentinel Seroprevalence Survey, Feb. 21, unpublished tables.
- T0079 Thailand Ministry of Public Health, 1992, National Sentinel Seroprevalence Survey, June, unpublished tables.
- T0087 Tripathy, S., K. Banerjee, J. Rodrigues, et al., 1993, Increasing HIV Infection in Western India, IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C08-2764.
- T0088 Thailand Ministry of Public Health, 1992, National Sentinel Seroprevalence, September, unpublished tables.
- T0100 Thailand Ministry of Public Health, 1993, National Sentinel Seroprevalence, June, unpublished tables.
- T0109 Thailand Ministry of Health, 1993, National Sentinel Surveillance, December, unpublished tables.
- T0115 Tia, P., S. L. Kruey, S. Tea, et al., 1994, Epidemiology of HIV in Cambodia, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0621.
- T0119 Thailand Ministry of Health, 1994, National Sentinel Surveillance, June, unpublished tables.

Sources for HIV/AIDS in Asia cont.

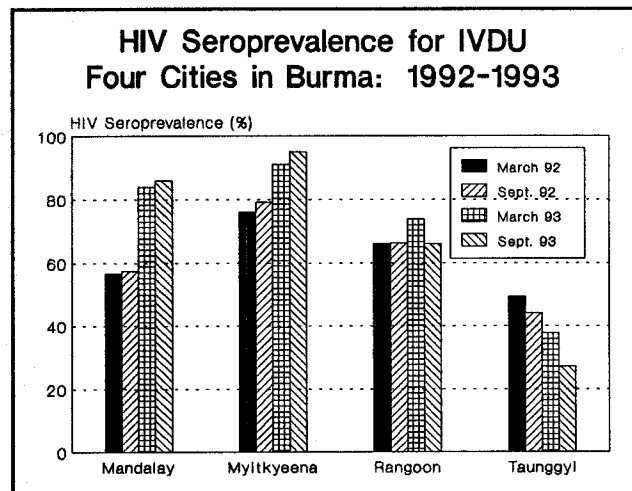
- T0125 Tan, M. L., M. M. Dayrit, 1994, HIV/AIDS in the Philippines, AIDS, vol. 8, suppl. 2, pp. S125-S130.
- T0134 Thailand Ministry of Health, 1994, National Sentinel Surveillance, December, unpublished tables.
- V0049 Voice of Myanmar, 1991, AIDS Cases, Summary of World Broadcasts, July 10, Third Series FE/W0187, pp. A7-A8.
- 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.
- W0063 Weniger B. G., P. Thongcharoen, J. T. John, et al., 1992, The HIV Epidemic in Thailand, India, and Neighboring Nations: A Fourth Epidemiologic Pattern Emerges in Asia, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PoC 4087.
- W0078 Wong, K. H., S. S. Lee, W. L. Lim, 1993, HIV Surveillance among Drug Users in Hong Kong, IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C08-2782.
- W0081 World Health Organization, Western Pacific Region, 1993, AIDS Surveillance Report, Global Programme on AIDS, vol. 1, no. 1, July, p. 2.
- Y0013 Yeoh, E., 1990, The Growing Problem of AIDS in Asia, VI International Conference on AIDS, San Francisco, 6/24, Closing Ceremony, vol. 3, p. 93.
- Z0038 Zheng, X., C. Tian, J. Zhang, et al., 1993, Rapid Spread of HIV among Drug Users and Their Wives in Southwest China, IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C08-2766.
- Z0042 Zhang, J. P., H. H. Cheng, S. D. Zhao, et al., 1994, Research on the Epidemic of HIV Infection in Yunnan Province China, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.C.0066.
- Z0046 Zulkarnain, M. A. Nasution, A. S. Siregar, et al., 1995, Serologic Test of HIV with Elisa Method Toward Sexually Transmitted Disease Patients in Private Clinics in Medan, North Sumatera, IUVDT World STD/AIDS Congress, Singapore, 3/19-23, Free Paper 9.

Demographic Indicators

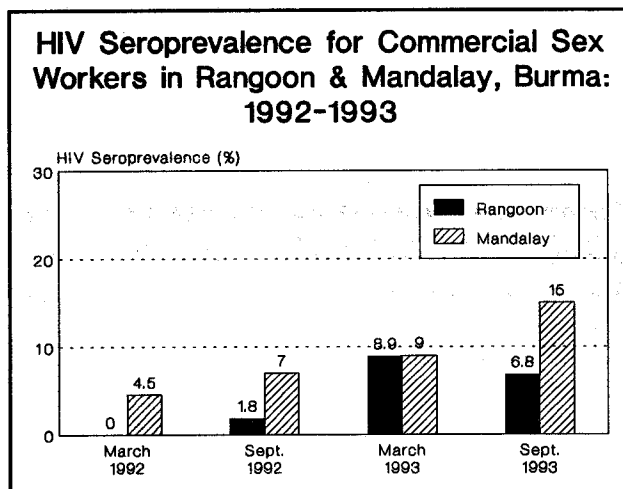
Population (1,000s)	45,135	Growth Rate (%)	1.9
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	83	Both Sexes	56
Male	91	Male	54
Female	75	Female	57
Crude Birth Rate (per 1,000)	30	Crude Death Rate (per 1,000)	12
Total Fertility Rate	3.9	Percent Urban	26
Note: Above indicators are for 1995.			
Cumulative AIDS rate (per 1,000) as of 4/17/95		0.01	
Cumulative AIDS cases as of 4/17/95		475	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

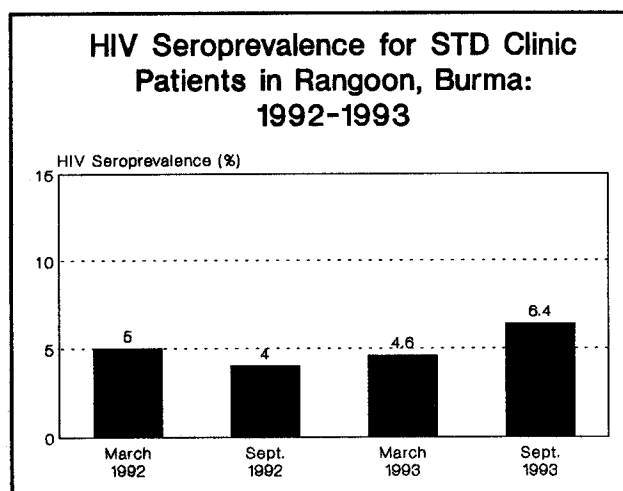
- Sentinel surveillance data from four sites in Burma show high levels of HIV infection among intravenous drug users. In September 1993, infection levels ranged from 27 percent in Taunggyi to 95 percent in Myitkyeena.



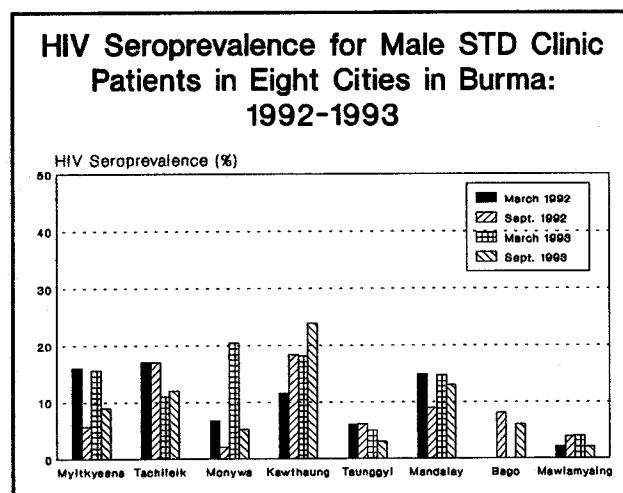
- From the same sentinel surveillance data, HIV seroprevalence levels among commercial sex workers in the capital, Rangoon, increased from 0 percent in March 1992 to 7 percent in September 1993. In Mandalay, the former capital, the HIV level steadily increased from 4.5 percent in March 1992 to 15.0 in September 1993.



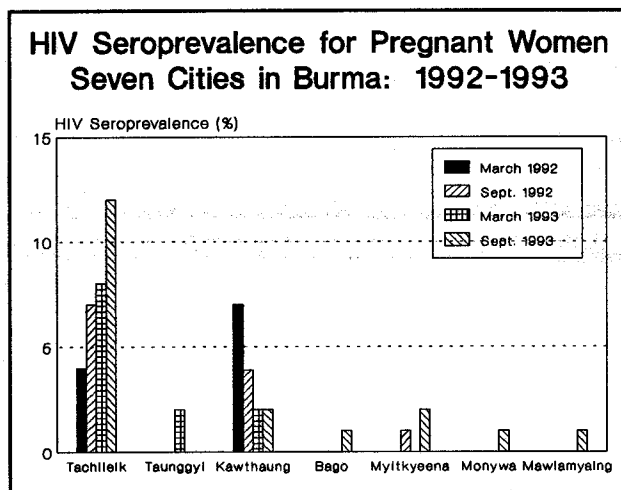
- Sentinel surveillance conducted among STD patients in the capital city, Rangoon, shows HIV infection levels increasing to 6.4 percent in September 1993.



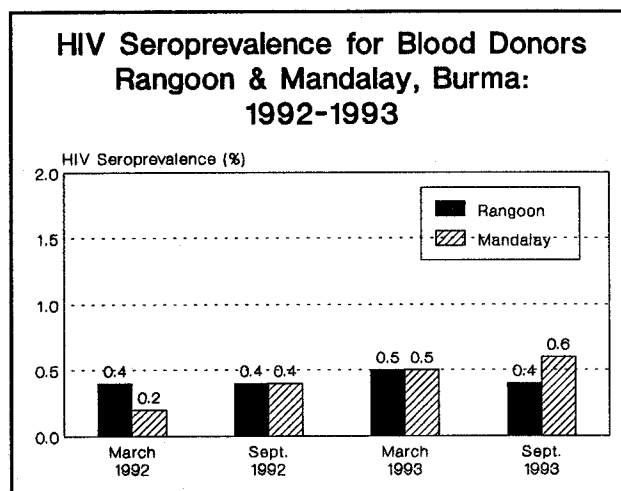
- Reports from eight sentinel sites in Burma show varying levels of HIV infection among male STD patients. In September 1993, HIV levels ranged from 2.0 percent in Mawlamyaing to 23.9 percent in Kawthaung.



- Over a period of a year and a half, HIV infection levels among pregnant women in Tachileik increased from 4 percent to 12 percent. Other cities for the year 1993 showed lower levels of HIV infection, less than 3 percent.



- According to the same sentinel surveillance, from March 1992 to September 1993, the percent of blood donors HIV positive has remained relatively the same in both Rangoon and Mandalay, around 0.5 percent.



