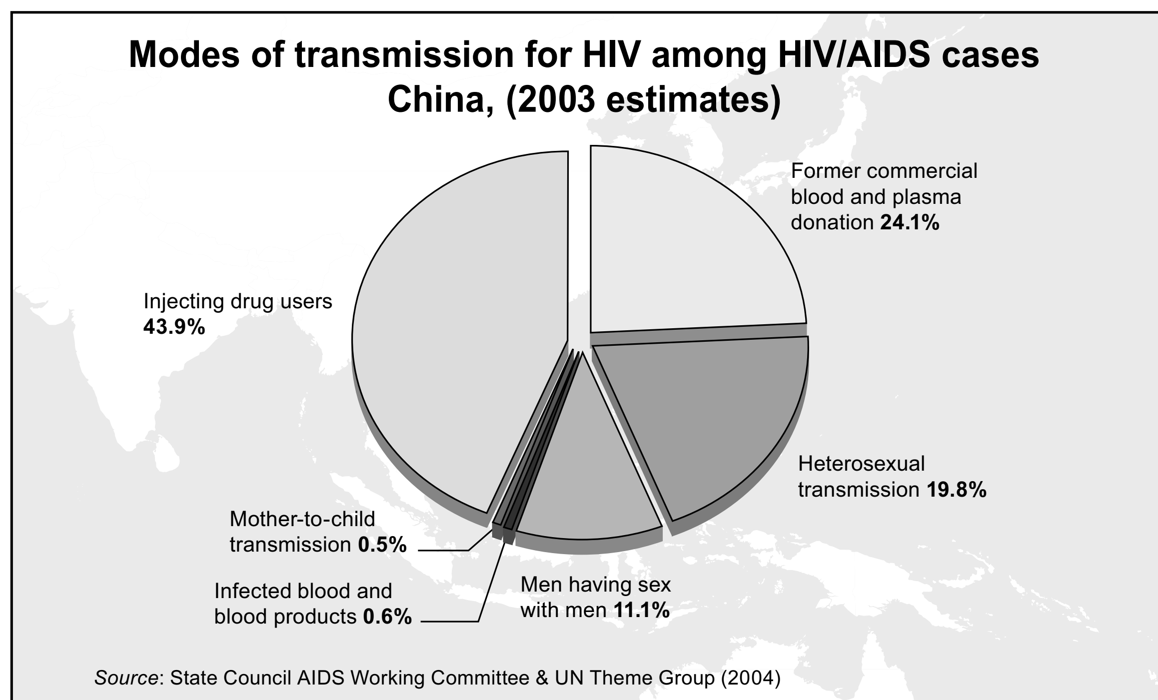


Figure 10

to stabilize, though at high levels in some areas. HIV prevalence of 18–56% was found in drug injectors in six cities in the southern provinces of Guangdong and Guangxi in 2002, while in Yunnan province just over 20% of injectors tested positive for HIV the following year (National Center for AIDS/STD Control and Prevention China, 2003). China has announced plans to establish more than 1400 needle-exchange sites and over 1500 drug treatment clinics in seven provinces in southern and western China where an estimated two million drug users are believed to live (Zunyou, 2005).

Commercial sex accounts for a large part of the estimated 20% of HIV infections in China that are due to unprotected heterosexual contact (State Council AIDS Working Committee and UN Theme Group, 2004). It also features in the transmission of the virus among men who have sex with men: a recent survey among male sex workers in the southern city of Shenzhen found that 5% of them were HIV-positive. However, it is the potential overlap between commercial sex and injecting drug use that is likely to become the main driver of China's epidemic. A recent review of behavioural studies concluded that at least half of female drugs users had at some stage also engaged in commercial sex (Yang et al., 2005). In Sichuan province, 2.5% of sex workers said they injected drugs, as did 5% of street-based sex workers. The latter had the highest numbers of clients and the lowest levels of condom use (MAP, 2005a). In the same province, almost every other woman surveyed in behavioural surveillance for injecting drug users said she had traded sex for money or drugs in the previous month. Compounding matters is the fact that the female injectors who sold sex without condoms were the most likely to be using non-sterile needles. Those at highest risk of acquiring HIV through unsafe injecting also have the highest likelihood of transmitting it sexually—a potentially lethal combination which could fuel a much more serious epidemic (MAP, 2005a).

Most female sex workers originate from remote rural areas, are poorly educated and have little knowledge about HIV.

Most female sex workers originate from remote rural areas, are poorly educated and have little knowledge about HIV. Behavioural studies have shown that many sex workers continue to have unprotected sex even after discovering symptoms of sexually transmitted infections in themselves or their clients (Yang et al., 2005). Concerted efforts are needed to enable them to protect themselves against HIV and other sexually transmitted infections (Zhang et al., 2004). There are some signs of progress on this front. Although consistent condom use still lags, the number of sex workers using condoms all the time in Guangxi, for example, in 2003 exceeded those who never used them (MAP, 2005b). In Sichuan, meanwhile, only about half the sex workers surveyed in 2002 said they had used condoms with all their clients in the previous month (MAP, 2005b).

There are signs that HIV is spreading beyond these populations with high-risk behaviour into the wider population in parts of the country. Anonymous testing among unmarried young people found HIV prevalence of 1%, while prevalence as high as 5% has been found among pregnant women in some areas where HIV has been established among drug injectors and sex workers. In parts of Yunnan and Xinjiang, HIV prevalence of 1.3% and 1.2%, respectively, has been found in pregnant women (China Ministry of Health and UN Theme Group on HIV/AIDS, 2003).

Data relating to HIV transmission among men who have sex with men is very limited. The few studies conducted thus far have encountered low rates of condom use (about 40% of the men did not use condoms in Changde and Xi'an, for example, and 33% in Shenzhen used them seldom or never) and significant prevalence of HIV (in a 2001–2003 study in Beijing, 3% of men who have sex with men were HIV-positive) (Choi et al., 2003). Significant numbers of men in China have sex with other men; once HIV establishes itself in this population, a more serious HIV epidemic is likely to occur.

China has made slow progress in realizing its 2003 pledge to provide free antiretroviral treatment to all who need it; by June 2005, about 20 000 people were receiving the drugs in the 28 provinces and autonomous regions where antiretroviral treatment had been introduced (Ministry of Health China, 2005).

Several constraints hinder a more effective AIDS response in China. They include poor public awareness about the epidemic, and the stigma and discrimination experienced by people living with HIV. As a result, take-up of HIV testing and counselling services remains low and will continue unless stigma and discrimination are reduced and integrated prevention, treatment and care programmes are more widely available. It is especially important that HIV testing programmes rest on the cornerstones of informed consent, confidentiality and counselling.

