AIDS Has Arrived in India and China

by Ann Hwang

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AIDS Has Arrived in India and China

How will the world’s two most populous countries cope with the pandemic?

by Ann Hwang

In 1348, the Black Death arrived in Europe from its probable home in Central Asia, and over the next couple of years it is believed to have killed 25 million people. Sometime soon, mortality from AIDS will exceed the death toll of that worst outbreak of bubonic plague. Since the start of the AIDS pandemic roughly 20 years ago, 20 million people have died and over 50 million have been infected. Every 11 seconds, someone dies from AIDS. According to statistics compiled by the World Health Organization, AIDS is now killing more people each year than any other infectious disease. AIDS has become one of the greatest epidemics in the history of our species.

The AIDS epidemic took much longer to build momentum than did the Black Death, but AIDS has far more staying power. For all their intensity, the bubonic plague epidemics were relatively short: *Yersinia pestis*, the plague bacterium, tends to burn itself out quickly. And in any case, *Y. pestis* and *Homo sapiens* are no longer caught up in an intense epidemic cycle. Plague still kills people in various parts of the world, but it does not spark epidemics on a continental scale. Even if it did, antibiotics have made it far less deadly than it was 650 years ago. But HIV, the virus that causes AIDS, shows no sign of releasing us from its grip. Indeed, it has evolved into several new forms, even as it continues to burn through humanity. And although there are now drugs that can prolong the lives of its victims—or at least, those who can afford treatment—there is no cure for the disease and no vaccine for it. (See “An AIDS Vaccine?” page 16.)

Within the AIDS pandemic, sub-Saharan Africa has become the equivalent of mid-14th century Europe. Ignorance of the disease, poverty, war, and frequently, a rather relaxed attitude toward sexual activity (especially when it comes to men)—such factors have allowed HIV to explode through some African societies. In 1996, the Joint United Nations Programme on HIV/AIDS (UNAIDS) predicted that by 2000, over 9 million Africans would be infected with HIV. The actual number turned out to be 25 million. Though Africa is home to less than 9 percent of the world’s adults, it has more than two-thirds of adult HIV infections. In Botswana, the country with the world’s highest infection rate, one in three adults is now infected. And as the infected continue to die, places like Botswana may become increasingly unstable for lack of farmers, teachers, community leaders, even parents.

But in large measure, the course of the pandemic will depend on what happens not in Africa but in Asia, the continent that is home to nearly 60 percent of the world’s people. AIDS is already well established in Asia, although no one knows precisely when or where it first arrived. By the mid-1980s, however, infections were beginning to appear in several Asian countries, including Thailand and India. A few years later, it was obvious that HIV infection was increasing dramatically among two of the best known “high risk populations”—prostitutes and users of injection drugs. As its incidence increased, the disease began to travel the highways of Asia’s drug trade, radiating outward from the opium-producing “Golden Triangle,” where Myanmar (Burma), Laos, and Thailand converge. The infecting of the world’s most populous continent had begun.

That process may now be reaching a kind of critical mass. AIDS has arrived in the two most heavily populated countries in the world: India and China. With populations of 1 billion and 1.3 billion respectively, these countries are home to over a third of the world’s population and nearly 70 percent of Asia’s people. Thus far, neither has suffered the kind of explosive epidemic that has ravaged sub-Saharan Africa.
Caveat lector: the data in this map, which derive from official country sources, do not give a complete picture of the epidemic. In particular, information on high risk groups is incomplete. The high risk data do not include homosexuals in either India or China, or blood sellers in China (see page 17). Because the latter group is omitted, the map does not accurately portray the epidemic in central China.

Africa. Each still has important opportunities to stem the epidemic. What will the giant societies of Asia make of those opportunities? This is one of the greatest social and ethical issues of our era.

**Four Million Infected in India**

India is home to an estimated 4 million people with HIV—more than any other country in the world. Because of India’s huge population, the level of infection as a national average is very low—just 0.4 percent, close to the U.S. national level of 0.3 percent. But this apparently comfortable average masks huge regional disparities: in some of India’s states, particularly in the extreme northeast, near the Myanmar border, and in much of the south, the rate of infection among adults has reached 2 percent or more—five times the national rate and more than enough to kindle a widespread epidemic.