Sources for Burma

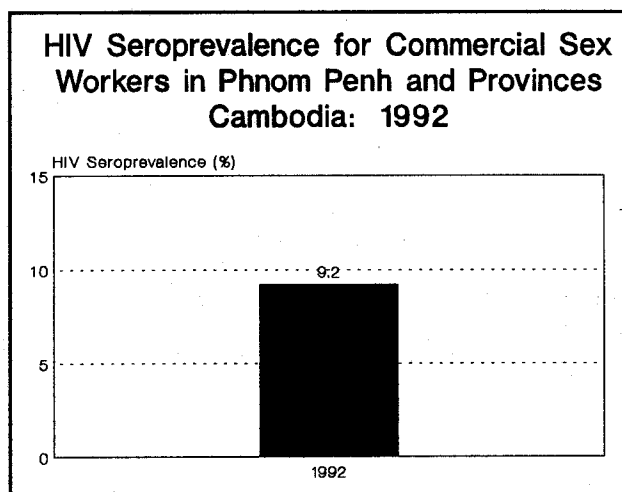
H0119 Htoon, M. T., H. H. Lwin, K. O. San, et al., 1994, HIV/AIDS in Myanmar, *AIDS*, vol. 8, suppl. 2, pp. S105-S109.

Demographic Indicators

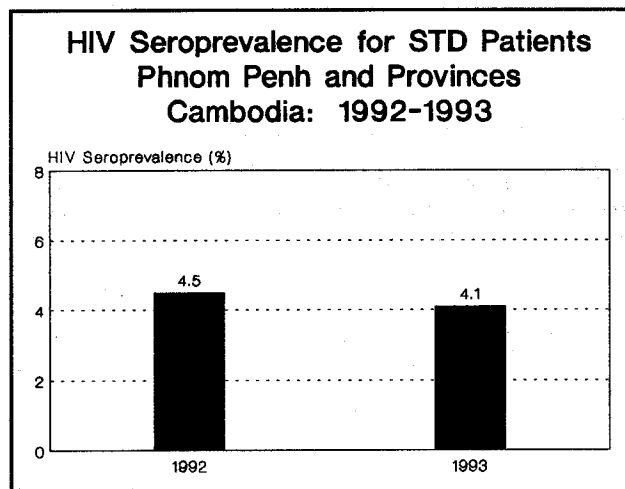
Population (1,000s)	10,265	Growth Rate (%)	2.9
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	111	Both Sexes	49
Male	119	Male	48
Female	102	Female	51
Crude Birth Rate (per 1,000)	45	Crude Death Rate (per 1,000)	16
Total Fertility Rate	5.8	Percent Urban	13
Note: Above indicators are for 1994.			
Cumulative AIDS rate (per 1,000) as of 3/31/94		0.00	
Cumulative AIDS cases as of 3/31/94		0	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

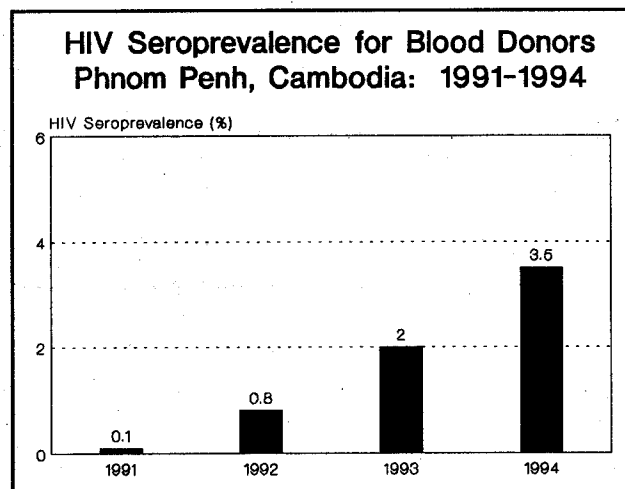
- Very few studies on HIV seroprevalence among commercial sex workers have been available for Cambodia. However, in an AIDS surveillance report from the World Health Organization, HIV infection among commercial sex workers in Phnom Penh and the provinces was reported to be 9.2 percent for 1992.



- Seroprevalence studies conducted in Phnom Penh and the provinces in 1992 and 1993 found HIV infection levels to be over 4 percent among STD patients.



- Data from the National Blood Transfusion Center in Phnom Penh, the capital, indicate a rapid increase in HIV seroprevalence rates among blood donors from 0.1 percent in 1991 to 3.5 percent in 1994. This increase in the general population, as seen among blood donors, shows an alarming situation for the Cambodian government.



Sources for Cambodia

L0165 Lay, K. S., 1994, The HIV Epidemic in Cambodia, TB & HIV, no. 2, p. 15.

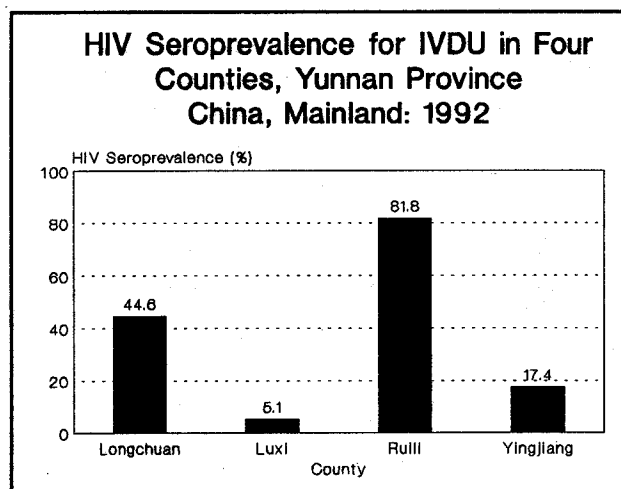
T0115 Tia, P., S. L. Kruey, S. Tea, et al., 1994, Epidemiology of HIV in Cambodia, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0621.

Demographic Indicators

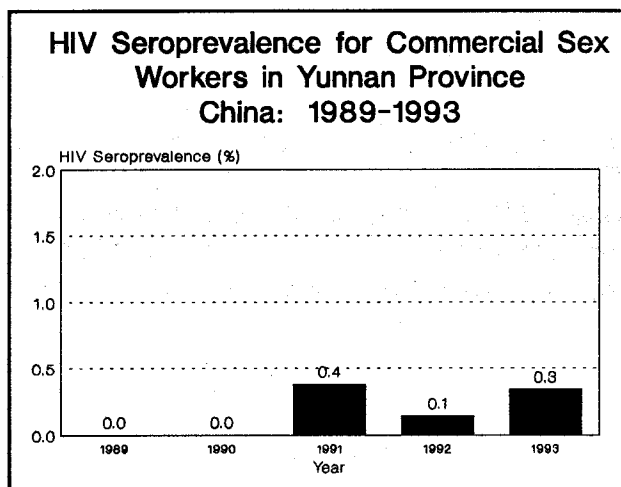
Population (1,000s)	1,190,431	Growth Rate (%)	1.1
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	52	Both Sexes	68
Male	40	Male	67
Female	66	Female	69
Crude Birth Rate (per 1,000)	18	Crude Death Rate (per 1,000)	7
Total Fertility Rate	1.8	Percent Urban	29
Note: Above indicators are for 1994.			
Cumulative AIDS rate (per 1,000) as of 12/31/93	0.0		
Cumulative AIDS cases as of 12/31/93	36		
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

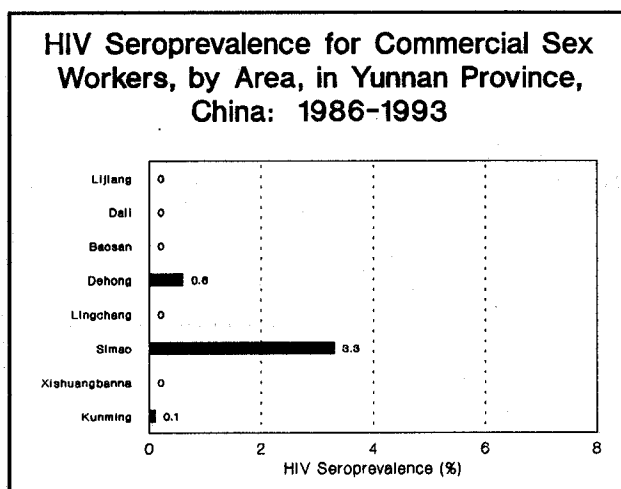
- Yunnan Province, bordering Burma, Laos and Vietnam, reports high levels of HIV seroprevalence among intravenous drug users. These four counties indicate a wide range in prevalence levels varying from 5.1 percent in Luxi to 81.8 percent in Ruli.



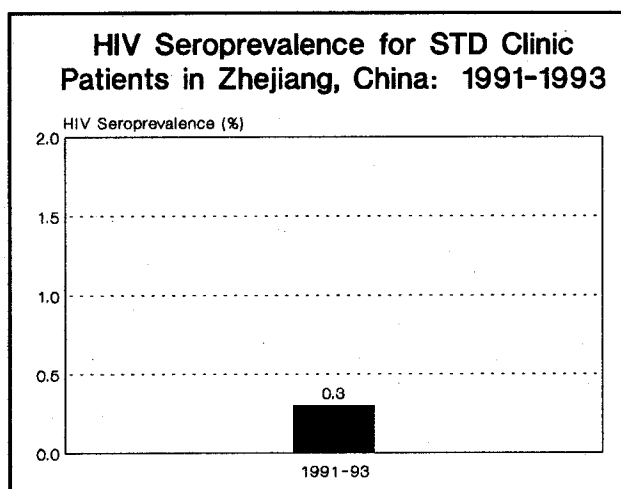
- In Yunnan Province, located in south western China, HIV seroprevalence among commercial sex workers showed no evidence of the virus in 1989 and 1990. However, since 1991 prevalence levels have ranged from 0.1 percent to 0.4 percent.



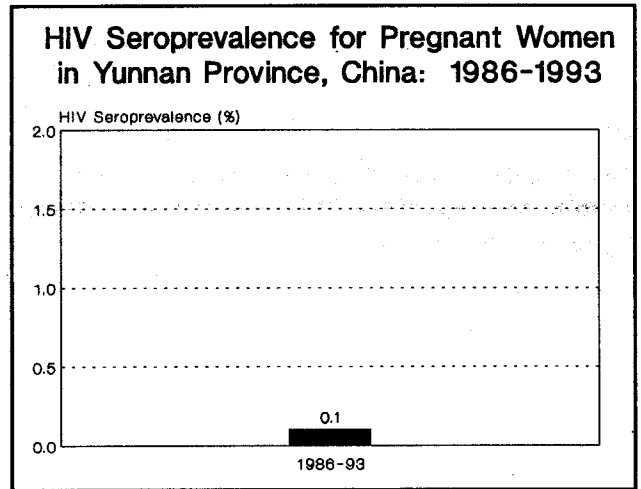
- Data available from prefectures in Yunnan Province show the highest levels of HIV infection among commercial sex workers are located in those prefectures bordering Burma. Sentinel surveillance conducted in Simao prefecture revealed the highest HIV seroprevalence level, 3.3 percent. The remaining prefectures report HIV levels of less than 1 percent.



- A study conducted from 1991-1993 among STD clinic patients in Zhejiang reports HIV seroprevalence levels of 0.3 percent.



