





Thailand has taken the lead in programs for people affected by HIV, including grandparents left to support and care for their grandchildren (Chiangmai, Thailand) © Wisut Jaijagcome/East-West Center

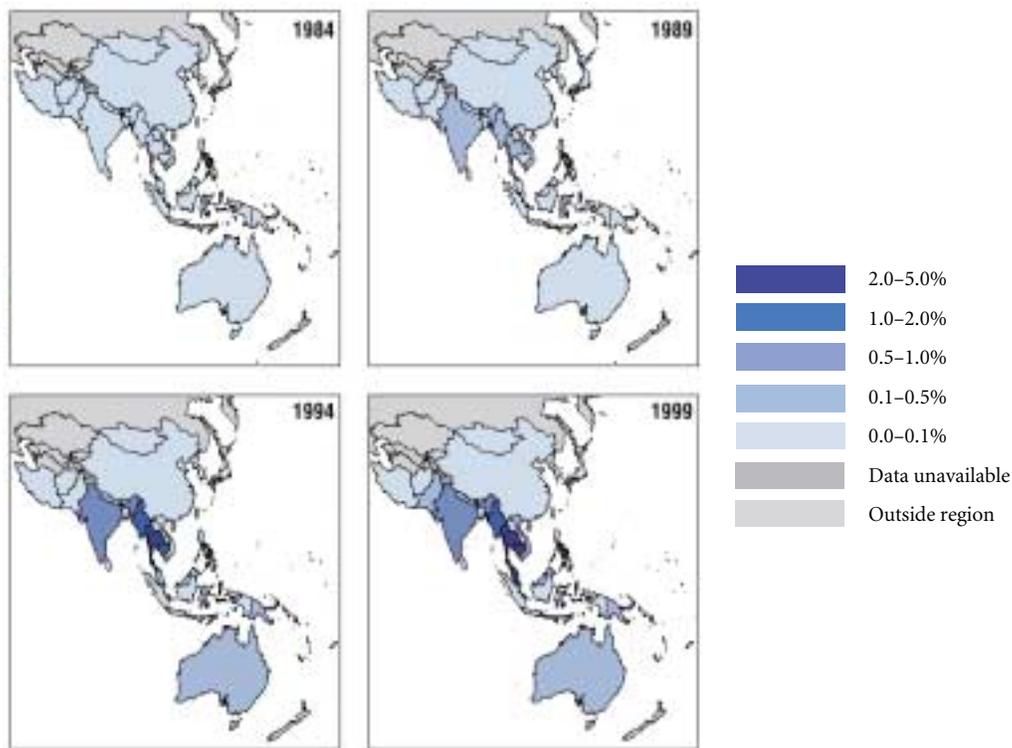
The HIV/AIDS epidemic began relatively late in Asia, and up until now, HIV infections have not reached the high levels observed in some other parts of the world. Yet behavioral patterns that increase the risk of HIV transmission—such as unprotected sex with multiple partners and needle sharing among injecting drug users—are not uncommon in many Asian societies. Without interventions to modify high-risk behavior, current infection levels may rise rapidly in many Asian countries over the next few years.

Many of the earliest cases of HIV/AIDS in Asia—reported in 1984 and 1985—were among men having sex with men. Then in 1986, an epidemic among male clients and female sex workers was detected in parts of India. By the late 1980s, significant outbreaks were reported among injecting drug users in Thailand, India's Manipur State, and Yunnan Province in China. The heterosexual epidemic exploded in Thailand in late 1988, marking the first extensive spread of HIV in a general population in Asia. This was soon followed by heterosexual epidemics in Cambodia and Myanmar. Figure 1 illustrates the spread of HIV throughout Asia over the past two decades. Appendix Table 6 gives national-level statistics on HIV prevalence in adult populations.

Infection levels among pregnant women are often used as a proxy for the extent of HIV in a general population. Based on this indicator, three countries in Southeast Asia and several states in India now have serious epidemics. In Thailand, prevalence among pregnant women peaked at just above 2 percent before aggressive prevention efforts slowed the number of new infections. Prevalence among pregnant women reached a peak of more than 3 percent in Cambodia and then began to fall as a result of prevention programs. High prevalence levels have also been detected in Myanmar, and recent data show that more than 1 percent of pregnant women are infected in parts of India.