Among these more heavily infected regions, there is another kind of disparity as well, in the way the virus is spreading. In southern India, AIDS fits the standard profile of a sexually transmitted disease (STD), with particularly high infection rates among prostitutes. Sex is big business in India, generating revenues of $8.7 billion each year, according to the Centre of Concern for Child Labour, a Delhi-based non-profit. Mumbai (Bombay), the country’s largest west coast city, has twice the population of New York yet almost 20 times the number of prostitutes. By 1997, over 70 percent of those prostitutes were HIV positive. The prostitutes’ clients, in addition to risking infection themselves, put their wives or other sex partners in jeopardy, thereby creating a bridge that allows the virus to spread from a high-risk enclave to the general population.

In some segments of Indian society, that bridge is now very broad. Long-distance truck drivers, for example, are usually away from home for long periods and many visit prostitutes en route. For one study, published in the *British Medical Journal* in 1999, nearly 6,000 long-distance truckers were interviewed and nine out of ten married drivers described themselves as “sexually promiscuous,” defined as having frequent and indiscriminate change of sexual partners. Not surprisingly, HIV incidence is now rising among married Indian women. A study from 1993 to 1996 found that over 10 percent of female patients at STD clinics in Pune, near Mumbai, were HIV positive; over 90 percent of these women were married and had had sexual contact only with their husbands. (See “Increasingly, A Women’s Disease,” page 19.)

In India’s northeast, the epidemic has a very
**An AIDS Vaccine? No Magic Bullet**

“People expect a magic bullet,” says Chris Collins, president of the board of the AIDS Vaccine Advocacy Coalition, a network of U.S. activists that seeks to increase funding for HIV vaccine research. But he cautions, “the AIDS vaccine probably isn’t going to be that.”

It is true that vaccine researchers have made substantial progress over the past few years. A California-based company known as VaxGen is now conducting the first ever large-scale tests in humans of a possible vaccine. An interim analysis of the tests, which involve 8,000 volunteers on three continents, is scheduled for November 2001. Many experts believe that such efforts will eventually pay off, but the results are not likely to compare with the smallpox vaccine, which eventually eliminated that earlier global pandemic.

One big obstacle is the virus’s mutation rate. Mutations appear to occur in at least one of the virus’s genes each time it replicates, once every 8 hours. In HIV, as in any other organism, most mutations prove to be evolutionary dead ends. But not all of them: the virus has already spawned more than a dozen different subtypes around the globe, and it is unclear whether a single vaccine would be effective against every subtype. China in particular has a very heterogeneous epidemic, with nearly all known subtypes represented. This global mosaic of subtypes may exacerbate the medical North-South divide. How much industrialized-country R&D will be invested in developing vaccines for strains that predominate in developing countries?

Even when a viable vaccine is discovered, researchers are likely to face formidable challenges in determining its use. Suppose, for example, that a vaccine is only 50 percent effective: should it be licensed, given the possibility that people receiving it may be less inclined to have safe sex or use clean needles? Assuming that a strong general case could be made for the use of such a vaccine, who is going to pay for the inoculation of the developing world’s high-risk populations? Vaccine researchers may find the sociology of the epidemic as difficult to deal with as the biology of the virus itself. No doubt, an effective vaccine will be a valuable tool against the pandemic, but it is not likely to replace any of the other tools already in use.

— Ann Hwang

**Perhaps One Million Infected in China**

In China, the shadow of AIDS is at present just barely discernable. Current estimates put the number of HIV infections at 500,000 to 1 million. In a country of 1.3 billion, that works out to an infinitesimal national level of infection: eight one-hundredths of a percent at most. But even though the virus is very thinly spread, it seems to be present nearly everywhere: all of the country’s 31 provinces have reported AIDS cases.

As with India, the character of this incipient epidemic differs greatly from one region to the next. China’s original HIV hotspot is in the south: Yunnan province, which borders Laos and Myanmar, had almost 90 percent of the country’s HIV cases in 1990. Yunnan lies on the periphery of the Golden Triangle and is home to a large (but not readily definable) proportion of China’s intravenous drug users. Today, however, the virus has moved well beyond Yunnan, in part because of a surge in the popularity of injection drugs. By the middle of the 1990s, half of new infections in intravenous drug users were occurring outside Yunnan, mostly in other southern provinces. Guangxi province, which borders Yunnan to the east, saw infection levels in surveyed drug users climb from zero in 1993 to 40 percent by 1997.