India

Diverse epidemics are underway in **India**, where an estimated 5.1 million Indians were living with HIV in 2003 (NACO, 2004a). Although levels of HIV infection prevalence appear to have stabilized in some states (such as Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra), it is still increasing in at-risk population groups in several other states. As a result, overall HIV prevalence has continued to rise. State-wide prevalence among pregnant women is still very low in the poor and densely populated northern states of Uttar Pradesh and Bihar. Even relatively minor increases in HIV transmission could translate into huge numbers of people becoming infected in those states, which are home to one quarter of India's entire population.

HIV prevalence of over 1% has been found in pregnant women in four of the industrialized western and southern states of India (specifically Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu,) and in the north-eastern states of Manipur and Nagaland (NACO, 2004a). Transmitted mainly through unprotected sex in the south and injecting drug use in the north-east of the country, HIV is spreading beyond urban areas. In Karnataka and Nagaland, more than of 1% of pregnant women in rural areas tested HIV-positive in 2003. A significant proportion of new infections is occurring in women who are married and who have been infected by husbands who (either currently or in the past) frequented sex workers. Commercial sex (along with injecting

drug use, in the cases of Nagaland and Tamil Nadu) serves as a major driver of the epidemics in most parts of India. HIV surveillance in 2003 found 14% of commercial sex workers in Karnataka and 19% in Andhra Pradesh were infected with HIV (NACO, 2004b). The recent finding that 26% of sex workers in the city of Mysore (Karnataka) were HIV-positive is not surprising given that just 14% of the women used condoms consistently with clients and that 91% of them never used condoms during sex with their regular partners (Reza-Paul, 2005).

The well-known achievements among sex workers of Kolkata's Sonagachi red-light area (in West Bengal) have shown that safer sex programmes that empower sex workers can curb the spread of HIV. Condom use in Sonagachi has risen as high as 85% and HIV prevalence among commercial sex workers declined to under 4% in 2004 (having exceeded 11% in 2001). In Mumbai, by contrast, available data suggest that sporadic and piecemeal efforts to promote condom use during commercial sex have not been as effective; there, HIV prevalence among female sex workers has not fallen below 52% since 2000 (NACO, 2004b).

HIV information and awareness among sex workers appears to be low, especially among those working in the streets. Surveys carried out in various parts of India in 2001 found that 30% of street-based sex workers did not know that condoms prevent HIV infection, and in some states, such as Haryana, fewer than half of all sex workers (brothel- and street-based) knew that condoms prevent HIV. Large proportions of sex workers (42% nationally) also thought they could tell whether a client had HIV on the basis of his physical appearance (MAP, 2005b).

In the north-east of India, HIV transmission is concentrated chiefly among drug injectors and their sexual partners (some of whom also buy or sell sex), especially in the states of Manipur, Mizoram and Nagaland, all of which lie adjacent to the drug-trafficking 'Golden Triangle' zone (Solomon et al., 2004). There is a significant overlap of sex work and injecting drug use in Manipur, where a drug injection-driven epidemic has been prevalent for at least a decade. Some 20% of female sex workers said they injected drugs, according to behavioural surveillance. In other north-eastern states, about half as many sex workers have reported injecting drugs (MAP, 2005a).

Harm reduction efforts (including needle and syringe exchange, as well as limited drug substitution programmes) were introduced more recently in some states, such as Manipur. There, the most recent data (2003) put HIV prevalence in drug injectors at 24%—the lowest levels detected among injecting drug users in that state since 1998; changing inclusion criteria, however, make it difficult to directly compare HIV data from the various studies (NACO, 2004b). Elsewhere the epidemics among drug injectors appear to be well established, with HIV prevalence having reached 14% in Nagaland in 2000–2003, for example (NACO, 2004b).

A significant proportion of new infections is occurring in women who are married and who have been infected by husbands.

Injecting drug use is not limited to the country's northern states. There has been a sharp rise in HIV infections among drug injectors in the southern state of Tamil Nadu, where 39% were HIV-infected in 2003, compared with 25% in 2001 (NACO, 2004b). In a smaller study in the city of Chennai (in the same state), almost two thirds (64%) of injectors were HIV-positive, according to sentinel surveillance done in 2003 (Monitoring the AIDS Pandemic Network, 2004). As these (mostly male) drug users can then pass the virus to their sexual partners, increasing numbers of women are being infected.

Relatively little is known about the role of sex between men in India's various epidemics. The few studies that have examined this complex dimension of sexuality in India have found that significant numbers of men do have sex with other men. One study, undertaken among residents of slum areas in Chennai, has found that 6% of men had had sexual intercourse with another man. Almost 7% of the men who had sex with other men were HIV-positive, and more than half of them were married (Go et al., 2004).