- Sentinel surveillance of HIV prevalence among pregnant women in Yunnan Province found a level of 0.1 percent for 1986-1993. Another study conducted among 83,109 blood donors reported a prevalence level of 0.0 percent.



Sources for China, Mainland

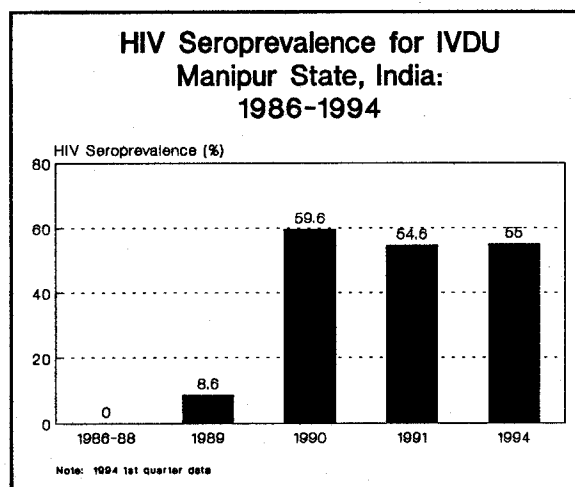
- C0178 Cheng, H., J. P. Zhang, S. D. Zhao, et al., 1994, Epidemiological Pattern of HIV Infection in Yunnan Province, China, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Session 042C.
- L0162 Liu, F., J. P. Zhu, 1994, HIV Infection among STD Clinic Patients in Zhejiang, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0571.
- Z0038 Zheng, X., C. Tian, J. Zhang, et al., 1993, Rapid Spread of HIV among Drug Users and Their Wives in Southwest China, IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C08-2766.
- Z0042 Zhang, J. P., H. H. Cheng, S. D. Zhao, et al., 1994, Research on the Epidemic of HIV Infection in Yunnan Province China, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.C.0066.

Demographic Indicators

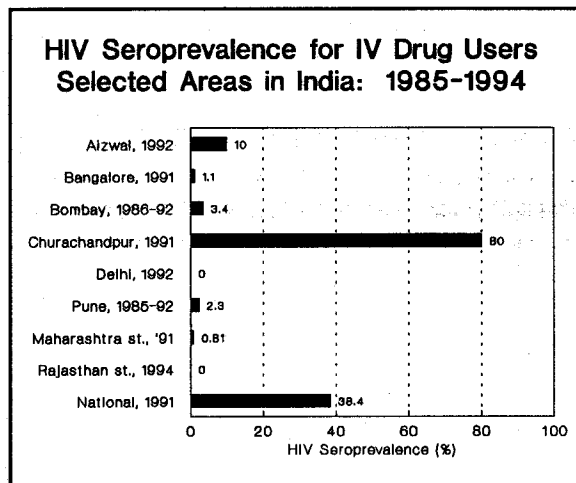
Population (1,000s)	919,903	Growth Rate (%)	1.8
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	78	Both Sexes	59
Male	78	Male	58
Female	79	Female	59
Crude Birth Rate (per 1,000)	28	Crude Death Rate (per 1,000)	10
Total Fertility Rate	3.5	Percent Urban	27
Note: Above indicators are for 1994.			
Cumulative AIDS rate (per 1,000) as of 6/14/94		0.00	
Cumulative AIDS cases as of 6/14/94		713	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

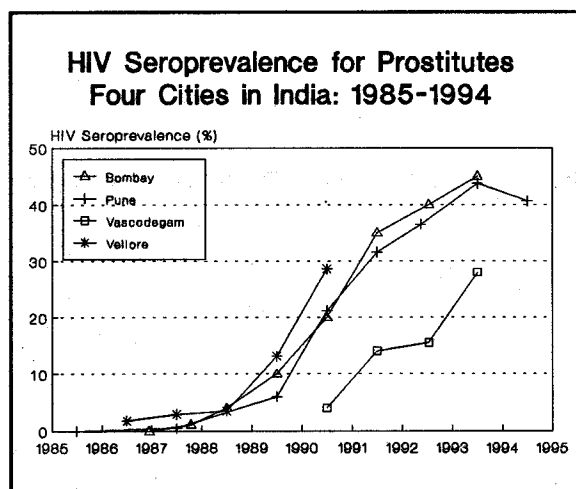
- In the northeastern states, HIV infection among intravenous drug users (IVDU) has skyrocketed. HIV prevalence levels rose from 8.6 in 1989 to over 50 percent in the 1990's.



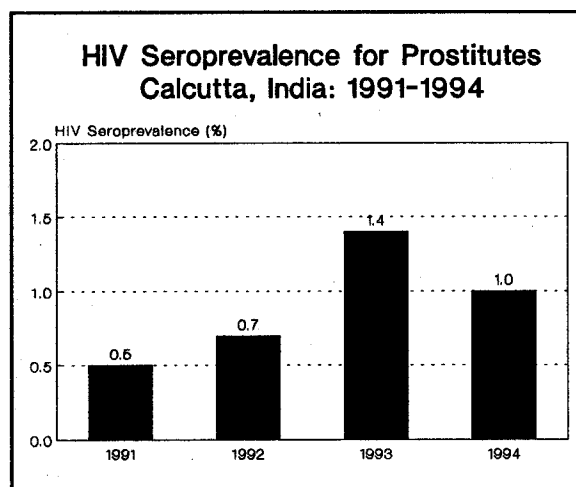
- Studies of HIV infection among IVDU in various areas reported levels up to 80 percent. In addition, a 1991 national survey of 3,521 IVDU reported a seroprevalence level of 38.4 percent.



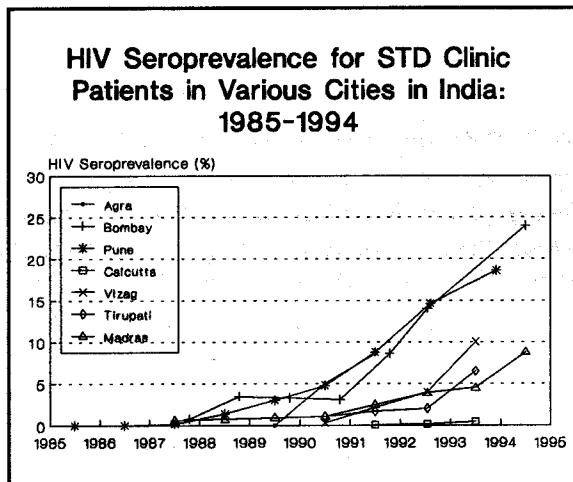
- Various studies clearly document the spread of HIV among prostitutes. In this high risk population, HIV infection increased sharply in these cities over the past six years. The highest levels of HIV infection were found in Bombay, 45 percent and Pune, 40.7 percent.



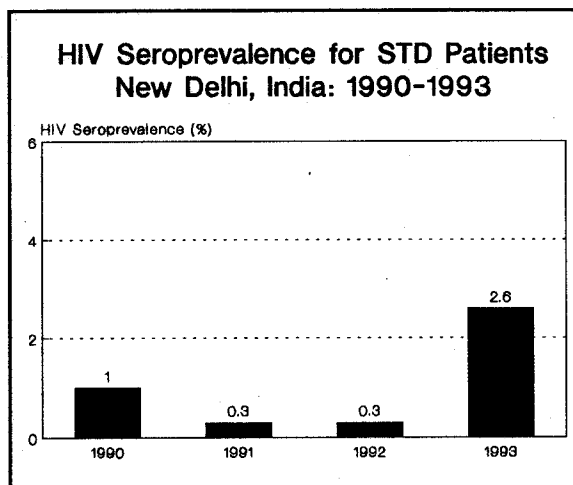
- HIV infection levels among prostitutes in Calcutta are relatively low, less than 2 percent.



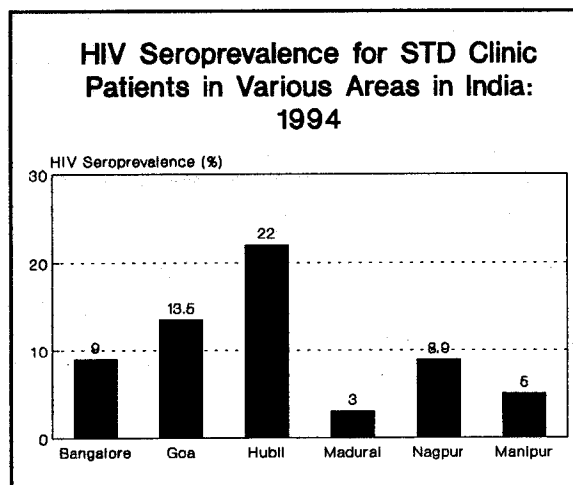
- HIV infection levels among STD clinic patients in various cities in India increased rapidly over the past few years. In Bombay, levels rose from less than 1 percent in 1987-88 to 24.0 percent in 1994. In Pune, HIV infection levels increased rapidly to 18.6 percent by 1993. Calcutta reports the lowest level of only 0.5 percent in 1993.



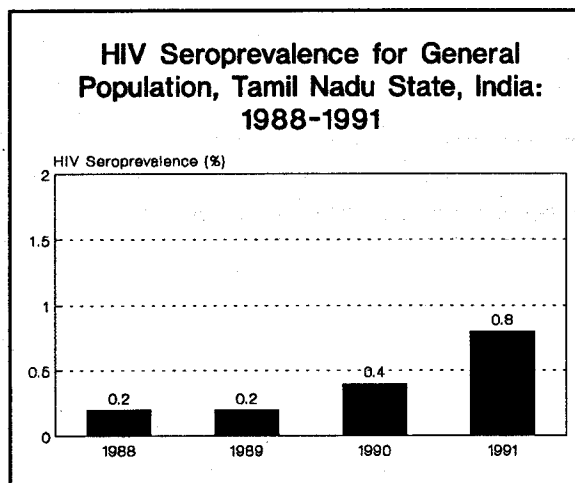
- In New Delhi, the capital, HIV levels among STD patients reached 2.6 percent in 1993.



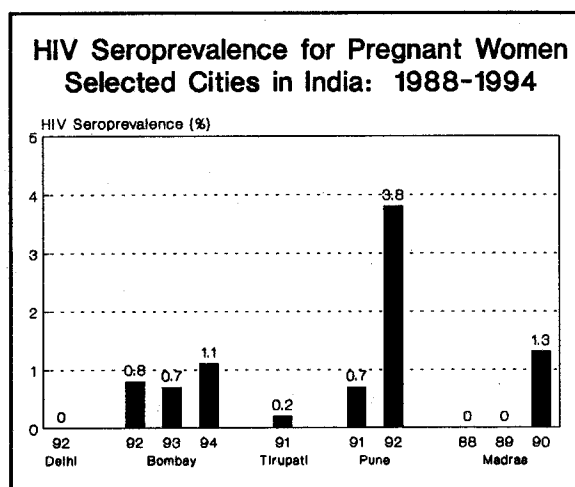
- Studies of HIV seroprevalence among STD clinic patients in various areas of India report HIV infection levels ranging from 22 percent in Hubli to 3 percent in Madurai.