Prevalence among pregnant women has not reached these levels in other countries of the region. In Bangladesh, Hong Kong, Laos, the Philippines, and South Korea, HIV levels in 1999 were still low in virtually all population groups, although this does not guarantee that they will remain low. China, Indonesia, Iran, Japan, Nepal, and Vietnam appear to be in a transitional phase, with recent evidence of rapidly growing HIV prevalence in particular population groups and geographic regions following more than a decade of low infection levels.

Figure 1. Rise in national-level prevalence of HIV/AIDS in Asia: 1984–99



Source: Joint United Nations Program on HIV/AIDS (UNAIDS).

Patterns of epidemic growth

Although the magnitude and timing of the spread of HIV has varied, the epidemic seems to follow similar patterns in most Asian countries. HIV appears initially as “sub-epidemics” in specific population groups and then spreads among these groups and to the general population through complex behavioral interactions. Such sub-epidemics have been described among: (1) men having sex with men; (2) injecting drug users; (3) sex workers and their clients; and (4) the wives and girlfriends of the clients and their children.

Many of the earliest AIDS cases in Asia were among men who have sex with men, and there is strong evidence of extensive spread of HIV in this group. In 2000, studies found 14 percent infection levels among men who have sex with men in Cambodia, and similar levels have been observed among male sex workers in Thailand. Small surveys in Malaysia and Myanmar have reported even higher levels, and in the past year, the number of AIDS cases among men having sex with men sharply increased in Japan. Yet policymakers and program designers have tended to neglect this group since the late 1980s when attention shifted to heterosexual transmission.

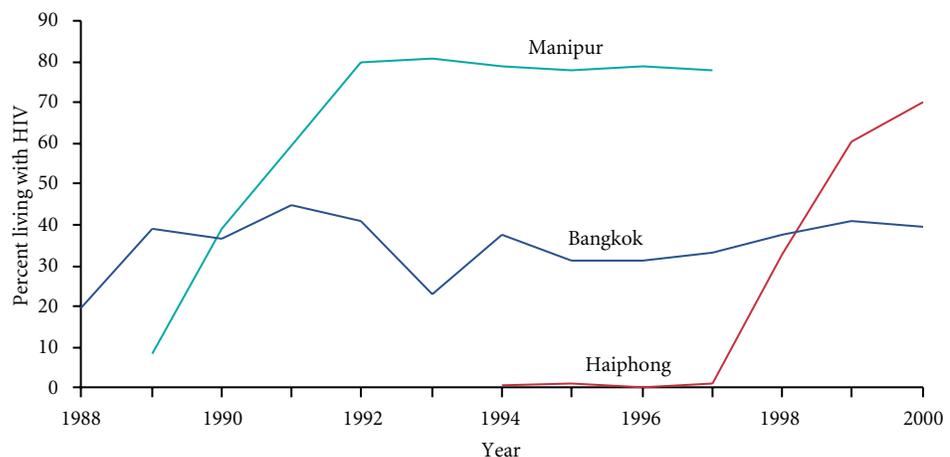
In many Asian countries, HIV also began spreading early and rapidly among injecting drug users (Figure 2). Although the virus can spread very quickly

through needle sharing, there has been little prevention work among drug users, and restrictive policies across the region work against effective prevention programs. In Manipur State, Yunnan Province, Myikyina (in northern Myanmar), and several urban areas of Thailand, HIV infection levels of 40 to 80 percent have been recorded among injecting drug users for several years. In 1999, surveys in 19 cities of Nepal found that 40 percent of injecting drug users were infected. By 2001, the infection rate in this group was also 40 percent in Jakarta, Indonesia.