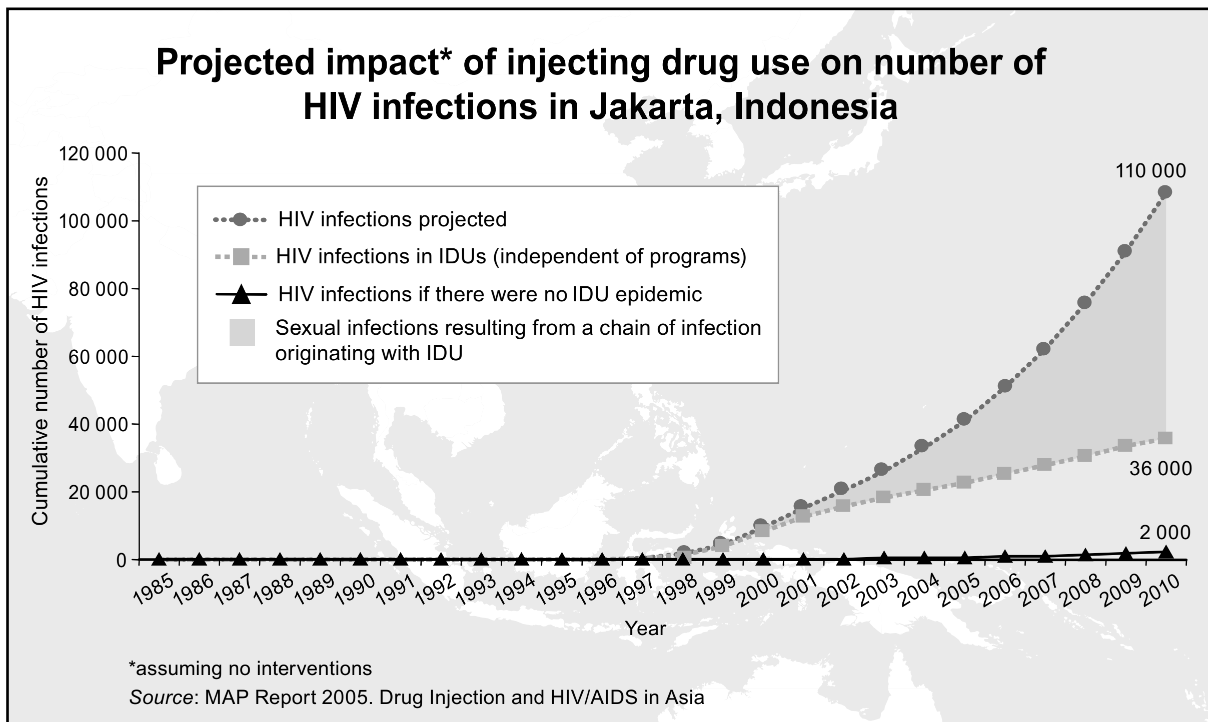


Figure 11

HIGH STAKES

Some countries have avoided HIV epidemics for many years despite significant levels of injecting drug use, commercial sex and infrequent condom use. However, once HIV establishes a firm-enough presence in at-risk population groups, it can spread extensively among and beyond them—as several Asian countries have discovered.

Injecting drug use is the strongest initial driver of HIV infection in Asia. Even where the numbers of people injecting drugs are relatively small, their contribution to the overall HIV epidemic in a country can be considerable. The majority of drug injectors are sexually active and, in some countries, large proportions of them buy or sell sex. HIV-infected drug injectors therefore can help build up a 'critical mass' of infections in sexual networks, from where HIV can then spread across the wider society (MAP, 2005a). Such a process is well-underway in several Asian countries, most notably **Indonesia**, **Viet Nam** and in parts of **China**. Unless this effect is halted early, millions of new HIV infections can be expected in those countries.

Based on data from the Indonesian capital, Jakarta, Figure 11 shows how an initially small-scale HIV epidemic among drug injectors might develop. If risk behaviours among drug injectors, among male, female and transgender sex workers, and among clients of sex workers do not change from the levels observed in surveillance performed in 2003, Jakarta could expect a major epidemic during this decade. (The shaded section of the graph represents sexually transmitted HIV infections that stemmed from the sharing of unsafe drug injecting equipment and the subsequent chain of transmission. HIV might have been passed on to a non-injecting woman by her injecting boyfriend, or to a client who contracted the virus from a sex worker infected by an earlier drug-using client. If that client had always used a sterile needle when injecting drugs, almost the entire sequence of transmission could have been avoided; MAP, 2005a.)

Indonesia is on the brink of a rapidly worsening AIDS epidemic. With risk behaviour among injecting drug users common, a mainly drug-injection epidemic is already spreading into remote parts of this archipelago. Counselling and HIV

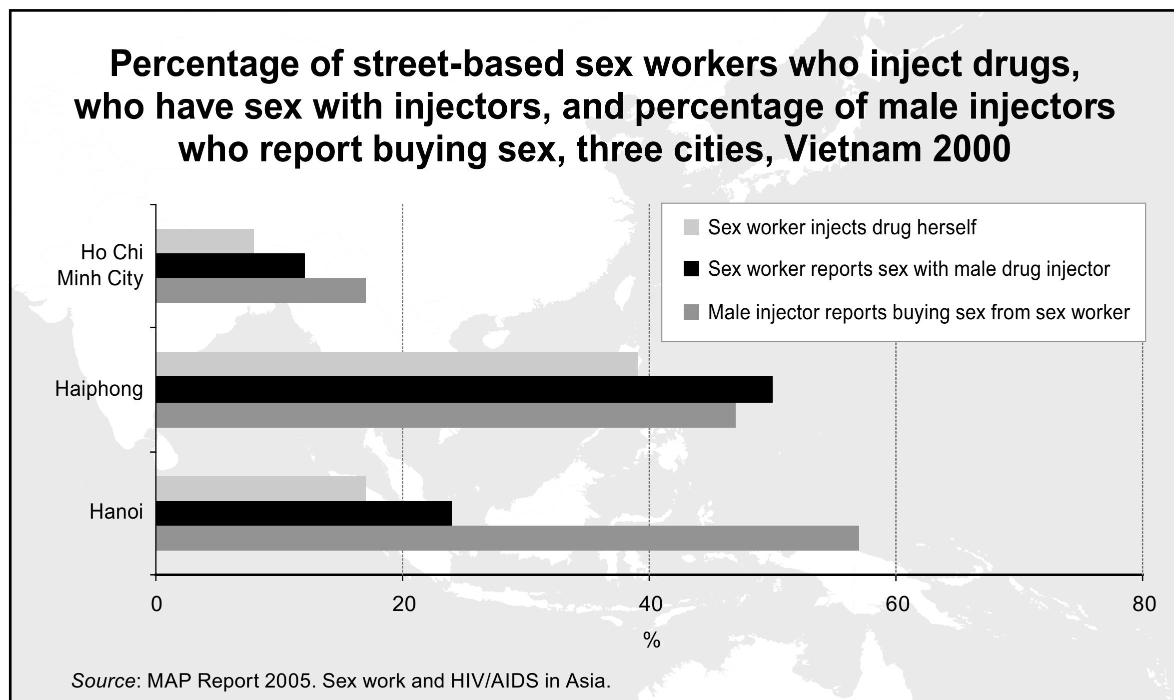
testing services started by local nongovernmental organizations in such far-flung cities as Pontianak (on the island of Borneo) are finding alarmingly high rates of infection—above 70% of people who request testing are discovering that they are infected with HIV. An estimated three quarters of them are injecting drug users (MAP, 2005a). Meanwhile, HIV prevalence as high as 48% has been found in drug injectors at rehabilitation centres in Jakarta (Riono and Jazant, 2004). Most of these drug users are young, relatively well-educated and live with their families (Riono and Jazant, 2004).

It will require more than just information and awareness campaigns to alter such trends. Researchers are finding that most injectors know where to get sterile needles, yet close to nine in ten (88%) of them still use non-sterile injecting equipment (Pisani, 2003). One problem is that many injectors are reluctant to carry sterile needles with them for fear that police would treat this as proof that they inject drugs (which is a criminal offence). The incarceration of drug injectors is a significant facet of Indonesia's epidemic. In Jakarta, between 1997 and 2001, HIV prevalence among drug injectors in Jakarta rose from zero to 47%, for example. Subsequently, in the capital's overcrowded jails, HIV prevalence started to rise two years later, from zero in 1999 to 25% in 2002 (MAP, 2005a). Access to prevention and substitution treatment services generally is very limited. If Indonesia is to bring its growing epidemic under control, the legal and institutional environment may need to be adapted in order to facilitate effective prevention strategies.