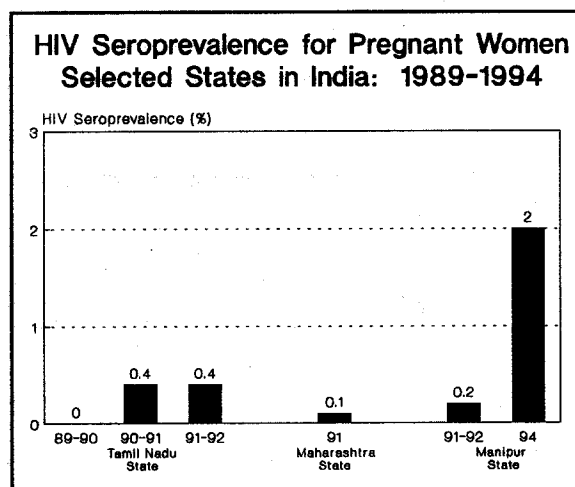
- HIV infection has also been found among low-risk populations in India. According to this study in Tamil Nadu State, HIV infection levels in the general population have doubled each year since 1989.



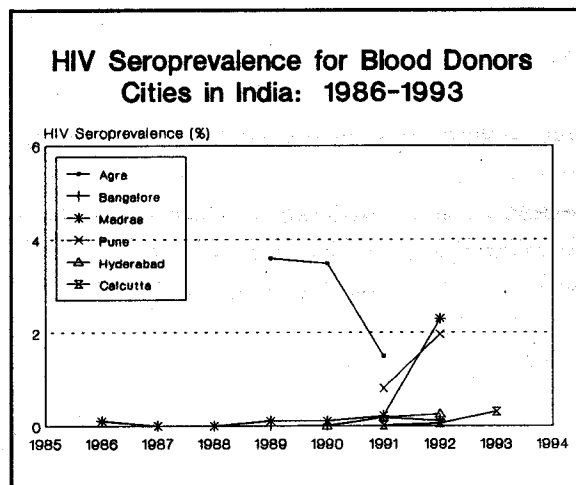
- Among selected cities, levels of HIV seroprevalence in pregnant women varied. In Pune, HIV levels increased dramatically from 0.7 in 1991 to 3.8 in 1992.



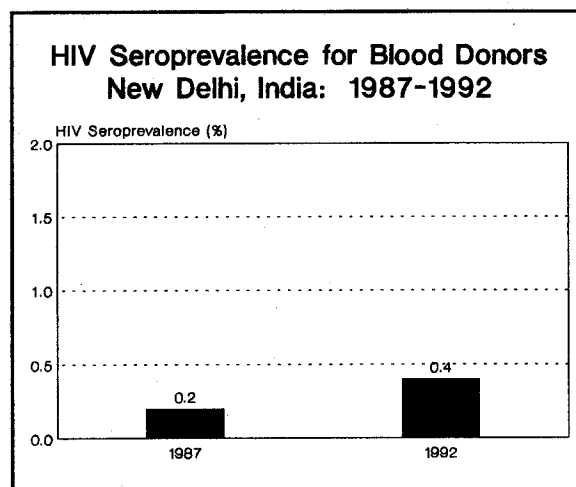
- Data from some states show HIV infection levels among pregnant women less than 1 percent. However, sentinel surveillance for the first quarter in 1994 in Manipur State reported a level of 2 percent.



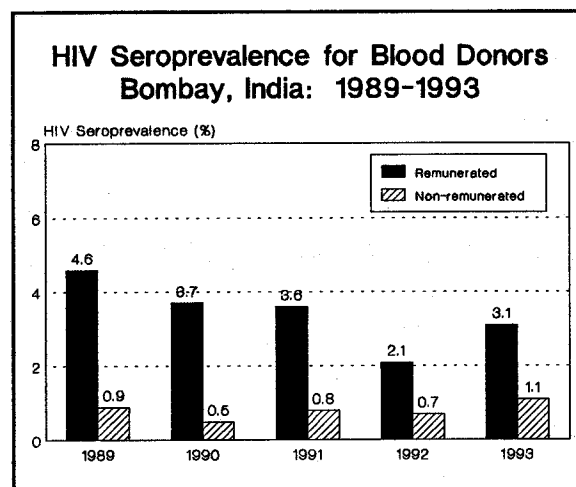
- HIV seroprevalence data for blood donors in several cities show a variety of different patterns over time. In Agra, HIV infection levels have decreased, while HIV infection levels in Madras and Pune have increased. HIV levels in the other cities remained the same during this period. These variations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



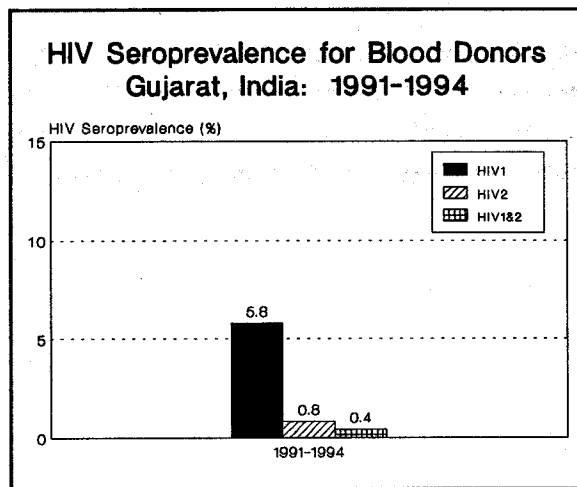
- HIV seroprevalence data for blood donors in New Delhi report low levels of less than 1 percent. However, the infection level increased from 0.2 percent in 1987 to 0.4 percent in 1992.



- HIV seroprevalence levels among blood donors in Bombay report higher levels of infection among the remunerated donors from 1989 to 1993. The infection levels among non-remunerated donors remained steady over the 5 year period.



- HIV seroprevalence data on blood donors in Gujarat from 1991-1994 show HIV-1 infection is more prevalent than HIV-2 or dual infection.



Source: International Programs Center, Population Division, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Dec. 1994.

Sources for India

- B0046 Bose, M., K. M. Pavri, Z. Israel, et al., 1988, Seroepidemiological Investigations on Human Immunodeficiency Virus Infections in some Parts of India, *Indian Journal of Medical Research*, vol. 87, pp. 209-212.
- B0095 Bhavé, G. G., U. D. Wagle, S. P. Tripathi, et al., 1990, HIV Sero Surveillance in Promiscuous Female of Bombay India, VI International Conference on AIDS, San Francisco, 6/20-24, Poster F.C.612.
- B0153 Bhavé, G. G., U. D. Wagle, S. Desai, et al., 1992, HIV Surveillance and Prevention, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster C401.
- B0239 Bhattacharya, R. D., F. Khatri, 1994, HIV1 and HIV2 in Commercial Blood Donors of Gujarat. An Epidemiological Study, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.B.0029.
- B0241 Bharucha, Z. S., R. M. Reporter, L. D'mello, 1994, Towards Increasing Blood Safety, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0387.
- B0247 Babu, P. G., T. Ishida, V. Nerurkar, et al., 1994, Epidemiology of Retroviral Infections in South India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0082.
- C0175 Chakrabarty, M. S., P. N. Dey, S. Paul, et al., 1994, Seroepidemiology of HIV Infection in Calcutta, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0083.
- D0107 Damodar, P., A. Jayanthi, S. Ray, et al., 1992, Implementation of Blood Safety Initiative Strategy with Special Reference to HIV-1 Infection at SJMCH, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster A207.
- F0052 Francis, A., J. Jacob, 1992, Hospital Based Serosurveillance for HIV in St. Stephen's Hospital, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster A109.
- G0097 Gopalakrishnan, B., V. S. Durairaj, J. Mallika, et al., 1992, Sero-Epidemiological Study of HIV Infection of the Suburban Population of Tamilnadu, VIII International Conference on AIDS, Amsterdam, 7/19-24, Poster PuC 8093.
- G0153 Gilada, I., R. Mahajan, S. Hira, 1994, HIV Infection in Pregnant Women in Bombay, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0081.
- I0024 Ibotomba, S. Y., N. S. Brajachand, 1992, Sentinel Surveillance in Manipur, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B352.
- J0014 Jayaraman, K. S., 1989, HIV Problem for Indian Blood Banks, *Nature*, vol. 337, p. 295.
- J0017 Jayapaul, K., M. Mdmeeran, R. Ravinathan, et al., 1990, Sero-Epidemiological Study of HIV Infection in and Around Madras, VI International Conference on AIDS, San Francisco, 6/20-24, Poster F.C.613.
- J0021 Joshi, S. H., R. S. Patil, S. S. Chipkar, et al., 1992, Sero Prevalence of HIV-1 and HIV-2 Infection in Western India, VIII International Conference on AIDS, Amsterdam, 7/19-24, Abstract PuC 8110.
- J0022 Joshi, S. H., S. S. Chipkar, R. S. Patil, 1992, HIV-1 and HIV-2 Infection in Bombay, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B319.
- L0095 Lakshmi, N., A. G. Kumar, 1991, HIV Infections in Women at Triupati, India, *Virus Information Exchange Newsletter*, vol. 8, no. 3, p. 122.
- L0101 Lal, S., et al., 1991, AIDS Control Programme of India, Government of India, Nirman Bhawan, New Delhi, India, Unpublished report.
- L0124 Lal, S., P. Salil, V. N. Sardana, et al., 1993, HIV Epidemic in India, IX International Conference on AIDS, Berlin, 6/6-11, Session WS-C04-5.
- L0166 Lal, S., L. Khodakevich, P. Salil, 1994, HIV Infection in India - Trends Analysis, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Session 039C.
- M0232 Malhotra, V. L., P. K. Pillai, A. Sharma, et al., 1992, Seroprevalence of HIV Infection in High Risk Groups, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B325.
- M0365 Mehendale, S., J. J. Rodrigues, R. Gangakhedkar, et al., 1994, STDs and HIV Infection in CSWs of Pune, India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.C.0351.
- P0118 Pavri, K. M., 1991, Status of AIDS/HIV in India, *Virus Information Exchange Newsletter*, vol. 8, no. 2, pp. 54-56.
- P0119 Paul, S., S. Chakrabarty, S. Chakrabarti, et al., 1994, HIV Infection amongst Commercial Sex Workers (CSW) of Calcutta. A Period of 3 Years Study, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0367.

Sources for India cont.