HIV is emerging as a major threat among sex workers and their clients. In societies where men have greater latitude in sexual behavior than women, as in much of Asia, there is a strong demand for sex services. With a significant fraction of the adult male population using sex services, both clients and sex workers tend to have large numbers of sex partners. This results in extensive spread of sexually transmitted infections (STIs) such as syphilis, herpes, and gonorrhea. These STIs, in turn, greatly increase rates of HIV transmission. Early studies in Thailand, where sex workers had high STI levels, estimated that one in 10 sex-work contacts with an infected partner resulted in HIV transmission. Prevalence levels have risen rapidly among sex workers in urban areas of India, Indonesia, and Vietnam, as well as in Cambodia and Thailand where prevalence was eventually reduced through prevention efforts (Figure 3). Recent surveys have also shown rising infection levels among sex workers in China. Although few studies cover the clients of sex workers directly, most men seeking treatment for STIs have visited sex workers, and HIV infection levels among male STI patients have risen along with levels among sex workers.

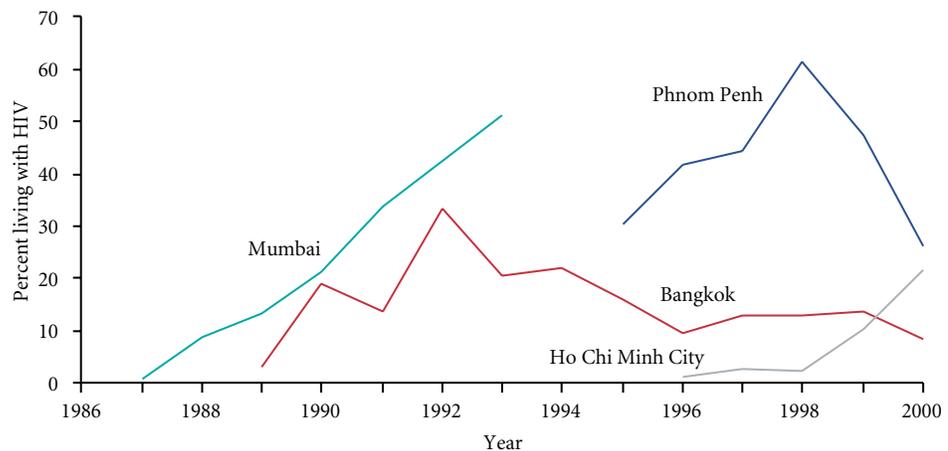
Behavioral studies have shown clear links among these three sub-epidemics. Many men who have sex with men also have female partners, many injecting drug users visit sex workers, some sex workers inject drugs, and most clients of sex workers have other partners. One study in Cambodia found that 40 percent

Figure 2. Percentage of injecting drug users living with HIV in Manipur State, India; Bangkok, Thailand; and Haiphong, Vietnam: 1988–2000



Source: National surveillance systems in India, Thailand, and Vietnam.

Figure 3. Percentage of sex workers living with HIV in Mumbai, India; Ho Chi Minh City, Vietnam; Phnom Penh, Cambodia; and Bangkok, Thailand: 1987–2000



Source: National surveillance systems in India, Cambodia, Thailand, and Vietnam.

of men having sex with men had both male and female partners in the previous month (Pisani 2001). Many of the female partners were sex workers who, presumably, went on to have sex with other clients. Similarly, a study by SHARAN (the Society for Service to Urban Poverty, a nongovernmental organization (NGO) in Delhi, India) found that up to one-third of injecting drug users had visited sex workers in the previous month. In Hanoi, one-quarter of sex workers inject drugs.

The first stages of the epidemic in Thailand provide further evidence of the behavioral linkages between these groups. Initially, different subtypes of the HIV virus were found in people infected through heterosexual contact and people infected through drug use. Over time, the subtypes converged, demonstrating the interactions between these two groups.

There is an obvious relationship between HIV sub-epidemics in sex workers and their clients, the wives and girlfriends of the clients, and their children. Studies have shown, however, that transmission from husbands to wives occurs slowly. In several states of India, the average lag between the start of an HIV epidemic in sex workers and the rise of infection levels among pregnant women has been about five years. Transmission from pregnant women to their children occurs in one-quarter to one-third of births unless antiretroviral therapies are provided during the pregnancy. And in most of Asia these therapies are yet not widely available.