More than half the drug injectors in Jakarta are sexually active and one in five buys sex. Yet, about three quarters of those users do not use condoms during commercial sex (Center for Health Research and Ministry of Health, 2002). As HIV enters commercial sex networks, wider sexual transmission of HIV is almost certain to follow. Meanwhile, rates of drug injection among male sex workers are higher than among other population groups, with many of these men selling sex to finance their drug habits (MAP, 2005a). A large proportion of male sex workers also have sex with women (Riono and Jazant, 2004). Condom use, generally, ranges from being infrequent to rare. In Jakarta, condom use rates during commercial sex hardly changed in 1996–2002, before rising slightly. Still, by 2004, three quarters of sex workers operating out of massage parlours and clubs said they had not used condoms with any of their clients in the previous week. In brothel areas of the city, sex workers and their clients were even more averse to using condoms, despite almost a decade of prevention efforts. Fully 85% of sex workers said they did not use condoms with any clients in the previous week (MAP, 2005b). Part of the reason might be that police sometimes still arrest women for being in possession of a condom, which they view as proof of prostitution (MAP, 2005b). In such contexts, it is not surprising to discover that HIV prevalence among sex workers in Sorong, for example, reached 17% in 2003, and that an average 42% of sex workers in seven **Indonesian** cities were infected with gonorrhoea and/or Chlamydia in 2003 (MAP, 2004). Such intersecting networks of risk guarantee that HIV will spread more extensively in the wider population, especially where multiple sexual partnerships are common, such as in parts of Papua province. There, almost 1% of adults in five villages have tested HIV-positive in a serosurvey (MAP, 2004). There is an urgent need to expand and intensify HIV prevention programming in Indonesia.

Punitive campaigns to combat 'social evils' tend to drive drug injectors and sex workers beyond the scope of outreach programmes.

An unusually large overlap between injecting drug use and sex work is priming a serious epidemic in **Viet Nam**, where HIV already has spread to all 64 provinces and all cities. The number of people living with HIV has doubled since 2000 and reached an estimated 263 000 (range: 218 000–308 000) in 2005 (Ministry of Health Viet Nam, 2005). The country's drug injectors are mostly young (with a mean age of 25 years) and using non-sterile needles is very common; HIV infection levels of 40% among drug injectors are not unusual



Source: MAP Report 2005. Sex work and HIV/AIDS in Asia.

Figure 12

(Hien et al., 2004a). Approximately one in three injecting drug users is HIV-infected, and in cities such as Can Tho, Hai Phong, Hanoi and Ho Chi Minh City, HIV prevalence is considerably higher (Ministry of Health Viet Nam, 2005). Drug-using sex workers in Ho Chi Minh City were about half as likely to use condoms as those who did not use drugs, according to another study (see box p. 39) (MAP, 2004). Conversely, fewer than 50% of drug injectors consistently used condoms with sex workers (USAID et al., 2001). As a consequence, average HIV prevalence among sex workers nationally is approximately 16%, and infection levels are even higher in the cities of Hai Phong, Ho Chi Minh City, Hanoi and Can Tho (Ministry of Health Viet Nam, 2005). In addition, a Ho Chi Minh City survey in 2003 found HIV prevalence of 8% among men who have sex with men.

A much larger epidemic is likely to be imminent, especially in Ho Chi Minh City (which accounts for about one quarter of all HIV infections in the country and where adult HIV prevalence was estimated at 1.2% in 2003), and in the northern coastal cities of Quang Ninh and Hai Phong (where about 1.1% of adults are believed to be HIV-infected) (Ministry of Health Viet Nam, 2005). Programmes to reduce use of non-sterile needles and sexual risk-taking among drug injectors are essential, as are strategies to reduce the sexual transmission of HIV between sex workers, their clients and their other sexual partners. Punitive campaigns to combat 'social evils' tend to drive drug injectors and sex workers beyond the scope of outreach programmes and can inadvertently entrench risky behaviours (Hien et al., 2004a). Viet Nam's epidemic has reached the stage where any delay could lead to thousands of lives lost. At the same time, the country's health care system will need to be readied to cope with an estimated 5000–10 000 new AIDS cases each year for the future (Ministry of Health Viet Nam et al., 2003).

The combination of high levels of risk behaviour and limited knowledge about AIDS among drug injectors and sex workers in **Pakistan** favours the rapid spread of HIV, and new data suggest that the country could be on the verge of serious HIV epidemics (Ministry of Health Pakistan et al., 2005).

A major epidemic has already been detected among injecting drug users in Karachi, 23% of whom were found to be HIV-infected in 2004 (Ministry of Health Pakistan, 2005). When tested just seven months earlier, the same community had only one HIV-positive case (Altaf et al., 2004). That epidemic is unlikely to be confined

to Karachi for long. Many of these injectors move from city to city (21% of the Karachi users had also injected in other cities) and a very high proportion of them use non-sterile injecting equipment (48% in Karachi had done so in the previous week). Risk behaviour in Lahore is even higher: 82% of injectors had used non-sterile syringes in the previous week, 35% did so all the time, and 51% had injected in another city in the previous year (Ministry of Health Pakistan et al., 2005). An HIV epidemic among injecting drug users was reported in 2004 in Pakistan's Sindh province, in the town of Larkana where almost 10% of drug injectors tested HIV-positive (Shah et al., 2004). Knowledge of HIV among injectors (and sex workers) is extremely low. In Karachi, more than one quarter had never heard of AIDS and as many did not know that using non-sterile injecting equipment could result in infecting them with HIV (Ministry of Health Pakistan et al., 2005).

Focused prevention programmes are urgently needed to limit HIV transmission within and beyond the intersecting networks of high-risk behaviour.

Meanwhile, in Karachi, Pakistan's main trading city, one in five sex workers cannot recognize a condom, and three-quarters do not know that condoms prevent HIV (in fact, one third have never heard of AIDS). It is therefore little wonder that only 2% of female sex workers said they used condoms with all their clients in the previous week (MAP, 2005b). In addition to the lack of knowledge and low use of condoms, there is a high degree of sexual interaction between drug injectors and sex workers. Over 20% of female sex workers in Karachi and Lahore had sold sex to injecting drug users and condom use was very low during those encounters. Among injecting drug users in Lahore, almost half had had sex with a regular partner in the previous year, one third had paid for sex with a woman (11% used a condom consistently) and almost one quarter had paid for sex with a man (5% used a condom consistently) (Ministry of Health Pakistan et al., 2005). Male sex workers also trade sex with injectors, 20% of whom reported buying anal sex in the previous year (and only 3% of them used a condom consistently). As a consequence, sexually transmitted infections rates are high: in Karachi, 18% of injectors were found to be infected with syphilis, as were 36% of male sex workers and 60% of Hijras or transgendered persons (Ministry of Health Pakistan et al., 2005).

