

## HIV/AIDS in Asia: Introduction

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The objective of this special issue of *AIDS Education and Prevention* is to familiarize interested health professionals with the history and the nature of the HIV/AIDS epidemic in Asia, Southeast Asia, and South Asia, including the intervention approaches that have been used and opinions on the future of the epidemic in these countries. We have been fortunate to obtain articles from leading experts in HIV/AIDS in each of the countries represented in this special issue. This introduction provides an overview of the epidemic in the region and analyzes key factors in confronting the epidemic successfully in Asia.

Although there were sporadic reports of HIV-infected individuals in many of the Asian countries prior to 1988-1989, most were men who have sex with men returning from the United States, Europe, or Australia or were recipients of contaminated factor VIII from the United States. In 1988-1989, however, there was an explosive epidemic of injection drug use in the countries bordering the infamous Golden Triangle. HIV entered into the injection-drug-using population, and by 1989 high proportions of injection drug users (IDUs) in Thailand, Myanmar, southern Yunnan, and northeast India were found to be infected (Crofts, Reid, & Deany, 1988; Ma et al., 1990; Phoolcharoen, Ungchusak, Sittitrai, & Brown, 1998; Sarker et al., 1993; Sarker, et al., 1994; Zhang, et al., 1991; Zheng et al., 1994). The Thais implemented a sentinel surveillance program in 1989, which then documented the spread of HIV/AIDS from the IDU population into the commercial sex population from which it spread to the majority heterosexual population.

In many of the countries of Southeast Asia and Asia, men are expected to have sex with multiple partners both prior to and after marriage, whereas women are expected to have only one lifetime sexual partner, their husband. To accommodate this disparity, there are many commercial sex workers (CSWs). In Thailand and Cambodia, the majority of CSWs work in commercial establishments, whereas in the other countries of the area CSWs include indirect sex workers working in bars, restaurants, and barber shops, as well as street-walking and establishment-based direct sex workers. Young IDUs tend to be more sexually active than non-drug users, and to have sex with CSWs, infecting them and promoting the spread to the general heterosexual population (Nguyen, Hoang, Pham, & Detels, 2001; Wu, et al., 1997).

Even in the most severely affected countries in the region—Thailand, Cambodia, and Myanmar—the prevalence of HIV in the sexually active adult population has not exceeded 2%. The sexual mixing pattern in Asia, in which males have multiple partners but only a small proportion of females do, would seem to be a particularly efficient pattern for rapid spread of HIV, with the CSWs acting as a continuing reservoir

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of infection for the men. Over 90% of CSWs in Thailand become infected within 1 year of initiating commercial sex. However, this pattern of sexual mixing appears not to be as efficient for spreading HIV as the mixing pattern in many of the African nations, in which both males and females have multiple partners, and prevalence rates among adults are as high as 30% or more (UNAIDS, 2003).

There are several countries in Asia that seem to have escaped a serious epidemic. These include the Philippines, Laos, Korea, and Japan. The reasons that they have avoided serious HIV epidemics are not clear. The Philippines has relatively few drug users, and few of them inject and share injection equipment. Studies of CSWs in the Philippines and Laos have indicated that the average commercial sex worker has less than one client per day, compared with three or more per day in Thailand and Cambodia (M. Borja, personal communication, 1998; Phimphachanh & Sayabounthavong, this issue). This low level of sexual mixing may be below the threshold for the epidemic to take off. It is important to realize, however, that rather than preventing the epidemic, the low level of sexual mixing may only delay the onset of a major epidemic. Indonesia also reported low rates of HIV, except in isolated ports in Irian Jaya. Then in the late 1990s, there was an explosive epidemic of HIV in IDUs in urban centers that has rapidly spread to CSWs. Thus, countries currently enjoying a very low rate of HIV need to be vigilant to avoid the fate of Indonesia.

There is particular concern about the epidemics in India, Indonesia, and China. Although the overall prevalence rate among the adult population is still low, the three countries combined contain almost half of the world's population. This is particularly worrisome because the rates of spread of the epidemic in India, China, and Indonesia are among the highest in the world (UNAIDS, 2003). The situations in India, China, and Indonesia are, however, different. Parts of India are experiencing high rates of HIV. The rates among CSWs in the Mumbai/Pune and Chennai areas are very high (Bollinger et al., 1997; Gangakhedkar et al., 1997; Shepherd et al., 2003). In the northeast states, the rates are high among IDUs but are increasing in sex workers and the heterosexual population (Panda et al., 1996; Sarker et al., 1993; Sarker et al., 1995; Zheng et al., 1994). In China there are high rates of HIV among IDUs, particularly in southern Yunnan, Xinjiang, Guangxi, and Guandong. China also experienced an epidemic among plasma donors in the poor rural areas of the central provinces (Wu, Liu, & Detels, 1995; Wu, Rou, & Detels, 2001). Although a safe blood supply has been secured in the urban areas, there are still problems with safe collection and use of blood in the rural areas. There is now also evidence of spread to CSWs (Ding et al., 2004; Ministry of Health and NCAIDS, 2001). Given the rapidly changing sexual behavior of the Chinese, this is a cause for concern. (Detels et al., 2003; Liu et al., 1998). In Indonesia, as mentioned above, the epidemic began slowly, but once it involved the IDU population, the rate of spread increased and involved the commercial sex industry. In India the earliest cases appeared in the urban areas, but in China the earliest cases and most of the new cases are occurring in the rural areas. This rural pattern presents a particular problem for control of HIV spread and provision, and effective clinical management of cases.