The potential scale of the epidemic in Asia

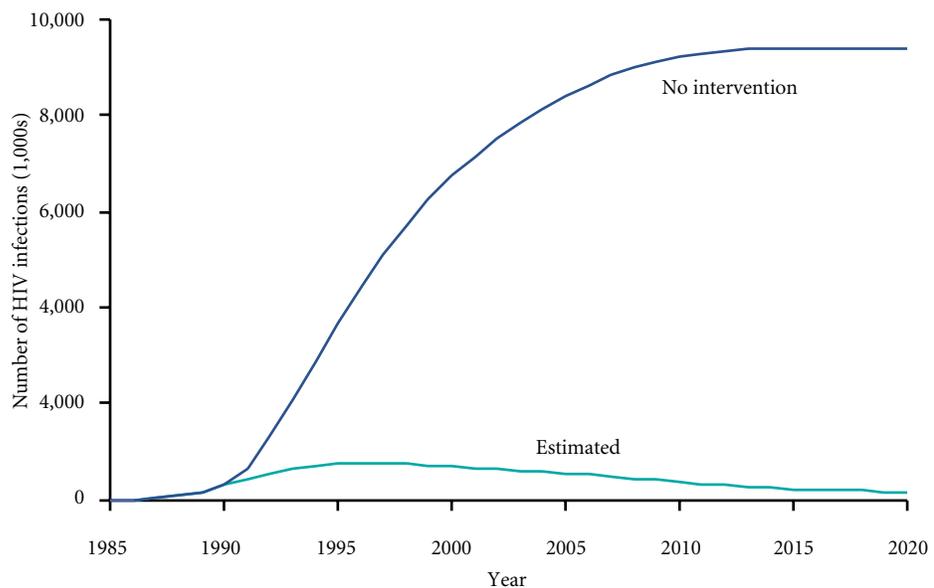
HIV infection levels in pregnant women have not yet gone above 3 to 4 percent nationally in any Asian country, but the epidemic has the potential to become much larger. In northern Thailand, for example, HIV was first reported in sex workers and their clients in 1988, when STI levels were high and few men used condoms. By the mid-1990s, more than one-fourth of young men and one-tenth

of pregnant women in the most heavily affected provinces were infected with HIV. Fortunately, Thailand had already launched an aggressive prevention program, and behavioral patterns were changing. Condom use was rising, and fewer men were using sex services. As a consequence, the number of new infections dropped quickly, and the epidemic was contained at lower levels in the rest of the country.

Yet the potential existed for a national epidemic of similar magnitude to that in the north. A large proportion of men were using sex services everywhere in Thailand—not just in the northern region. Models based on behavioral patterns at the time indicate that HIV levels among sex workers could potentially have risen to more than 70 percent, placing all sex-work clients at high risk and creating extensive HIV spread in the general population. Without Thailand’s vigorous prevention programs, national HIV levels would have reached 10 to 15 percent of the adult population instead of the current level of roughly 2 percent. These prevention programs averted more than 5 million additional HIV infections (see Figure 4).

What are the risks in other countries of the region? Data from behavioral studies suggest that anywhere from 5 to 20 percent of adult men in Asia visit sex workers at least once a year, ranging from 7 percent in the Philippines to about 11 percent in Japan to 15–20 percent in Cambodia. In Thailand, the corresponding figure was about 20 percent in 1990 but fell to 10 percent in 1993 in response to prevention campaigns. Clearly, the potential exists for substantial expansion of the HIV epidemic in many Asian societies.

Figure 4. Estimated number (1,000s) of current HIV infections in Thailand and the number that would have occurred without behavioral change



Source: Thai Working Group on HIV/AIDS Projection.