Given the extent of overlapping high-risk practices, increasingly serious HIV epidemics are highly likely in Pakistan. Focused prevention programmes are urgently needed to limit HIV transmission within and beyond the intersecting networks of high-risk behaviour.

In **Malaysia**, too, there are elements that could cause its epidemic to erupt suddenly. Approximately 52 000 people were living with HIV in 2004, the vast majority of them young men (aged 20–29 years), and three quarters of them injecting drug users (Ministry of Health Malaysia and WHO, 2004; Huang and Hussein, 2004). The intersection of drug injecting and HIV is most prominent in the east of the country. In Keleantan, estimated HIV prevalence among injectors was 41% in 2002, and in Johor and Terengganu it was 31% and 28%, respectively (Ministry of Health Malaysia and WHO, 2004). More recently, declines in HIV prevalence have been observed among users tested at 27 rehabilitation centres and 33 prisons, but that 'trend' may be due to the large increase in the number of tests carried out among drug users and injectors (19 500 were tested in 2000, but 50 350 in 2002) (Ministry of Health Malaysia and WHO, 2004).

The growing proportion of HIV cases attributed to sexual transmission (17% in 2002 compared with 7% in 1995) shows that the virus is spreading in the general population. Among sex workers in parts of Kuala Lumpur, for example, HIV prevalence as high as 10% has been found (Ministry of Health Pakistan and WHO, 2004). On the other hand, a decline in the number of reported cases of syphilis and gonorrhoea since the late 1990s suggests that sexual risk-taking might be less widespread than feared.

Drug injectors and paid sex

A heterosexual epidemic is likely to increase rapidly in countries where commercial sex is common and the epidemic establishes itself among sex workers, many of whom inject drugs.

Or it can happen when large numbers of drug injectors have sex with sex workers. Other clients will then pass the virus to more sex workers and to their girlfriends and wives, significantly widening the networks of HIV transmission.

The combination of drug use and sex work is often lethal. In Ho Chi Minh City, **Viet Nam**, one study found that about half of sex workers who injected drugs were infected with HIV, compared with only 8% of those who did not use any drugs. Considering that 38% of the sex workers who participated in that survey were drug injectors, the scale of the problem in that city is clear. Moreover, drug-using sex workers were about half as likely to use condoms as those who did not use drugs, according to another large study. Street-based sex workers who injected drugs (and used non-sterile injecting equipment) were one sixth as likely to use condoms, compared with their non-injecting counterparts. In other words, those sex workers who were most likely to be exposed to HIV were also the ones least likely to use condoms regularly.

Generally, even when the overall proportion of sex workers who inject drugs is low, the proportion of female drug users who sell sex tends to be high. In **China**'s Sichuan province, for example, 47% of female drug injectors included in behavioural surveillance said they had sold sex for money or drugs in the previous month. Condom use was reportedly quite high in commercial sex (about 60%), but with regular partners it was 17%. In neighbouring Yunnan province, which has a long-established HIV epidemic among drug injectors, 21% of female injecting drug users sold sex (and 88% said they used a condom with their last client).

On the other hand, drug injectors who buy sex and are infected with HIV are likely to transmit HIV to sex workers, who can then pass it on to other clients, unless they use condoms consistently. As Figure 13 below shows, except in Thailand, drug injectors tend to avoid condoms when paying for sex. In many places, drug injectors reported even higher levels of regular and casual partnerships and, as a rule, condom use in those partnerships was even lower than in commercial sex. In the Indian city of Chennai, for example, as many as 46% of injectors were married or had live-in partners. This has probably contributed to the fact that Chennai also has among the highest HIV prevalence rates among pregnant women in India.

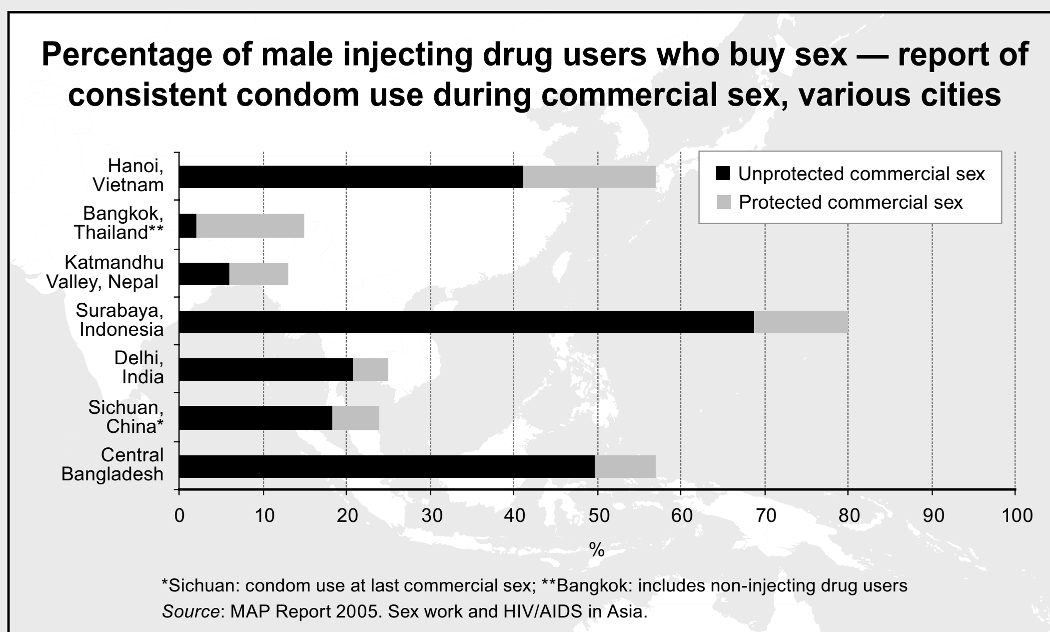


Figure 13

Reality checks

A minority of men in Asia frequent sex workers. In a survey of over 1200 men in health facilities in the **Philippines**, just 6% of adult men said they had bought sex in the previous six months, while in **Myanmar** 7% of over 3500 men said they had paid for sex in the preceding year. In central **Thailand** that proportion reached 16%. Still, in many Asian countries enough people buy and sell sex—and they do so frequently enough—to make commercial sex a major factor in the region's epidemics. Cambodia and Thailand are examples where serious HIV epidemics in the 1990s focused on the sex work industry. Subsequent prevention efforts in both countries managed to hold their epidemics in check. In the early 2000s, fewer men were visiting sex workers and condom use rates during commercial sex were high. HIV prevalence among clients of sex workers fell considerably, greatly reducing the chances that sex workers themselves, their clients, and their clients' wives, other girlfriends and children would become infected with HIV (MAP, 2004b).