The molecular epidemiology of HIV spread in Asia is interesting and provides clues about the routes of spread of the epidemic. Initially, in many of the countries of Asia, the initial clade was the Thai variant of clade B (Nerurkar et al., 1997; Weniger et al., 1991). This clade was particularly prevalent among IDUs. The initial cases in CSWs in Thailand and other areas, however, were clade E. Gradually in the countries of Southeast Asia, including Thailand, Cambodia, and Vietnam, clade E has taken

over, even among IDUs (Nerurkar et al., 1996). Clade C, originally found primarily in India and Africa, is now spreading to northeast India, Myanmar, and Thailand (Panda et al., 1996). China appears to have many different clades (McCutchan et al., 2002; Piyasirisilp et al., 2000; Yu, Chen, Shao, Beyrer, & Lai, 1998).

A key to slowing the epidemic and providing treatment will be the reduction of stigmatization. The majority of HIV-infected individuals in Asia do not know that they are infected. Thus, they continue to infect their injecting and sexual partners. They are reluctant to be tested, because the mere act of being tested identifies them as being socially “undesirable” and puts them at risk for being discovered to be infected, which may cause them to be isolated from their communities and even rejected by their families. Without testing, they will be unlikely to reduce their risk behavior and to seek treatment. As a result, the epidemic continues. For this reason, a major effort must be made to reduce stigmatization and promote empathy for members of risk groups and persons with HIV/AIDS.

Many of the countries of Asia have made the commitment to provide effective treatment for HIV/AIDS patients. There are many barriers to accomplishing this task. The cost of antiretroviral drugs was an initial problem, but costs are coming down, and several of the countries in the area are now producing the drugs themselves. A more serious problem is the need to develop an infrastructure for identifying HIV-infected individuals in need of treatment, effective delivery of the drugs, and monitoring of the patients' need for and response to therapy. Clinical management of patients in rural areas will be particularly difficult.

Recently a disturbing trend has been observed in the region. For many years, almost all IDUs were men. However, recently in Vietnam and China, the proportion of IDUs who are women has risen to as high as 15-30%. In Vietnam, as many as 15-20% of CSWs are injecting, and many of them are HIV-positive (Tran, Detels, Hien, Long, & Nga, in press a; Tran, Detels, Hien, Long, & Nga, in press b). According to a recent study in Hanoi, the CSWs are at higher risk of HIV infection from their injecting rather than from their sexual partners (Nguyen et al., 2001; Nguyen, Linden, Nguyen, John, & Ha, 2000; Nguyen, Vo, Nguyen, Truong, & Ha, 1998; Tran et al., in press a). The existence of two sources of HIV infection among CSWs will promote more rapid spread to their clients and the general populations of heterosexuals in these countries.

Two countries in the region appear to have been successful at slowing the epidemic and reducing the prevalence of HIV: Thailand and Cambodia (Phoolcharoen & Detels, 2002; Phoolcharoen, Ungchusak, Sittitjai, & Brown, 1998; Saphonn et al., 2004). In both countries the major focus of sexual activities was commercial establishments. Thus, the government targeted the establishment owners, making them responsible for 100% condom use by clients in their establishments, which is a considerably more efficient strategy than trying to identify individual CSWs and modifying their behavior. In the societies of the region, women have little power and are unlikely to be able to convince reluctant clients to use condoms. The success of Thailand and Cambodia strongly suggests that regulating commercial sex is likely to have a significantly greater impact on slowing the epidemic than trying to suppress it. In most countries of the region, attempts to suppress commercial sex have driven the trade underground, making it difficult to deliver effective interventions. Furthermore, these efforts have often fostered corruption on the part of the officials given the responsibility for eliminating the trade.

The ability of Cambodia and Thailand to slow the epidemic also depended on a number of other factors. An essential factor was the strong commitment of the gov-

ernments of these two countries. Although both societies were traditionally reluctant to discuss sex, the government implemented a widespread health education campaign, including the schools and the media, which played a key role in informing the public and changing attitudes toward discussion of sex and reducing stigmatization. A second factor was implementing a multisectoral response. The governments of these two countries involved not just the Ministries of Public Health, but all of the relevant agencies in the campaign against HIV. A third factor was the active involvement of and cooperation with nongovernmental organizations (NGOs) in prevention/intervention. Rather than mandate change on the part of reluctant segments of the society, public health professionals worked to achieve a consensus. This strategy resulted in the active participation of the key players in the epidemic rather than reluctant foot-dragging.

Every country of the region has now accepted the threat of HIV, but the majority of countries have not yet been successful in preventing further spread. The examples of Thailand and Cambodia will be useful for developing effective interventions, but the cultural characteristics and the character of the epidemic in the country will determine the most effective strategies. Nonetheless, it is clear that there must be a strong government commitment at the highest levels, a multisectoral response, community commitment, and involvement and partnering with NGOs that often have the closest relations with the target populations.

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