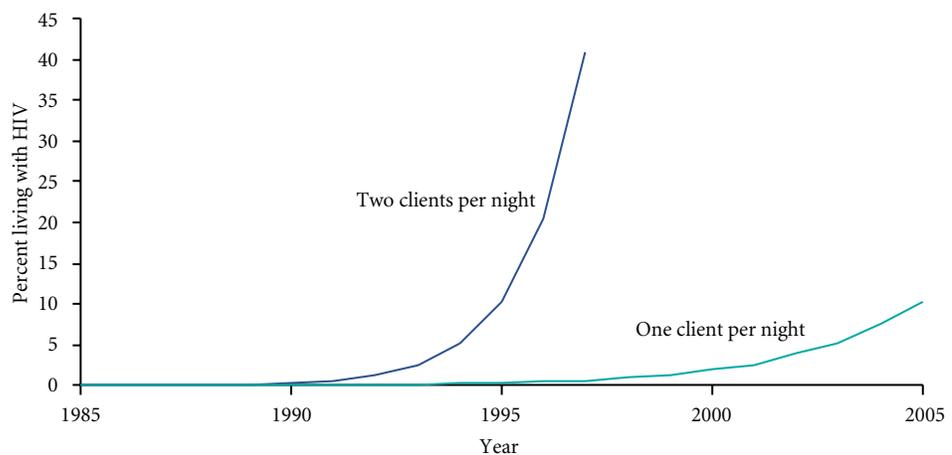
Note: Prevention programs in Thailand have averted almost 5 million infections. The lower line shows the current number of people living with HIV. The upper line shows what would have happened had behavior remained unchanged since 1990.

But while the potential exists, it is difficult to predict if and when the HIV/AIDS epidemic will begin to expand in specific Asian countries or how quickly infection levels will rise. Several factors influence the timing of sub-epidemics in specific population groups and how these sub-epidemics interact to produce an epidemic in the general population. Injecting drug use and anal sex between men can spread HIV very efficiently, raising infection levels in the affected group from zero to 20–40 percent in as little as one year. The spread of HIV among sex workers and their clients is strongly influenced by the number of clients who typically visit a sex worker each night. The epidemic can expand rapidly in this population group or can remain at low levels for a decade or more before entering a phase of rapid growth. As illustrated in Figure 5, HIV will spread much more quickly in a community where sex workers have two clients per night than in one where they only have one.

Even when substantial levels of risk behavior exist in a country, HIV takes time to reach at-risk populations. Thus, infection levels often remain low for years and then suddenly explode. In Katmandu, Nepal, for example, high levels of needle sharing were documented in 1990, but HIV prevalence among injecting drug users remained virtually at zero until six or seven years later when it shot up, reaching 50 percent in 1997. In Thailand, HIV transmission between men and women was documented as early as 1985, along with substantial levels of risk behavior and high prevalence of STIs. Yet the heterosexual epidemic did not take off until 1989.

Once an HIV epidemic takes off, how high are infection levels likely to go? Current understanding of the complex factors involved does not allow precise predictions, but large proportions of Asian men are sex-work clients, and this

Figure 5. Hypothetical effect of number of clients per night on the prevalence of HIV among sex workers: Percentage of sex workers living with HIV



Note: Results from models show that the HIV epidemic will grow much more quickly in a society where sex workers have two clients per night than where they have only one. This may be a major factor explaining the variation in rates of epidemic growth seen in Asian countries.

situation provides HIV with access to a significant proportion of the general population. Given strong behavioral linkages among the various sub-epidemics, an indication of an upswing in infection levels in any group after a long period of low prevalence should raise serious concerns.

Such upswings have recently been observed in several countries. In China, little or no infection was detected among sex workers throughout the 1990s except in Yunnan Province. Now the most recent surveillance rounds have detected 10 percent prevalence levels among sex workers in neighboring Guangxi and 3 percent in Guangdong to the south. HIV levels among male STI patients are also rising rapidly in many provinces. In Indonesia, HIV levels among sex workers and injecting drug users were undetectable throughout the 1990s, but prevalence has now risen to 6 percent or higher among sex workers and 20 percent or higher among injecting drug users in several cities. Over the past two years, prevalence levels among blood donors in Jakarta, albeit at a low level, have also started to rise. In Vietnam, prevalence levels among sex workers and male STI patients in Hanoi and Ho Chi Minh City have risen rapidly over the past two to three years. Although prevalence will certainly not reach the levels found in sub-Saharan Africa, there is a clear potential for extensive spread of HIV throughout the region.

There is some good news, however, for countries facing the possibility of an HIV epidemic. Most early HIV transmission in Asia occurs in very specific groups, through needle sharing, anal sex, or sex work. Experience in Thailand and Cambodia (see box) has shown that it is possible to lower HIV transmission rates by aggressive prevention programs targeting these groups (Phoolcharoen et al. 1998; Phalla et al. 1998). By reducing needle sharing, promoting condom use, and improving STI care, it should be possible to limit the spread of HIV in other countries of the region.