Prevention efforts have been stepped up in recent years, but HIV is spreading extensively in lower-risk populations.

After peaking at 3% in 1997, national adult HIV prevalence in **Cambodia** fell by one third, to 1.9% in 2003 (National Center for HIV/AIDS, Dermatology and STIs, 2004). The reasons for this are twofold: increasing mortality and a decline in HIV incidence which, according to recent estimations, fell steeply between 1994 and 1998, before stabilizing. A closer examination of HIV incidence among sex workers shows that the rates of new infections among both brothel-based and non-brothel-based sex workers decreased by half between 1999 and 2002, and HIV prevalence among the former dropped from 43% in 1998 to 21% in 2003 (Saphonn et al., 2005; National Center for HIV/AIDS, Dermatology and STIs, 2004). Behaviour changes probably helped bring about these incidence trends (see *AIDS epidemic update 2004*). Those changes will need to be sustained. Recent behavioural surveys show more men are now visiting sex workers. In 2001, about 22–26% of moto-taxi drivers, and police and military personnel said they had paid for sex in the previous three months; two years later, more than 35% said they had bought sex. Fortunately, condom use is very high—80% or more of the clients said in 2003 that they consistently used condoms during commercial sex in the previous three months, as did sex workers. Among the latter, condom use rates have been increasing steadily since the late 1990s (National Center for HIV/AIDS, Dermatology and STIs, 2004). Meanwhile, the rate of new infections among pregnant women nationally appears to have stabilized in recent years. There is one anomaly, however, that warrants concern. In the west of Cambodia (along the Thai border), HIV incidence among pregnant women has increased significantly (rising from 0.35% to 1.48% between 1999 and 2002); it is also the only region in the country where HIV incidence among sex workers has not declined (Saphonn et al., 2005). High rates of internal migration may be one of the factors causing that trend.

Thailand has been widely hailed as one of the success stories in the response to AIDS. By 2003, estimated national adult HIV prevalence had dropped to its lowest level ever, approximately 1.5% (UNAIDS, 2004).

However, Thailand's epidemic is far from over. The fact that infection levels in the most at-risk populations are much higher is a reminder that the achievements need to be actively sustained. Just over 10% of brothel-based female sex workers were HIV-infected in 2003, as were 45% of injecting drug users who attended treatment clinics.

There are some signs that suggest either the country's prevention efforts are waning or their effectiveness and relevance is compromised. Among men in northern Thailand who reported buying sex, only 55% said they used condoms on each occasion (Lertpiriyasuwat et al., 2003). Among young men in the same region, the rates of condom use were even lower: less than one third of those who paid for sex said they always used condoms. Another study in four cities (including

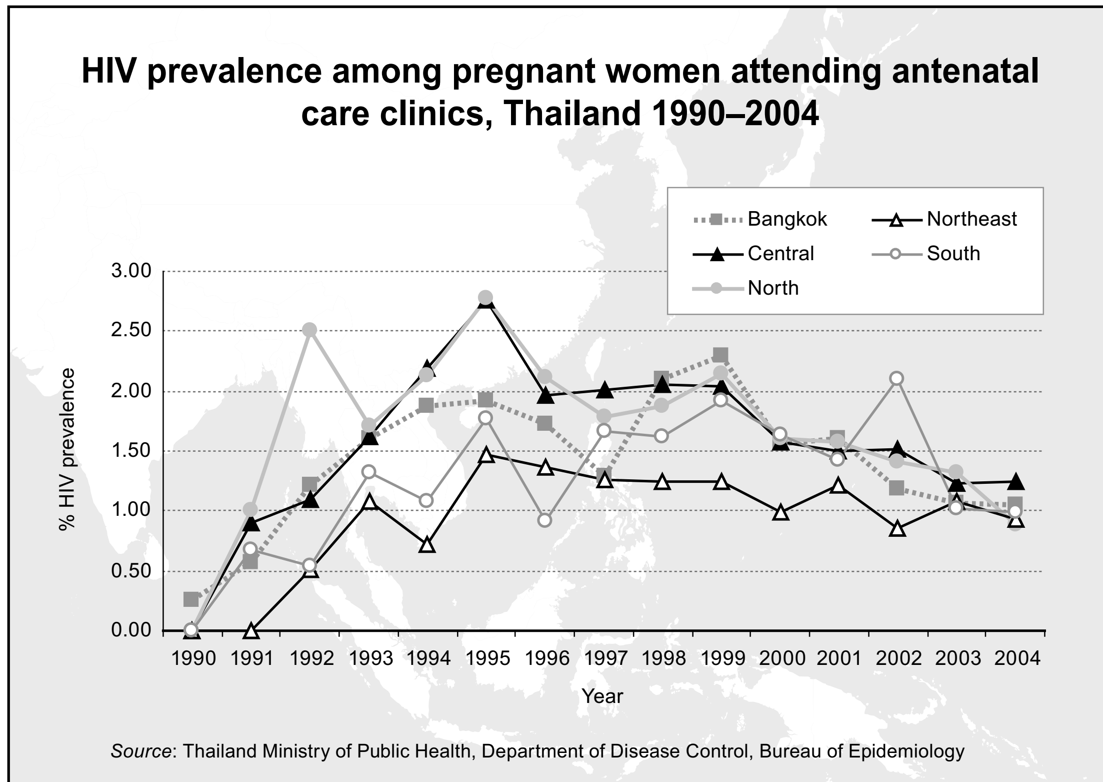


Figure 14

Bangkok and Chiang Mai) found that sex workers reported using condoms only 51% of the time, and mostly with foreigners—a large difference compared to the remarkable 96% rate reported in a 2000 study in Bangkok. Only about one in four Thai clients was likely to use a condom (Buckingham and Meister, 2003; UNDP, 2004).