Last year, China’s official count of registered intravenous drug users reached 600,000—more than double the number in 1992. And as the number of users has grown, so has the custom of sharing needles. Information on this habit is hard to come by, but based on the most recent data the government has provided, UNAIDS estimated that 60 percent of users shared needles in 1998, up from 25 percent the year before.

In many parts of China, and particularly in the countryside of the central provinces, the virus is
spreading through a very different form of injection. Selling one’s own blood is a common way for poor people to make a little extra money, but it puts them at high risk for HIV infection. The government banned blood sales in 1998 (the blood supply in China is supposed to come from voluntary donations). But growing demand for blood virtually ensures the continuation of the practice. In some illegal collection centers, blood of the same blood type may be pooled, the plasma extracted to make valuable clotting and immune factors, and the remaining cells re-injected into the sellers. (Re-injection shortens the recovery period, allowing people to sell their blood more frequently.) The needles and other collection equipment are often reused as well. A January 2000 raid on one such center in Shanxi province, southwest of Beijing, turned up 64 bags of plasma, all of which tested positive for HIV and hepatitis B.

The extent of the black market in blood is unknown. China’s news media are banned from reporting on the topic, outside researchers have been prevented from studying it, and government officials won’t discuss it. But it’s a good bet that the system is not about to be weaned off black market blood anytime soon; official donations are apparently inadequate even though their “voluntary” character is already badly strained. Inland from Hong Kong, for instance, in the city of Guangzhou, work groups are fined if they do not meet their blood donation quotas. Workers sometimes avoid the fines without donating by hiring “professional donors” to take their place. One could argue that such quotas still work, albeit in a somewhat indirect and callous way. But the system is riddled with flaws. The general cultural reluctance to give blood in China has been exacerbated by a widespread perception that donation is dangerous. And unfortunately, that perception is probably justified, since even official blood collection centers may reuse needles and tubing. (Such reuse is not necessarily intentional; sometimes unscrupulous dealers collect used equipment, repackage it, and sell it as new.) Another unfortunate consequence follows when the blood is actually used: apart from the larger urban hospitals, the Chinese blood supply is probably not adequately screened for HIV or other diseases, and “professional donors” have much higher levels of infection than the general public.

In the major cities and especially along China’s highly developed southeastern coast, AIDS is primarily an STD. At least in the cities, sexual mores appear to have loosened considerably over the past couple of decades. Not surprisingly, prostitution is becoming more common. For the country as a whole, prostitution arrests now number about 500,000 annually; China’s Public Security Department estimates the number of prostitutes to be between 3 and 4 million, a figure that has been increasing since the 1980s. STDs, such as syphilis and gonorrhea, were virtually eradicated in the 1960s under an aggressive public health campaign, but have returned with a vengeance. Infection rates are increasing by 30 to 40 percent each year, according to the Ministry of Health. That portends an increase in AIDS, not only because of what it suggests about the growing sexual permissiveness, but also because the genital sores caused by other STDs make people more vulnerable to HIV.

Sexual contact, intravenous drug use, blood selling—in many parts of the country, these and perhaps other modes of transmission are increasingly likely to “overlap” as the virus spreads. The results may be difficult to anticipate, or to counter. For example, in 1998, the most recent year for which statistics were available, the province reporting the largest number of new HIV infections was not Yunnan or Guangxi, but the remote Xinjiang, in China’s arid and lightly populated northwest. Why? In part, the answer appears to be drugs. Despite its apparent isolation, Xinjiang is enmeshed in the opium trade. Some studies have found infection levels of about 80 percent among the province’s intravenous drug users. Local prostitutes seem to be heavily infected as well. And HIV has begun to appear in women coming to clinics for prenatal care—a strong indication that the virus is starting to leak into the province’s general population. But despite the fact that it has become an HIV hotspot, Xinjiang has attracted little official attention, and that suggests another reason for the province’s plight. Most of Xinjiang’s inhabitants are Uigur, a people of Turkish descent. (The area is sometimes called “Chinese Turkistan.”) Like some of China’s other ethnic minorities, the Uigur suffer disproportionately from HIV. The country’s AIDS prevention and education programs, very small to begin with, may be even less effective among ethnic minorities. Lack of official interest in minorities may be a factor Xinjiang’s epidemic; perhaps also there is some sort of cultural “communications gap.”