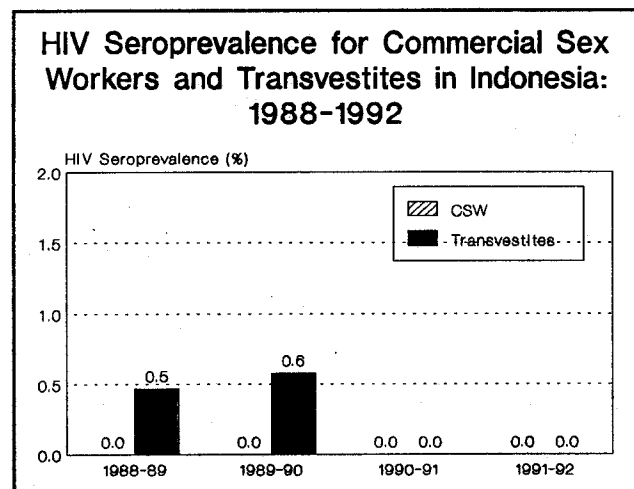
- R0078 Rose, A., H. Srinivasa, R. S. Macaden, et al., 1992, Anonymous HIV Screening of Pregnant Women, Women with Bad Obstetric History and Patients from Psychiatry, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Abstract A602.
- R0080 Ralte, J. S., S. Sarkar, S. Panda, et al., 1992, Drug Addiction and HIV Infection in Mizoram, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Abstract B209.
- R0106 Raman, R., 1994, HIV Serosurveillance in High Risk Groups and Effect of Mass Media Approach, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0452.
- R0107 Rodrigues, J., S. Mehendale, M. Shepherd, et al., 1994, The Preparation for AIDS Vaccine Efficacy Trial in India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0290.
- S0129 Sankari, S., S. Solomon, et al., 1991, Trends of HIV Infections in Antenatal/Infertility Clinic - An Ominous Sign, VII International Conference on AIDS, Florence, Italy, 6/16-21, Poster W.C.3236.
- S0171 Solomon, S., T. Jagadeeswari, K. Anuradha, 1992, Sentinel Surveillance for HIV Infection, VIII International Conference on AIDS, Amsterdam, 7/19-24, Abstract PoC 4086.
- S0176 Saraswathi, V., 1992, HIV Donor Screening NIMS Experience, 2nd International Congress on AIDS in Asia and Pacific, New Delhi, India, 11/8-12, Poster B336.
- 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.
- S0194 Sattaur, O., 1991, India Wakes Up to AIDS, New Scientist, vol. 132, no. 2, pp. 25-29.
- S0207 Simoes, E. A. F., P. G. Babu, H. M. Jeyakumari, et al., 1993, The Initial Detection of Human Immunodeficiency Virus 1 and its Subsequent Spread in Prostitutes in Tamil Nadu, India, Journal of Acquired Immune Deficiency Syndromes, vol. 6, no. 9, pp. 1030-1034.
- S0288 Salunke, S. R., 1994, Transmission and Prevalence of HIV in Bombay-India, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.C.0368.
- S0295 Seth, P., N. Khanna, S. Broor, et al., 1994, HIV Infection in STD Patients in New Delhi, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0567.
- T0087 Tripathy, S., K. Banerjee, J. Rodrigues, et al., 1993, Increasing HIV Infection in Western India, IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C08-2764.

Demographic Indicators

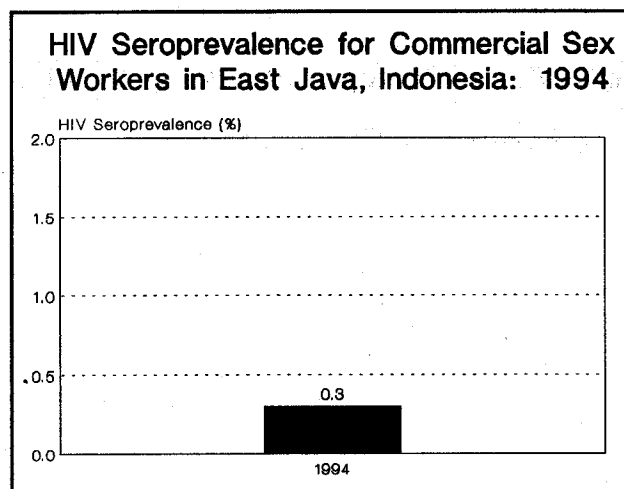
Population (1,000s)	203,459	Growth Rate (%)	1.5
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	65	Both Sexes	61
Male	71	Male	59
Female	59	Female	63
Crude Birth Rate (per 1,000)	24	Crude Death Rate (per 1,000)	8
Total Fertility Rate	2.7	Percent Urban	35
Note: Above indicators are for 1995.			
Cumulative AIDS rate (per 1,000) as of 11/20/94		0.00	
Cumulative AIDS cases as of 11/20/94		80	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

- Seroprevalence data from Indonesia is very limited. However, a sero-survey done in 13 provinces among commercial sex workers and transvestites found low and fluctuating HIV infection between 1988-1992.



- A recent study among commercial sex workers in East Java showed an HIV infection level of 0.3 percent.



There have been few studies of HIV infection published in Indonesia for the low risk population groups. Those studies conducted between 1986-1992 reported no evidence of HIV infection among pregnant women or blood donors.

Sources for Indonesia

J0044 Jalal, F., H. M. Abednego, T. Sadjimin, et al., 1994, HIV and AIDS in Indonesia, AIDS, vol. 8, suppl. 2, pp. S91-S94.

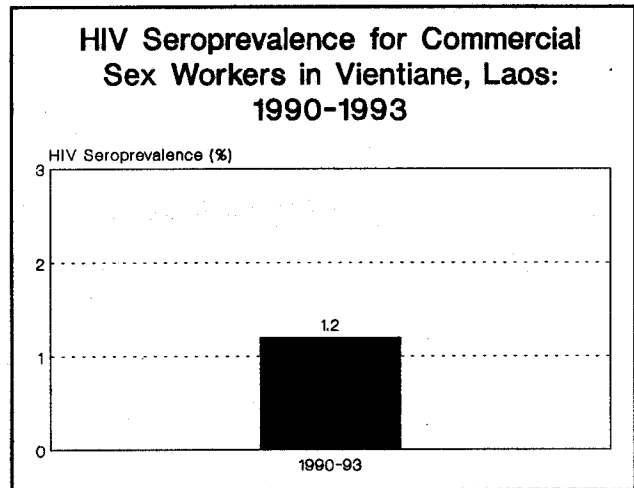
I0026 Indonesia AIDS Control Programme, 1992, Update, September 30, unpublished report.

Demographic Indicators

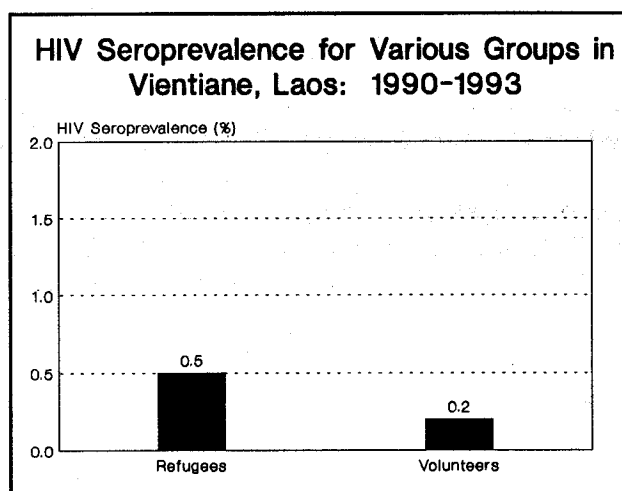
Population (1,000s)	4,702	Growth Rate (%)	2.8
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	102	Both Sexes	52
Male	112	Male	50
Female	91	Female	53
Crude Birth Rate (per 1,000)	43	Crude Death Rate (per 1,000)	15
Total Fertility Rate	6.1	Percent Urban	21
Note: Above indicators are for 1994.			
Cumulative AIDS rate (per 1,000) as of 3/31/94		0.0	
Cumulative AIDS cases as of 3/31/94		14	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

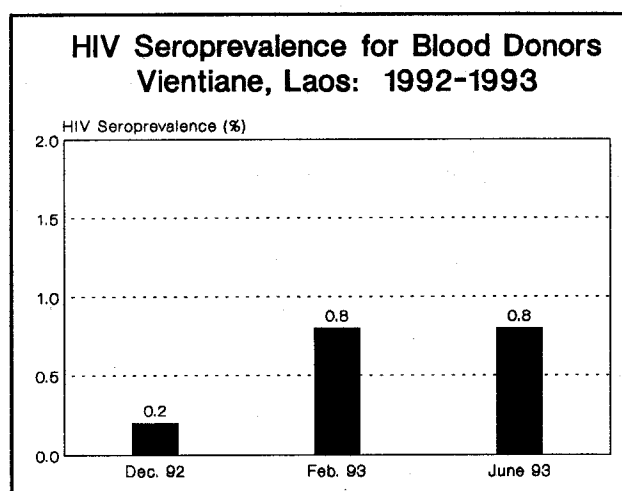
- Very few reports on HIV seroprevalence in Laos are available. A study conducted among commercial sex workers from January 1990 through April 1993 found a prevalence level of 1.2 percent.



- An HIV seroprevalence study among refugees from Thailand and China reported an HIV infection level of 0.5 percent. Individuals voluntarily tested for HIV infection had a prevalence level of 0.2 percent.



- The 1993 report from the Ministry of Health in Laos showed HIV seroprevalence levels among blood donors less than 1 percent from 1992 through June 1993.



Sources for Laos

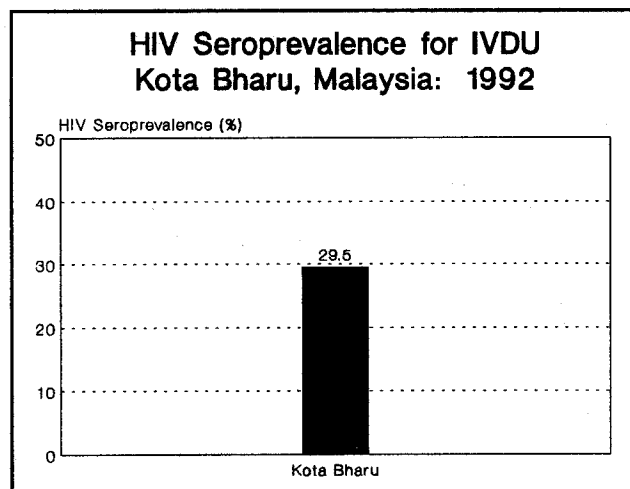
- M0309 Ministry of Health (Lao People's Democratic Republic), 1993, Second Quarterly Report: April - June 1993, National Committee for the Control of AIDS (NCCA), Vientiane, August, unpublished report.
- P0122 Prasongsith, B. C., P. Blanche, K. Phouvang, et al., 1994, HIV Infection in Lao Republic, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0084.