Policy recommendations

Successful efforts in Thailand and Cambodia send a message that HIV prevention is both achievable and affordable. Although many countries in Asia have been slow to initiate effective prevention programs, the region has substantial advantages in addressing the epidemic. For one thing, Asian governments have seen the impact of HIV in sub-Saharan Africa. While the epidemic will probably never reach such high levels in Asia, there is substantial evidence that leaders cannot afford to be complacent.

Given prevailing patterns of HIV spread in Asia, prevention programs focusing on specific population groups can be extremely effective. In addition, many countries in the region have high literacy rates and broad-reaching mass media, facilitating efforts to raise awareness in the general population. Many Asian governments are quite stable, and some have very strong central infrastructures that can implement policy or program changes rapidly and effectively. Most

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Vigorous prevention programs that target at-risk groups as well as the broader population can substantially reduce the risk of HIV (Bangkok, Thailand) © Kevin R. Morris/Corbis

Thailand and Cambodia represent two of the world's few HIV-prevention success stories. Under very different resource constraints but using similar combinations of focused prevention and broad-based social involvement, both countries have managed to reverse the course of the epidemic.

In Thailand, prevention programs for sex workers and their clients, in combination with heightened public awareness, had a quick and dramatic impact on risk behavior. After the heterosexual outbreak in 1989, condom use in sex work increased from less than 30 percent in 1990 to more than 90 percent in 1997. Between 1990 and 1993, the percentage of men using sex services declined by half. As a result, STI levels fell by more than 90 percent during the 1990s. HIV prevalence among young men peaked at 4 percent in 1993 and then declined steadily, falling below 1 percent in 2000. In pregnant women, HIV peaked at 2.4 percent in 1995 and fell to 1.1 percent in 2001.

In Cambodia, both the epidemic and the response began somewhat later. High HIV prevalence was detected among sex workers in the early 1990s, but political instability and resource constraints limited the response. As the magnitude of the problem became apparent, however, the government took a leadership role in initiating prevention activities and coordinating external donor assistance. By 1997, condom use in sex work had

reached 70 to 90 percent. Today, many men are so concerned about avoiding HIV infection that they “double bag”—that is, use two condoms when visiting a sex worker. HIV levels among pregnant women peaked in 1997—at 3.2 percent—and then declined for four straight years, reaching 2.3 percent in 2000.

In both countries, successful HIV prevention required strong political will and substantial financial resources. In 1991, Thailand’s Prime Minister, Anand Panyarachun, made HIV a top national priority. He personally took the helm of the National AIDS Committee and instructed all his cabinet ministers to develop AIDS plans for their own sectors. He encouraged networking and coordination with NGOs and the private sector and authorized a budget of more than US\$10 million. Subsequent Thai administrations continued this support, so that by 1996—before the Asian financial crisis—the AIDS budget had grown to almost US\$90 million with more than 90 percent provided directly by the Thai government.

Similar steps were taken in Cambodia, although most of the financial support had to be mobilized from external sources. After 1995, when the first national surveillance showed high HIV prevalence, the First Prime Minister assumed the chairmanship of a reorganized National AIDS Committee. The government promoted a multisectoral

approach similar to Thailand’s and turned to the international donor community for support. Despite ongoing political instability and financial limitations, Cambodia initiated and sustained an effective, large-scale prevention program.

These responses shared several common features. Both governments were open about the HIV problem, widely publicizing the results of surveillance surveys, raising public awareness, and making sure that everyone knew how to prevent infection. They implemented programs that involved multiple organizations in a variety of activities targeting both sex workers and their current and future clients. They achieved good coverage—an essential factor in mounting an effective response—reaching the majority of sex workers and clients with prevention messages and ensuring wide access to condoms. They were pragmatic, recognizing that governments have to address the problem of HIV transmission in partnership with people involved in sex work rather than simply imposing ineffective legal sanctions.

But while Cambodia and Thailand have effectively addressed HIV transmission within sex work, their responses have significant gaps. Neither country has mounted any substantial effort to address risk among men who have sex with men. There have been limited efforts within this community and a few government programs

in Thailand at the local level, but there is no strategic plan or significant financial support in either country for addressing this type of risk. Yet surveys among Thai male sex workers in several cities show a high rate of new HIV infections, and a survey in Phnom Penh, Cambodia, found that 14 percent of men who have sex with men are infected with HIV.