In early 2000, a group of concerned Chinese scientists—including some members of the Chinese Academy of Sciences—submitted a report to the government that warned, “The spread of AIDS is accelerating rapidly and we face the prospect of remaining inert against the threat.” Without decisive action, according to China’s National Center for AIDS Prevention and Control (NCAIDS), 10 million people in China could be infected with HIV by 2010.

Death on the Margins

In China and most of India, AIDS is still concentrated among socially marginal high-risk groups—groups engaged in activities that attract mainstream disapproval and that are often illegal. One of the
most obscure of these groups is male homosexuals. Despite the prominence of homosexuality in the AIDS controversies of the industrialized countries, very little is known about gay life in China or India. But studies in Chennai (Madras), the largest city on the southeast coast, reveal one ominous characteristic of the Indian homosexual underground: most participants do not appear to be exclusively homosexual. Most are married.

Gay men who are married, heterosexual men who patronize prostitutes, intravenous drug users and their sexual partners: AIDS may still be a disease of the social margins, but in both India and China there are several major bridges between the margins and mainstream society. It’s possible that the virus will tend to cross those bridges relatively slowly. If it remains largely in the fringe populations, it should be easier to control. But even this scenario entails serious risk, since it could encourage callousness towards the victims and complacency towards the disease.

Take the complacency potential first: if AIDS is portrayed as a disease of marginalized groups, people who are not in those groups may be reluctant to acknowledge their own vulnerability. Suneeeta Krishnan, a researcher at the University of California at Berkeley, has studied HIV for the past three years in southern India and seen this reluctance first hand. “The perception is that AIDS is only a problem of female commercial prostitutes sitting in Bombay,” she said. “It’s only a problem for us if we have sex with them.” Such attitudes could easily heighten the risk of contagion.

The “us-them” mentality can also greatly increase the suffering of those who are already infected. One effect of stigmatizing AIDS-prone minorities is that all AIDS sufferers tend to end up stigmatized. Rajesh Vedanthan, one of the founders of Swasthya, a non-profit that provides HIV counseling to women in the southern Indian state of Karnataka, recalls the story of a pregnant woman who sought care at a hospital for profuse vaginal bleeding. Without her consent or knowledge, she was tested for HIV and found to be infected. The hospital doctor—without informing her of her HIV status—placed gauze to soak up the blood, discharged her from the hospital without treatment, and told her never to return. By the time she came to Swasthya, she had a raging infection. Such inhumanity can greatly compound the contagion of the disease itself.

"Avoiding Unnecessary Agony"

In Beijing, the streets are swept clean by women wielding brooms made from twigs. Licensed taxis queue at the airport waiting for uniformed guards to assign them passengers. But you needn’t go far from China’s capital before all the taxis have inexplicably broken meters, and beggars crowd the trash-covered streets. A similar duality is apparent in the country’s efforts to deal with AIDS. As a totalitarian state with a strong tradition of public health and social services, China would appear to be in good shape to control the AIDS epidemic. But China spends only about seven tenths of 1 percent of its GDP on health care. (The United States is at the other end of the spectrum, with public health care expenditures amounting to 6 percent of its GDP.) China’s anti-AIDS efforts thus far have amounted to little more than crackdowns on prostitution, drug use, and blood sales—strong-arm tactics that have had negligible effect.

Public education about the epidemic has been stalled by censorship. The language of official AIDS announcements reflects a deep awkwardness in discussing sexual issues. “The government calls to the attention of its citizens whether their words and deeds conform to the standards of the Chinese nation,” explained one official declaration dating from the beginning of the epidemic. The announcement added, with muffled urgency, that citizens should “know what to do and what not to do when making sexual decisions and avoiding unnecessary agony.” Though times are changing, China’s first nationally televised advertisement promoting condom use to prevent AIDS was taken off the air in December 1999, after just two days of broadcast, because it violated a ban on ads for sex products.