Demographic Indicators

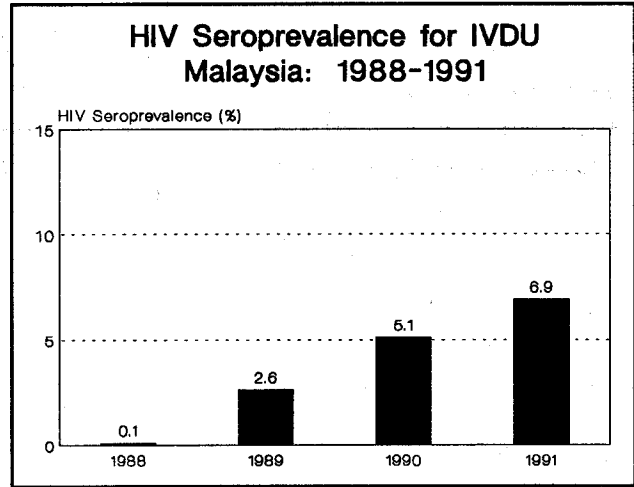
Population (1,000s)	19,724	Growth Rate (%)	2.2
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	25	Both Sexes	70
Male	29	Male	67
Female	20	Female	73
Crude Birth Rate (per 1,000)	28	Crude Death Rate (per 1,000)	6
Total Fertility Rate	3.5	Percent Urban	54
Note: Above indicators are for 1995.			
Cumulative AIDS rate (per 1,000) as of 1/31/95		0.01	
Cumulative AIDS cases as of 1/31/95		200	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

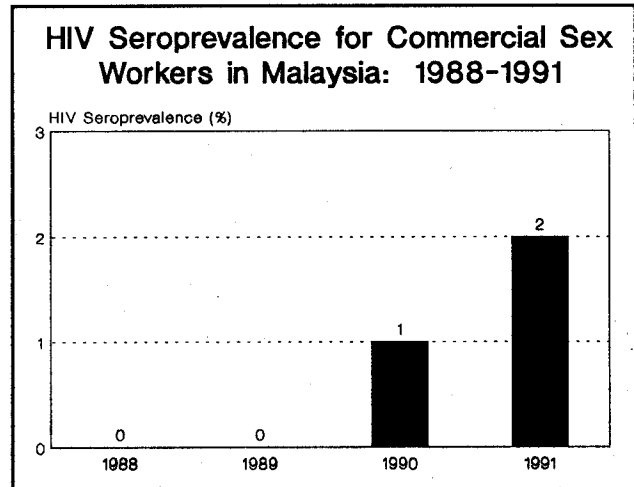
- The highest levels of HIV infection among IVDU in Malaysia were found in Kota Bharu, the capital city of Kelantan State, a northeastern state bordering Thailand. In 1992, HIV infection levels of nearly 30 percent were reported.



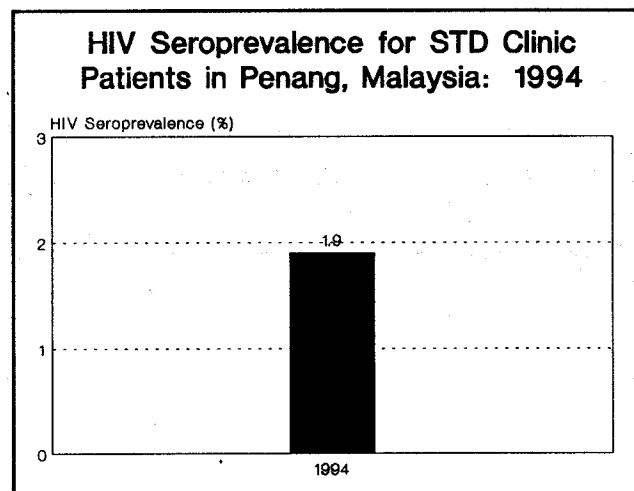
- Surveillance reporting to WHO indicate that HIV seroprevalence levels among IVDU steadily increased from 0.1 percent in 1988 to 6.9 percent in 1991.



- There was no reported evidence of the HIV virus among commercial sex workers until 1990. In one year HIV infection levels increased from 1.0 percent to 2.0 percent.



- According to this study, the HIV seroprevalence level among STD clinic patients in Penang was 1.9 percent in 1994. In a 1990 study conducted in Kuala Lumpur, no STD clinic patients were HIV positive.



Sources for Malaysia

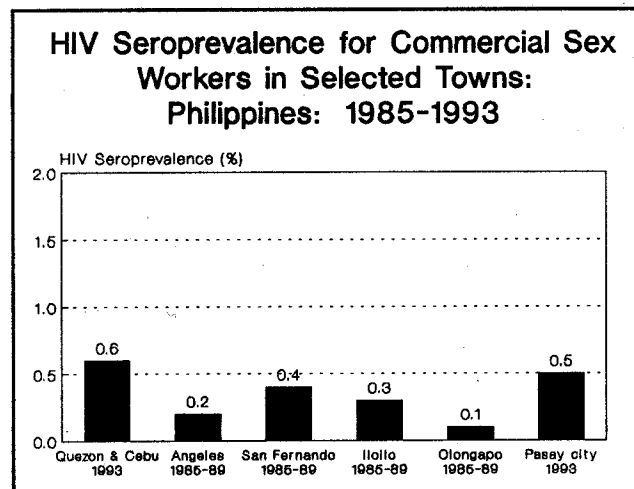
- K0183 Kaldor, J. M., P. Effler, R. Sarda, et al., 1994, HIV and AIDS in Asia and the Pacific: An Epidemiological Overview, *AIDS*, vol. 8, suppl. 1, pp. S165-S172.
- L0172 Lye, M. S., K. Fong, K. Y. Goh, et al., 1995, Patterns of Risk Behaviour for Patients with Sexually Transmitted Diseases and Surveillance for Human Immunodeficiency Virus ..., IUVDT World STD/AIDS Congress, Singapore, 2/19-23, Free Paper 9.
- S0215 Singh, S., N. Crofts, 1993, HIV Infection among Injecting Drug Users in North-East Malaysia, *AIDS Care*, vol. 5, no. 3, pp. 273-281.
- W0081 World Health Organization, Western Pacific Region, 1993, *AIDS Surveillance Report, Global Programme on AIDS*, vol. 1, no. 1, July, p. 2.

Demographic Indicators

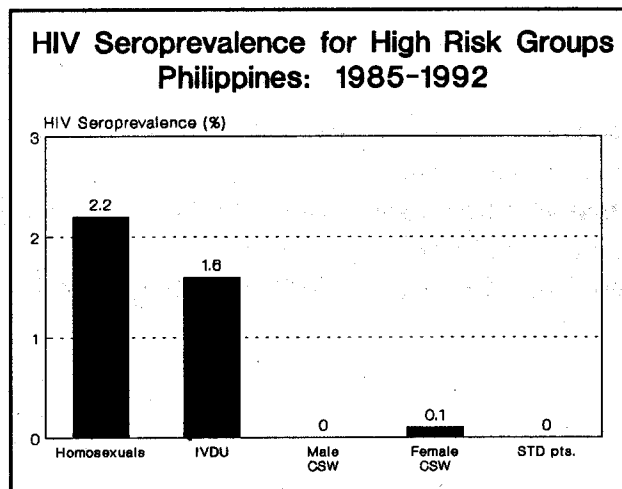
Population (1,000s)	72,860	Growth Rate (%)	2.2
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	37	Both Sexes	66
Male	41	Male	63
Female	32	Female	69
Crude Birth Rate (per 1,000)	30	Crude Death Rate (per 1,000)	7
Total Fertility Rate	3.8	Percent Urban	54
Note: Above indicators are for 1995.			
Cumulative AIDS rate (per 1,000) as of 2/27/95		0.00	
Cumulative AIDS cases as of 2/27/95		198	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

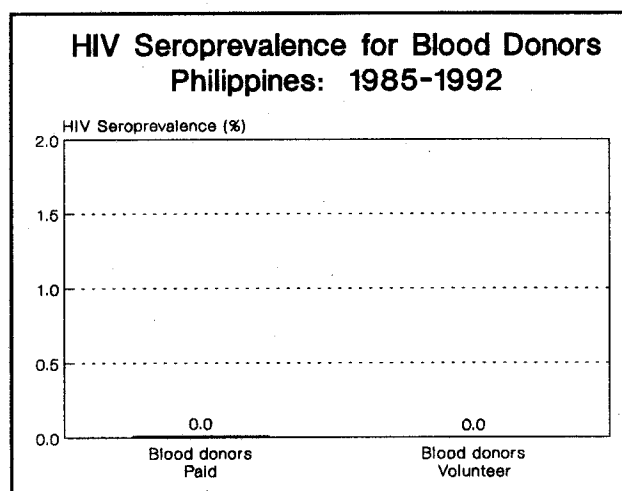
- A series of studies reported very low levels of HIV infection among prostitutes in various towns. The highest level found was 0.6 percent, in Quezon & Cebu.



- National HIV testing results among high risk populations from 1985-1992 show homosexuals to have the highest level of HIV infection, 2.2 percent, followed by intravenous drug users, 1.6 percent. Commercial sex workers and STD patients showed little or no evidence of the virus in these studies.



- National testing shows virtually no HIV infection among both the paid and volunteer blood donors since 1985.



Sources for Philippines

H0042 Hayes, C. G., C. R. Manaloto, V. Basaca-Sevilla, et al., 1989, Epidemiology of HIV-1 Infection among Prostitutes in the Philippines, U. S. Naval Medical Research Unit no. 2, Manila. (draft manuscript)

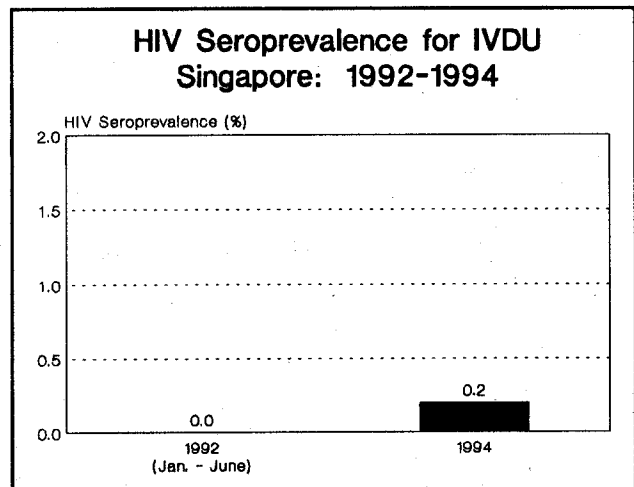
T0125 Tan, M. L., M. M. Dayrit, 1994, HIV/AIDS in the Philippines, AIDS, vol. 8, suppl. 2, pp. S125-S130.