Programs in Thailand for injecting drug users have also been far too limited to produce significant results. The Thai government initiated programs for drug users in the mid-1980s when HIV prevalence started rising in this population group, but once transmission in sex work became more important, effective programs for drug users were not sustained. As a consequence, studies consistently document high rates of new infections among drug users, and almost one-fifth of all new infections are from needle sharing.

Finally, the Thai program has been slow to adapt to changing transmission patterns. The effectiveness of HIV prevention in sex work means that today half of all new infections come from spouse-to-spouse transmission. Yet the national program has placed little emphasis on this aspect of the epidemic.

have access to the resources necessary to combat the epidemic, either from their own economies or from international sources.

Careful analysis of successful prevention programs in Thailand and Cambodia points to several recommendations for other Asian governments.

Obtain accurate information on HIV prevalence and risk behavior. Both Cambodia and Thailand reached high HIV prevalence levels quickly, as documented by extensive surveillance systems. In some other countries of the region, information on the extent of the epidemic is inadequate because national surveillance systems are limited or flawed. In large countries, such as China, India, and Indonesia, surveillance systems still only cover a small portion of the population, resources for surveillance are limited, and data quality is often an issue.

In some countries, policymakers have also been unwilling to collect data on risk behavior. Some insist on removing all “sensitive” questions from studies on sexual behavior or refuse to support behavioral studies in the general population at all. Some focus exclusively on one aspect of the epidemic, such as injecting drug use, while downplaying other modes of transmission. This ignores the complex nature of HIV epidemics in the real world and leads to misdirected and ineffective prevention efforts. An accurate assessment of HIV risk requires constantly improving surveillance systems, expanding behavioral studies, and regular analysis of available information.

Target policymakers and leaders for sustained commitment. Perhaps the foremost barrier to HIV prevention is the tendency among many high-level policymakers to deny the existence of risk. Yet the risk of sexual and drug-related HIV transmission exists in every country of Asia. Policymakers are the gatekeepers of political will and financial resources, and it is critical that they overcome their tendency to deny the HIV threat and accept how much risk exists in their own populations.

Without the support of policymakers at the highest levels, HIV prevention cannot be put into place on a meaningful scale. Researchers and advocates must make sure that policymakers have a realistic understanding of the behavioral situation in their countries and an appreciation of the dynamics of HIV epidemics. They must convince policymakers of the importance of initiating prevention programs quickly, before an epidemic reaches the stage of rapid expansion. They must also convince policymakers to sustain these focused efforts and expand long-term support for broader prevention programs.

Provide the public with full and accurate information. A clear understanding of HIV risk and prevention strategies requires the steady dissemination of survey findings and other information. In both Thailand and Cambodia, extensive efforts were made to inform the public about the seriousness of the epidemic and the need to take preventive measures. A major component of this effort

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Tomorrow's young adults must be convinced to avoid behavior that increases the risk of HIV (Rattanakiri, Cambodia) © Kevin R. Morris/Corbis

was high-quality information about HIV levels, the behavioral patterns that were contributing to the epidemic, and the means of prevention. HIV prevalence numbers were regularly presented to policymakers and the media, behavioral studies were used to demonstrate the magnitude of the problem and the need for a broad-based response, and prevention messages were distributed through multiple channels. The result was a public well aware of the magnitude of the problem and policymakers who understood that addressing the issue was in the national interest.

In many other Asian countries, HIV prevention messages have still not reached the vast majority of people. According to the 1998–99 National Family Health Survey (NFHS-2), only 40 percent of ever-married women in India have even heard of AIDS, much less know how to prevent it. Doubtless similar knowledge gaps are common in many of the predominantly rural areas of Asia. In addition, policymakers in some countries have been unwilling to support prevention messages that are too “explicit” or too direct in addressing risk. Such attitudes keep condom use low and needle sharing high, allowing HIV to spread unchecked.