Technical infrastructure for treating and tracking the epidemic is also in short supply. In its most recent report, released in 1997, NCAIDS noted that China had only 400 labs capable of testing for HIV, or roughly one for every 3 million people. There is also a shortage of medical personnel trained to treat people infected with HIV or other STDs. When workers at STD clinics in the southern city of Shenzen were tested on their medical knowledge, only 23 percent passed, according to Xinhua, the official Chinese news agency. According to Zeng Yi, an AIDS researcher and member of the Chinese Academy of Sciences, local officials in various parts of the country are reluctant to collect data on HIV, for fear that their province will be blackballed as a highly infected area. Even more alarming is the apparent drop in resources committed to fighting the epidemic. Following budget cuts of 40 percent, the number of HIV screening tests in disease surveillance programs fell from 3.4 million in 1997 to 1.3 million in 1998.

India, the world’s largest democracy, has little reason for complacency either. Early in the epidemic, some Indian politicians were calling for banning sex with foreigners, isolating HIV-positive people, and urging a return to traditional values—cries that were being heard in other countries as well. The proposal to ban sex with foreigners was put forth in 1988 by A.S. Paintal, the government’s chief medical
In the developing world, women now account for more than half of HIV infections, and there is growing evidence that the position of women in developing societies will be a critical factor in shaping the course of the AIDS pandemic. In general, greater gender inequality tends to correlate with higher levels of HIV infection, according to the World Bank researchers who track literacy rates and other general indicators of social well-being.

As in the AIDS-ravaged countries of sub-Saharan Africa, India and China offer women far fewer social opportunities than men. Both countries score in the lower half of the “Gender-Related Development Index,” a measure of gender equity developed by the United Nations Development Programme.

Double sexual standards that demand female virginity while condoning male promiscuity put many women at risk. Studies in India and Thailand, by the Washington D.C.-based International Center for Research on Women (ICRW), have found that young, single women are expected not only to be virgins but also to be ignorant of sexual matters. As a result, young women lack basic knowledge about their bodies and are poorly prepared to insist on the use of condoms to protect themselves from HIV or other sexually transmitted diseases (STDs).

Even within marriage, women may have little influence over sex. “A woman does not have much say in the house,” said one Indian woman participating in an ICRW focus group. “He is the husband. How long can we go against his wish?” Without adequate legal protection or opportunities for economic independence, such women may have little choice but to remain in abusive marriages and follow their husbands’ dictates. Of 600 women living in a slum in Chennai (Madras), a major city on India’s east coast, 90 percent said they had no bargaining power with their spouses about sex and couldn’t convince them to use condoms. And 95 percent of these women were financially dependent on their husbands.

Women’s risk is compounded by biological factors. During vaginal intercourse without a condom, transmission of HIV from an infected man to a woman is two to four times more likely than transmission in the opposite direction. The two key factors appear to be the surface area of exposed tissue and the viral load. Women lose on both counts: the virus concentrates in semen, and the surface area of the vagina is relatively large and subject to injury during sex. Tears in the lining of the vagina or cervix may admit the virus more readily. Women suffer another biological disadvantage as well. In general, STDs are harder to detect in women because the symptoms are more likely to be internal. Lesions from unrecognized STDs can increase a woman’s susceptibility to HIV.

Once infected, women are less likely to be treated. In couples where both partners are infected with HIV but where treatment can be afforded only for one, it is the husband who almost invariably gets the drugs. Subhash Hira, director of Bombay’s AIDS Research and Control Center, explained it this way to an AP reporter: “It is the woman who is stepping back. She thinks of herself as expendable.” A 1991–93 study in Kagera, Tanzania found that in AIDS-afflicted households, more than twice as much, on average, was spent caring for the male victims than for the female victims: $80 versus only $38.

The stigma of infection also seems to fall more heavily upon women. Unease over female sexuality appears to translate readily into a tendency to see infection in women as punishment for sexual promiscuity. Women are sometimes even blamed for being the source of the disease. Suneeta Krishnan, an expert on AIDS in southern India, notes that the local languages contain few words for STDs, but the most commonly used formula is “diseases that come from women.” One man explained the term to her: “The man may be the transmitter of the disease, but the source is the woman. She is the one who is blamed. For example, if a well is poisoned, and a man drinks from it and falls ill, people do not blame him. They blame the well. In the same way, people blame women for sexually transmitted diseases.”