Demographic Indicators

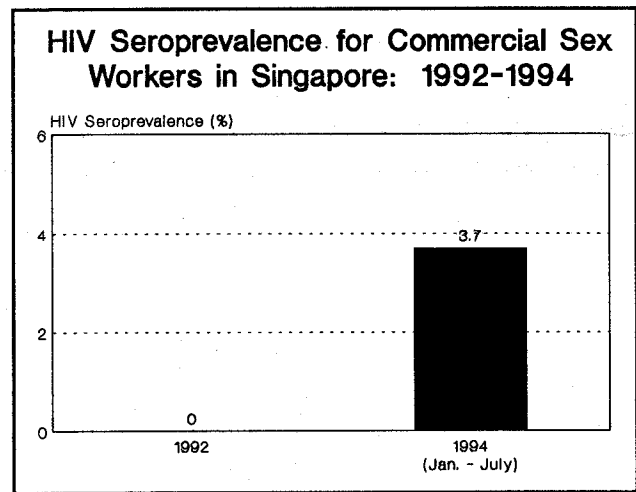
Population (1,000s)	2,890	Growth Rate (%)	1.1
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	6	Both Sexes	76
Male	6	Male	73
Female	5	Female	79
Crude Birth Rate (per 1,000)	16	Crude Death Rate (per 1,000)	5
Total Fertility Rate	1.9	Percent Urban	100
Note: Above indicators are for 1995.			
Cumulative AIDS rate (per 1,000) as of 12/31/94		0.04	
Cumulative AIDS cases as of 12/31/94		123	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

Epidemiological Data

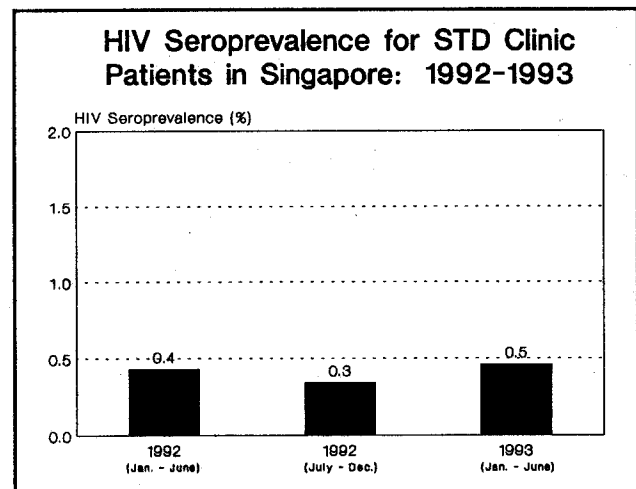
- There has been little published HIV seroprevalence data on IVDU for Singapore. In 1992 there was no evidence of HIV among IVDU. However, by 1994, HIV infection was discovered among IVDU (0.2%).



- Studies of HIV seroprevalence levels among commercial sex workers show an increase from 0 in 1992 to 3.7 percent for the first half of 1994.



- Sentinel testing among STD clinic patients show HIV prevalence levels less than 1.0 percent for the period January 1992 through June 1993.



Sources for Singapore

- C0160 Chan, R., A. Fakat, C. L. Goh, 1993, HIV Surveillance in the STD Clinic in Singapore, 8th IUVDT Regional Conference, Chiang Mai, Thailand, 10/27-30, Oral Session.
- G0161 Goh, C. L., 1995, Prevalence of Sexually Transmitted Disease among Commerical Sex Workers in Singapore (1977-1993) the Effects of Screening ..., IUVDT World STD/AIDS Congress, Singapore, 3/19-23, Roundtable Discussion 2.
- N0138 Ngeow, Y. F., 1994, STD and HIV Epidemiology in Asia, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Session PS7.
- W0081 World Health Organization, Western Pacific Region, 1993, AIDS Surveillance Report, Global Programme on AIDS, vol. 1, no. 1, July, p. 2.

Thailand

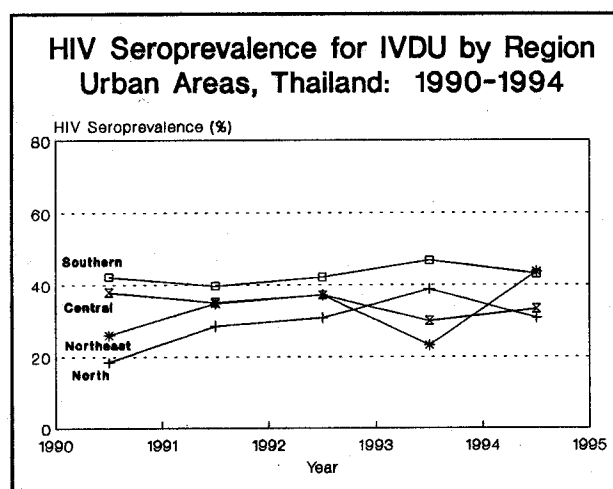
Rev. 12/94

Demographic Indicators

Population (1,000s)	59,510	Growth Rate (%)	1.3
Infant Mortality Rate (per 1,000)		Life Expectancy	
Both Sexes	37	Both Sexes	68
Male	40	Male	65
Female	34	Female	72
Crude Birth Rate (per 1,000)	19	Crude Death Rate (per 1,000)	6
Total Fertility Rate	2.1	Percent Urban	25
Note: Above indicators are for 1994.			
Cumulative AIDS rate (per 1,000) as of 6/14/94		0.10	
Cumulative AIDS cases as of 6/14/94		5,654	
Sources: U.S. Bureau of the Census, United Nations, World Health Organization.			

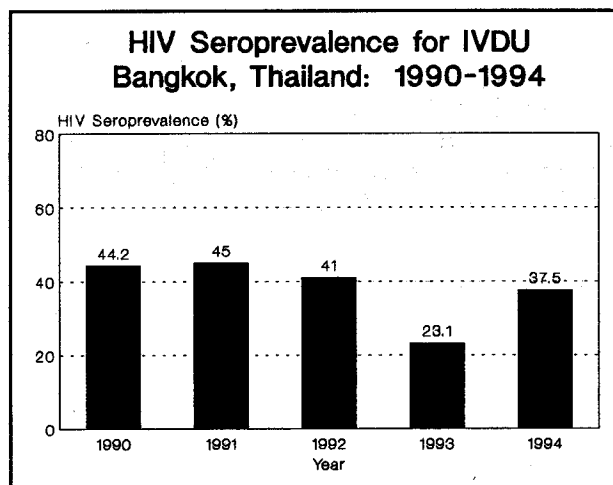
Epidemiological Data

- The AIDS situation has exploded in Thailand within the past few years. Based on sentinel surveillance data, the Thailand Ministry of Health reported that over 30 percent of the intravenous drug users in all four regions of Thailand were infected with HIV.

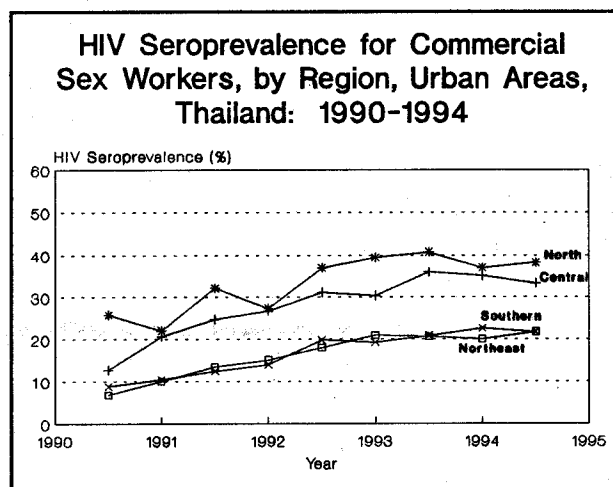


Source: International Programs Center, Population Division, U.S. Bureau of the Census, HIV/AIDS Surveillance Data Base, Dec. 1994.

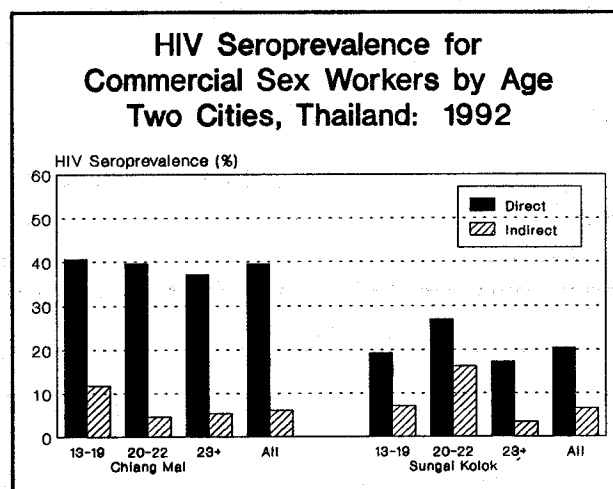
- Since 1990, HIV prevalence levels among IVDU in Bangkok have remained high. However, HIV prevalence levels declined to below 40 percent after 1992.



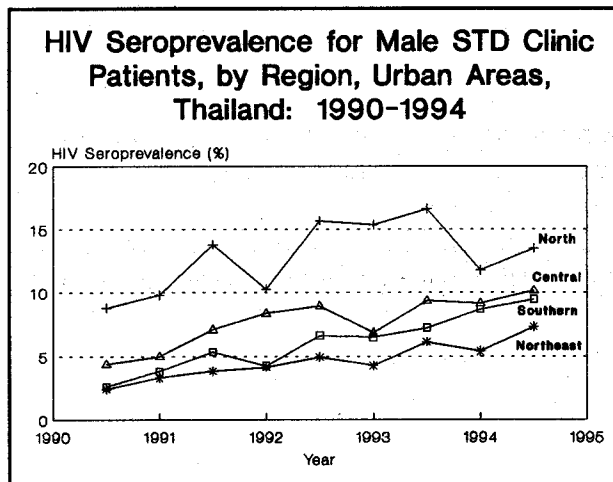
- HIV seroprevalence among commercial sex workers continues to grow throughout Thailand. Based on sentinel surveillance data, since June 1990, the virus is increasing at a fast rate among commercial sex workers in the North and Central regions. The Northeast and Southern regions show an increase in HIV infection but not as rapidly as the other regions.



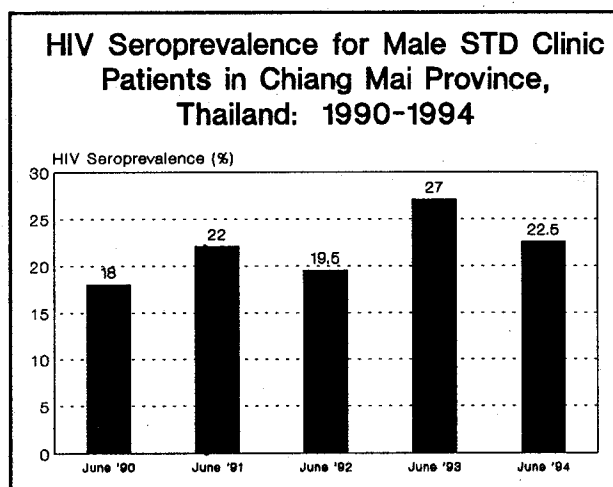
- In this 1992 study of HIV seroprevalence among commercial sex workers in the northern urban area of Chiang Mai and the southern urban area of Sungai Kolok, higher infection levels were found for those working in brothels versus those working in more indirect settings.