Move quickly to provide effective coverage of groups most at risk. Focused prevention efforts can only work if they achieve substantial coverage among key population groups—sex workers and their clients, injecting drug users, men who have sex with men, and people living with HIV and AIDS. The dynamics

of the epidemic in several countries show the importance of acting quickly, while prevalence levels are still low. Yet the association of HIV in the early stages of the epidemic with stigmatized population groups has slowed down political and financial support for prevention programs. Even in Thailand and Cambodia, if the governments had acted two years earlier, hundreds of thousands of HIV infections would have been averted. The number of lives that can be saved by early action is even higher in populous countries such as China, India, and Indonesia.

Sustain and expand prevention activities. In addition to an early focus on groups particularly at risk, it is important to prepare for the future by convincing the larger population to reduce risk behavior. As good coverage is sought in the most critical populations, an ever-expanding set of programs needs to be initiated at the same time, addressing the multitude of social, economic, and cultural factors that contribute to HIV risk.

Government, NGO, and private-sector agencies need to work together to implement a mix of mass-media campaigns, workplace programs, and developmental activities at both national and local levels. Young people, in particular, must be convinced to adopt behavioral patterns that reduce the risk of HIV transmission. And programs must be national in focus. In the past, rural areas in many Asian countries remained somewhat isolated from outside contact, but this is changing quickly as economic growth brings rural people into urban centers and international labor migration and business travel expand. With increased mobility comes increased risk of HIV.

Convince lawmakers and local authorities to take a pragmatic approach. Sex work, while supported by traditional culture, is illegal and publicly deplored in most Asian societies. Drug use is almost universally condemned. Yet strict enforcement of laws against sex work and drugs is unlikely to alter behavior sufficiently to prevent the spread of HIV. Examples include the “Social Evils” campaigns in Vietnam and attempts to “shut down” sex work in other countries. Often, such policies just force “illegal” activities underground and make prevention efforts more difficult. Today, national drug policies are probably the primary barrier slowing down HIV prevention among injecting drug users in Asia.

Although sex work is illegal in Thailand and Cambodia, both governments took a pragmatic approach and enlisted the participation of sex workers, brothel owners, local health authorities, police, NGOs, and other partners to ensure that sex-work clients used condoms. This pragmatic approach was an important component in the success of HIV prevention programs in these countries.

Ensure the active involvement of key communities. Effective HIV prevention programs often need to work with communities, such as sex workers and

injecting drug users, whose behavior goes against official policy or law. The only way to ensure that programs actually meet the needs of the people most at risk is to involve these very people in planning, implementing, and evaluating program activities.

In addition to accurate information and access to condoms and clean needles, effective HIV prevention must address the social, economic, political, and cultural factors that create risk and vulnerability. Yet government health personnel are generally ill equipped to communicate or collaborate with sex workers, men who have sex with men, or injecting drug users. In addition, discrimination makes it difficult for such groups to be accepted as important partners in prevention efforts. One of the key lessons from two decades of HIV prevention is that it is essential to secure the active involvement of people who are most at risk. In some places local NGOs have experience in working with such groups, but in other places there are no NGOs to play this role, and at-risk populations remain largely inaccessible.

The stigma associated with HIV itself and discrimination against those living with HIV and AIDS also impede the development of effective prevention and care programs. Without accessible care and programs to address discrimination, it is difficult to recruit people living with HIV and AIDS to help with prevention efforts. This is a major limitation because experience has shown that such people are among the most effective prevention workers and spokespersons and have the best understanding of the types of program needed. Information campaigns are essential to bring people together, break down stereotypes, foster realistic images in the media, and encourage support for those at greatest risk.

Put an end to complacency. Complacency has consistently been a key factor in the spread of the HIV epidemic, and nowhere else in the world has there been more complacency than in Asia. Yet every country of the region faces the risk of a substantial rise in HIV infection levels. Whether or not the epidemic actually expands is entirely in the hands of the people of the region and their leaders.

Cambodia and Thailand have shown that HIV can be contained with good epidemiological and behavioral information, strong political will, a pragmatic approach, and effective mobilization of resources. The Philippines and India have taken the first steps toward putting effective national programs in place. The other countries of Asia have an unprecedented opportunity to avert a disaster by acting before it is too late.