Thailand's challenge now is to revitalize and adapt prevention strategies to match recent shifts in the epidemic. This will require revamping safe sex campaigns in a context where patterns of commercial sex have changed. There has been a huge increase in the number of 'indirect' sex service establishments, such as massage parlours (from about 8000 in 1998 to 12 200 in 2003). In Bangkok alone, an estimated 34 000 women were trading sex in such non-brothel settings in 2003. Regulating these forms of sex work using the approach of the 100% Condom Programme is difficult; outreach programmes that tap the knowledge and potential solidarity of sex workers would be more suitable to access this population (UNDP, 2004).

Thailand's epidemic is more diverse than it was a decade ago. Male clients of sex workers are infecting their wives and girlfriends, with the result that as many as half of new HIV infections each year are happening within marriage or regular relationships where condom use tends to be very low (Thai Working Group on HIV/AIDS Projections, 2001). Generally, there is evidence that more young Thais, especially women, are having premarital sex. Among them, too, condom use is not the norm; a mere 20% to 30% of sexually-active young people are using condoms consistently (Punpanich et al., 2004; UNDP, 2004).

Sex between men is another, generally overlooked, facet of the Thailand's epidemic. In one recent study in Bangkok, 17% of men who have sex with men were HIV-positive; almost one quarter of them had also had sex with women in the previous six months (Van Griensven et al., 2005).

One of the neglected dimensions of Thailand's epidemic has been the role of injecting drug use. When comparing HIV prevalence among injecting drug users and among commercial sex workers, two trends emerge. The percentage of sex workers with HIV decreased significantly after 1995. Among injecting drug users, however, the reverse occurred. HIV prevalence in drug injectors rose in every region of the country, and reached as high as 61% in the Northern Region (in 2000) and stood at 45% or higher in the Bangkok, Central and

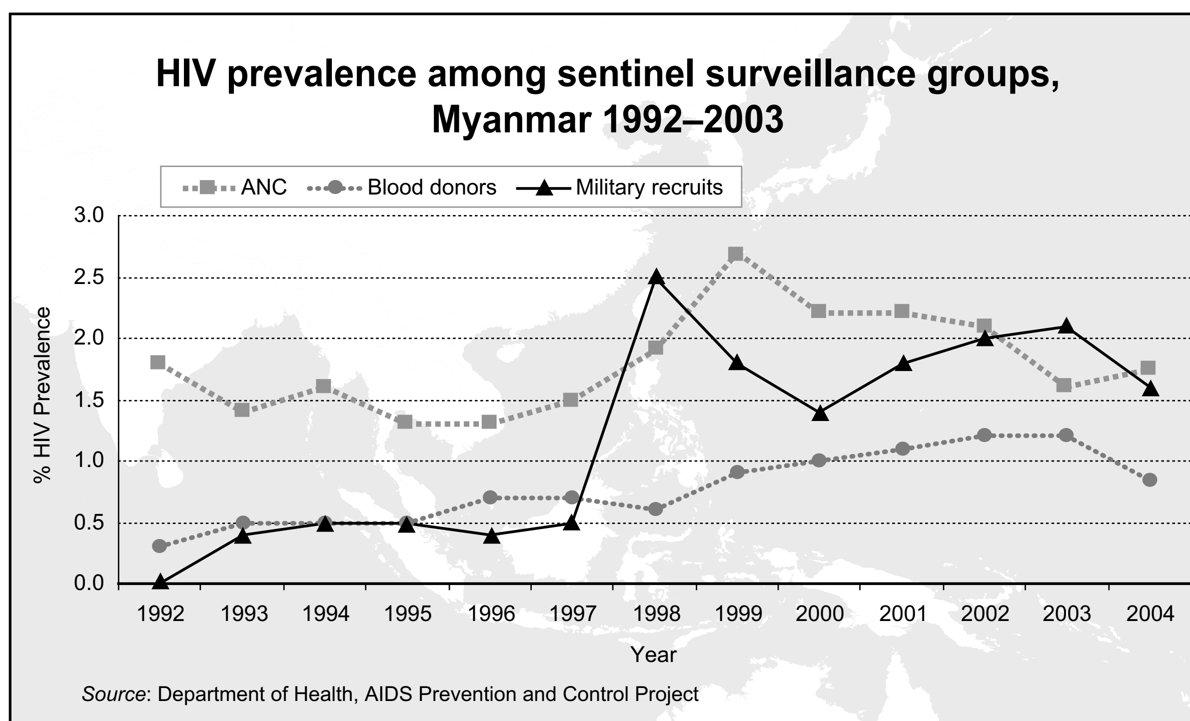
Southern Regions in 2003 (Poshyachinda, 2005). It has been estimated that as many as one fifth of new HIV infections so far in this decade have been due to unsafe drug injecting (Thai Working Group on HIV/AIDS Projections, 2001). Yet, only a small proportion of Thailand's prevention efforts are focused on this area.

As has been found in Indonesia, incarceration appears to be a significant risk factor for HIV infection among drug injectors in **Thailand**. In the north of the country, more than one quarter (27%) of injecting drug users said they had been imprisoned, even before the special efforts by the government to stop drug dealing and use (MAP, 2005a). Among their counterparts who had never been to jail, HIV prevalence was 20%. However, among those who had been imprisoned and who said they had injected drugs in jail, HIV prevalence was 49%. These data suggest that many of the users are likely to have been infected in prison. Another Thai study has shown that that using non-sterile needles in police holding cells before going to jail doubled the likelihood of HIV infection (Buavirat et al., 2003).

While Cambodia and Thailand in the 1990s were planning and introducing strategies to reverse the spread of HIV, another serious epidemic was gaining ground in neighbouring **Myanmar**. There, limited prevention efforts led to HIV spreading freely—at first within the most-at-risk groups and later beyond them. Consequently, Myanmar has one of the most serious AIDS epidemics in the region, with HIV prevalence among pregnant women estimated at 1.8% in 2004 (Department of Health Myanmar, 2004). The main HIV-related risk for many of the women now living with the virus was to have had unprotected sex with husbands or boyfriends who had been infected while injecting drugs or buying sex. Consistently high levels of HIV prevalence among sex workers has exacerbated Myanmar's epidemic. When tested, one in four sex workers (27%) were found to be HIV-positive in 2004, and prevalence among sex workers has not fallen below 25% since 1997. Very high HIV infection levels have been found among drug injectors: in 2004, 60% of injectors in Lashio tested HIV-positive, as did 47% in Myitkyeena and 25% and 30%, respectively, in the country's main cities of Yangon and Mandalay. Nationally, HIV prevalence among injecting drug users was 34% in 2004, having decreased since 2001 (Department of Health Myanmar, 2004 and 2005).