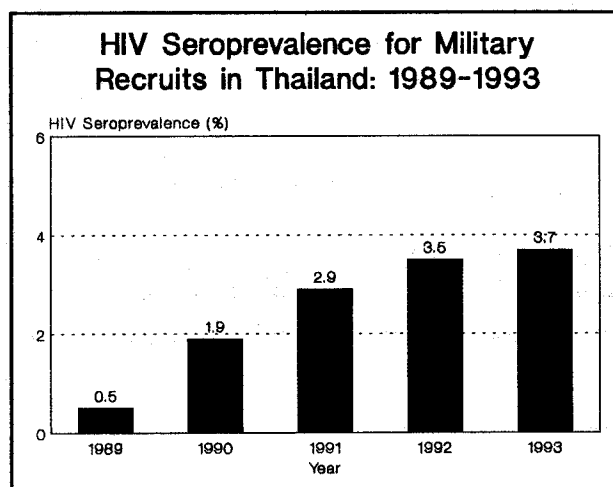
- Between June 1990 and June 1994, Thailand's sentinel surveillance system documented that the North started and remained at the highest level, while the other three regions saw a near doubling of HIV infection among urban STD clinic attendees.



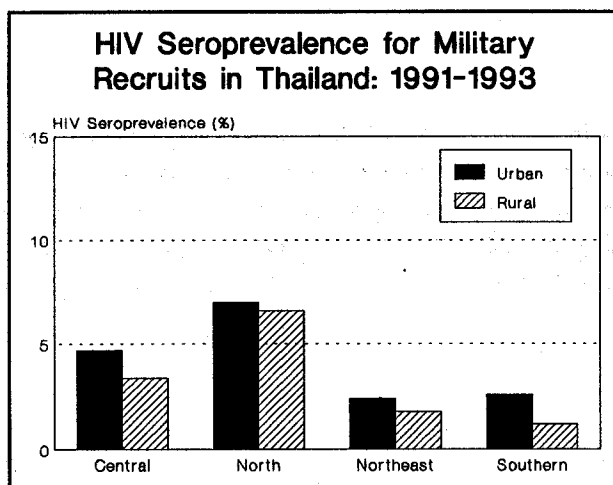
- In the city of Chiang Mai, northern Thailand, HIV infection levels among STD clinic patients have remained virtually the same over the past 5 years.



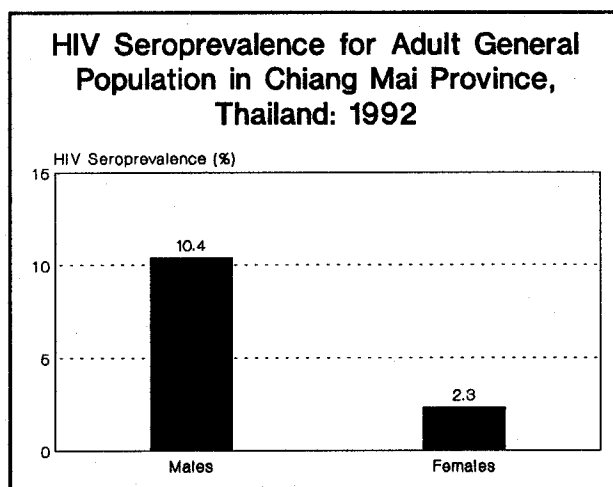
- National HIV seroprevalence data among young adult males entering the Royal Thai Army reported a steady increase in HIV infection from 0.5 percent in 1989 to 3.7 percent in 1993. In addition, this study reported that the highest HIV infection level was found in the North region of Thailand.



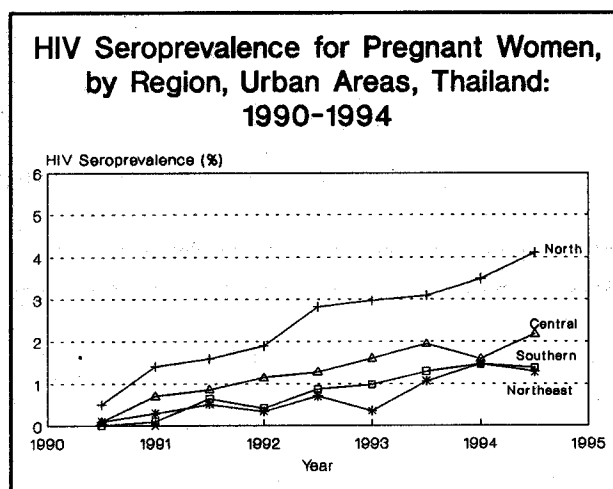
- This study describes the urban/rural differentiation in HIV infection levels among Royal Thai Army recruits. All four regions report higher levels among urban recruits. The North region reported the highest urban and rural levels.



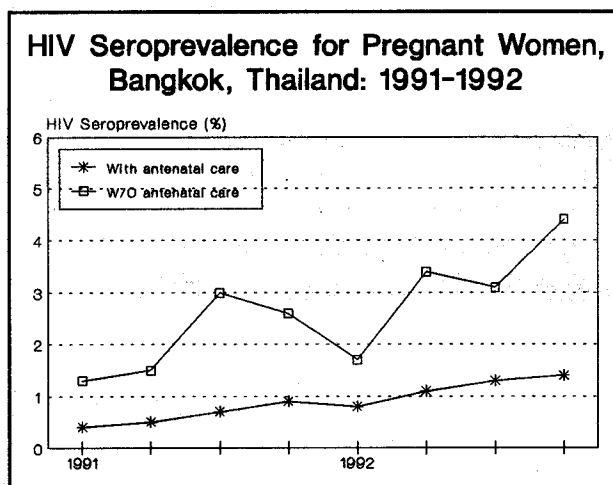
- The HIV prevalence among male residents of four villages in northern Thailand was 10.4 percent. This prevalence level is more than three times higher than females.



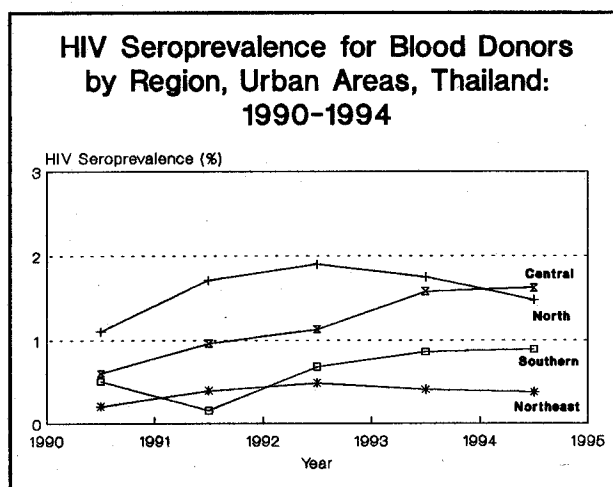
- The June 1994 sentinel surveillance data of HIV infection levels among pregnant women increased only for the North and Central regions over the 1993 levels. HIV infection levels in the Southern and Northeast regions remained the same as their June 1993 levels.



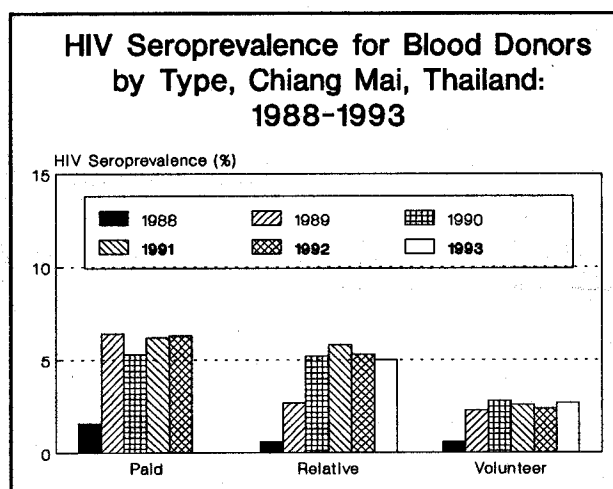
- A study conducted among pregnant women in Rajvithi hospital, a large public hospital in Bangkok, showed an increase in HIV infection. HIV seroprevalence among pregnant women delivering with no antenatal clinic care had an HIV level three times as high as those women receiving antenatal clinic care.



- The rates of infection in blood donors remained the same from June 1993 to June 1994 for all regions except for the North. For the first time since 1990, prevalence levels among blood donors in the Central region were higher than those in the North region.



- This study shows the HIV infection trend among blood donors in Chiang Mai from 1988 to 1992. The highest prevalence levels for all years are among the paid ("professional") blood donors. The lowest levels are reported for the volunteer donors.



Sources for Thailand

- C0146 Chaisiri, N., V. Danutra, B. Limanonda, 1993, Prevalence of Syphilis and Anti-HIV-1 Seropositive among Prostitutes in Two Urbans Areas of Thailand, IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C14-2896.
- J0042 Jugsudee, A., et al., 1994, HIV-1 Seroprevalence among Young Thai Men 1990 to 1993, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0074.
- K0172 Kamtorn, N., Y. Munde, S. Chaiyaphruck, et al., 1994, Prevalence of Anti-HIV P24 Antigen and Other Markers in Blood Donors, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Abstract P.C.0373.
- N0103 Nelson, K. E., V. Suriyanon, E. Taylor, et al., 1994, The Incidence of HIV-1 Infections in Village Populations of Northern Thailand, AIDS, vol. 8, no. 7, pp. 951-955.
- S0213 Siriwasin, W., S. Singhaneti, G. Kaewchaiyo, et al., 1993, Rapid Rise in Maternal HIV-1 Seroprevalence, Bangkok, Thailand, IX International Conference on AIDS, Berlin, 6/6-11, Poster PO-C08-2767.
- T0045 Thailand Ministry of Public Health, 1991, National Sentinel Surveillance Survey, Unpublished tables.
- T0056 Thailand Ministry of Public Health, 1991, National Sentinel Seroprevalence Survey, Aug. 24, unpublished tables.
- T0058 Thailand Ministry of Public Health, 1991, National Sentinel Seroprevalence Survey, Oct. 28, unpublished tables.
- T0059 Thailand Ministry of Public Health, 1991, National Sentinel Seroprevalence Survey, Feb. 21, unpublished tables.
- T0079 Thailand Ministry of Public Health, 1992, National Sentinel Seroprevalence Survey, June, unpublished tables.
- T0088 Thailand Ministry of Public Health, 1992, National Sentinel Seroprevalence, September, unpublished tables.
- T0100 Thailand Ministry of Public Health, 1993, National Sentinel Seroprevalence, June, unpublished tables.
- T0109 Thailand Ministry of Health, 1993, National Sentinel Surveillance, December, unpublished tables.
- T0117 Torugsa, K., et al., 1994, Prevalence of HIV-1 Infection in Young Men Entering the Royal Thai Army; Trends and Risk Factors, Tenth International Conference on AIDS, Yokohama, Japan, 8/7-12, Poster P.C.0057.
- T0119 Thailand Ministry of Health, 1994, National Sentinel Surveillance, June, unpublished tables.
- W0068 Weniger, B. G., K. Limpakarnjanarat, K. Ungchusak, et al., 1991, The Epidemiology of HIV Infection and AIDS in Thailand, AIDS, vol. 5 (suppl 2), pp. S71-S85.