— Ann Hwang
researcher, but was scuttled immediately under a barrage of domestic and international criticism. In Goa state, on India’s west coast, a law permitting the testing and isolation of anyone suspected of being HIV-positive was overturned only after repeated protests. On the federal level, an unsuccessful 1989 “AIDS Prevention Bill” called for the forcible testing and detention of any HIV-positive person or anyone suspected of being HIV-positive.

In 1992, India’s Ministry of Health and Family Welfare established the National AIDS Control Organisation (NACO) to carry out AIDS prevention and education. NACO has put into place a surveillance system to monitor disease trends, but limited resources have hampered prevention and made treatment impossible. Anti-retroviral therapy, the “drug cocktail” that can slow the progression of AIDS, costs $270 to $450 per month. The country’s average per capita income is only $444 per year. Even among India’s rapidly expanding middle class, the average per capita income is only about $4,800 per year—roughly the same as a year’s worth of the cocktail. Nor is there preventive care for the many opportunistic infections that ultimately kill people whose immune systems are ravaged by AIDS, even though in industrialized countries, these infections can usually be held at bay for years with relatively inexpensive medications. Like China, India spends only about 1 percent of its GDP on health care—a number that Jeffrey Sachs, a professor of international trade at Harvard University, calls “shockingly low.”

**The Sonagachi Prostitutes and the Future of AIDS**

In 1989, when surveys of Thai brothels turned up rising levels of HIV infection among prostitutes, the Thai government collaborated with several non-governmental organizations to launch a massive public information campaign urging condom use. The “100% Condom Program” distributed condoms to brothels and massage parlors, and enforced use by tracking the contacts of men who sought care for STDs. Over the course of the next three years, condom use in brothels increased from 14 to 90 percent. By 1995, the number of men treated at government clinics for new sexually transmitted infections had dropped tenfold. A year later, HIV prevalence among conscripts to the army had dropped below 2 percent—less than half of what it had been in mid-1993.

The lesson from the early stages of the epidemic in Thailand is clear: it’s worth dispensing with moral scruples to give people a clear sense of the medical issues. Public education works, at least when it’s backed by some degree of enforcement. There’s no reason to think this approach would be any less effective in China or India. Consider the prostitutes of Calcutta’s Sonagachi district. Against considerable odds, these women have managed, not just to inform themselves about AIDS, but to organize themselves. The over 30,000 dues-paying members in their informal union have improved working conditions, educated other prostitutes about AIDS, started reading classes, and reduced the number of child prostitutes. They understand the need for condoms and have even threatened collective action against brothel owners reluctant to require condom use. As a result, their HIV infection levels remain at 5 percent—very low compared to the 60 or 70 percent levels typical of prostitutes in other Indian cities.

Frank talk about condoms and safe sex is of course just a start. An effective AIDS program must also have a reliable, confidential, and voluntary HIV testing program. It must protect the rights of infected people and secure treatment for them. But perhaps the greatest challenge of all is the need to build some form of long-term support for those marginalized, high-risk groups—support that invites the kind of initiative shown by the Sonagachi prostitutes. As Sunetra Krishnan puts it, “HIV is intimately linked to social and economic inequality and deprivations. As long as these problems persist, HIV is going to persist.”

That is perhaps one of the lessons from the latter stages of the Thai epidemic. The Asian financial crisis dried up funding for Thailand’s AIDS programs. Spending fell from $90 million in 1997 to $30 million in 1998 before rebounding somewhat, to $40 million in 1999 and 2000. The drop in funds has made the weak points in the Thai approach more apparent. Among populations other than brothel workers and their clients, the epidemic has proceeded largely unchecked. Male homosexuals have not generally been included in the program. Neither have intravenous drug users—a group whose infection level has passed 40 percent. And the worst news of all is that the infection level among women receiving prenatal care is now climbing.

In India and China as in many other places, prostitutes, homosexuals, and drug addicts are frequently the objects of contempt and legal sanction. But these are the people who should be top priorities for any serious AIDS program, for both practical and humanitarian reasons. How much of an investment are we really willing to make in the egalitarian principles upon which every public health program is built? AIDS is an acid test of our humanity. Over and over again, the virus teaches its terrifying lesson. There is no such thing as an expendable person.

Ann Hwang is a medical student at the University of California, San Francisco and a former intern at the Worldwatch Institute.