Prevention efforts have been stepped up in recent years, but HIV is spreading extensively in lower-risk populations. At eight (out of 29) sentinel sites, HIV prevalence among pregnant women has exceeded

Figure 15



Source: Department of Health, AIDS Prevention and Control Project

3%, and among men seeking treatment for other sexually transmitted infections it exceeded 5% at as many sites in 2003, while 1.4% and 1.8% of new military recruits were found to be infected with HIV in Yangon and Mandalay, respectively (Department of Health Myanmar, 2004). Although significant proportions of young men frequent sex workers, there is a lack of national data on condom use rates during commercial sex. The limited behavioural information that is available currently suggests an ambiguous picture; there are, however, a few signs that the 100% condom programme launched in 2001 (reportedly reaching 58 townships by 2004) could be making some inroads (Thwe, 2004). It will require a much stronger prevention effort (including a comprehensive programme for injecting drug users) if Myanmar is to deal with an AIDS epidemic that already ranks among the most serious in the entire region.

Countries in the region need to heed the examples of countries that have chosen to provide large-scale and comprehensive prevention services to people most in need of them.

In 2004, median HIV prevalence nationally among women attending antenatal clinics was 1.5% (ranging from 0% in Bago to 5% in Muse). Prevalence has remained fairly constant over the previous five years in most urban areas, but there has been a clear decline among young people aged 15–19 years. Among military recruits the prevalence of HIV infection has ranged between 1.4% and 2.5% since 1998, and was measured at 1.6% in early 2004 (Department of Health Myanmar, 2004).

Most countries in Asia still have the opportunity to prevent major epidemics. **Bangladesh**, where national adult HIV prevalence is well below 1%, began initiating HIV prevention programmes early in its epidemic. Partly due to focused prevention efforts, HIV prevalence in female sex workers has stayed low (0.2–1.5% in different sentinel sites), and prevalence of other sexually transmitted infections declined from over 30% in 1999 to under 10% in 2002 (Ministry of Health and Family Welfare Bangladesh, 2004). However, the quality and coverage of those initiatives requires strengthening if more rapid HIV transmission is to be prevented. Sex workers in Bangladesh have a higher client turn-over rate than in any other south Asian country, and consistent condom use during paid sex is rare (depending on the region, 0–12% of sex workers said they used condoms with new clients). In addition, risky drug injecting practices have caused HIV infection levels in injectors to double from 1.7% to 4% between 2000-2001 and 2002-2003. Given that at least one half of drug injectors in three regions said they used non-sterile equipment the last time they injected drugs, those HIV trends could persist. Indeed, in one part of the capital, Dhaka, 9% of injectors tested HIV-positive in 2003-2004 (prevalence was 4% overall among injectors in the city) (Ministry of Health and Family Welfare, 2004). A large proportion of drug injectors (as many as one in five in some regions) report buying sex and among them, fewer than one in ten consistently used a condom during commercial sex in the previous year (Ministry of Health and Family Welfare, 2004).

Meanwhile, in the **Philippines**, national adult HIV prevalence has stayed low, even among at-risk populations (Mateo et al., 2004). However, there are signs that this might change. Condom use during commercial sex is infrequent (especially among non-brothel based sex workers), prevalence of sexually transmitted infections has been rising, and high rates of non-sterile needle use among drug injectors has been found in some parts (77% in Cebu City) (Mateo et al., 2004; Wi et al., 2002; Department of Health Philippines, 2003). It is likely that a strong system of routine screening for sexually transmitted infections, along with other HIV prevention services for sex workers, has helped keep HIV infections among them low (MAP, 2005b). However, several gaps remain in the country's response. Information and education about AIDS needs to be stepped up: according to a major 2003 survey, more than 90% of respondents still believed that HIV could be transmitted by sharing a meal with an HIV-positive person.

A similar situation is apparent in **Lao PDR**, where about two thirds of HIV cases have been occurring in two areas (the capital, Vientiane, and Savannakhet). HIV prevalence is still low overall, but there are a few danger signs. Among women who work in venues that also provide sexual services, prevalence of gonorrhoea is high (13–14%) and, in Vientiane and Savannakhet, about 1% of the women have tested HIV-positive (Phimphachanh and Sayabounthavong, 2004). In Vientiane, young men have become more sexually active in recent years, according to one recent behavioural study. About 60% of them had more than two female partners in the first six months of 2004, almost 10% had one or more male partners, and over 30% had paid for sex at least once (Toole et al., 2005). Most of the men who have sex with men also have sex with women. These findings underline the need for a comprehensive HIV prevention strategy that includes improved treatment services for sexually transmitted infections.

In **Japan**, the number of reported annual HIV cases has more than doubled since 1994-1995, and reached 780 in 2004—the highest number to date. Much of this trend is due to increasing infections among men who have sex with men. Sex between men accounted for 60% of new HIV cases in 2004. About one third of the total cases in that year were among people younger than 30 years, which seems to confirm earlier reports of an increase in sexual activity and unsafe sex among young men and women (Ono-Kihara et al., 2001; Nemoto, 2004).

No delay

Countries in the region need to heed the examples of countries that have chosen to provide large-scale and comprehensive prevention services to people most in need of them. In all those cases, programmes were targeted at the behaviours and contexts that were causing the most new infections. This means that sex workers (male and female) and their clients need to know how to protect themselves from HIV, clients need easy access to condoms, and they should always be required to use them. Sex workers need regular access to high quality sexually transmitted infection services. Injecting drug users need better access to harm reduction and drug treatment services, and programmes must tackle the linkages between drug injecting and commercial sex. Finally, the political, legal and institutional environment must support the provision of appropriate HIV prevention services to those most at risk.

The AIDS epidemics are now changing in several Asian countries—including those that managed to limit earlier HIV epidemics. Among the latter, **Cambodia** and **Thailand**, for example, need to tackle their changing epidemics more boldly. This will require designing and implementing programmes that can limit HIV transmission among at-risk groups (such as drug injectors, sex workers, including those who are not brothel-based, and men who have sex with men) that so far have not featured centrally in many countries' responses.

For **Indonesia** and **Pakistan**, time is of the essence. Both countries urgently need to scale up their responses if they are to avoid serious HIV epidemics. The long-standing epidemics in several other countries involve a further challenge: providing treatment and care to the thousands of people who are infected. In 2005, an estimated 1.1 million people in Asia needed antiretroviral treatment, the second-highest number in the world. Treatment provision has grown substantially since early 2004—nearly tripling from 55 000 to 155 000 by mid-2005. Much of that momentum has been due to strong efforts in **Thailand** (where more than half the people in need of the drugs were getting them) and **China**. A huge challenge still remains: some 85% of people needing treatment were not yet receiving it in mid-2005 (UNAIDS/WHO, 2005).