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The Politics of Life and Death

by Mary Caron

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The Politics of Life and Death

Global Responses to HIV and AIDS

If effectively fighting HIV means openly getting condoms to teenagers or clean needles to addicts, or candidly discussing the prevalence of prostitution in their communities, many politicians would rather avoid the subject altogether—even if it means allowing an epidemic to flourish. Where leaders have lifted their heads from the sand, however, millions of lives have been saved.

by Mary Caron

Both Rajesh and his wife—who prefers not to give her name for fear of being ostracized by neighbors in their Bombay community—are infected with HIV. With the help of money quietly contributed by relatives, they are among the few families in India who can pay for life-prolonging anti-viral drugs—but only for Rajesh. Other couples in India are finding themselves in a similar situation. “It is the woman who is stepping back” so her husband can get treatment, said Subhash Hira, director of Bombay’s AIDS Research and Control Center in a recent *Associated Press* story. “She thinks of herself as dispensable.”

In Zimbabwe, where 200 people are dying every day from AIDS, life insurance premiums have quadrupled to keep up with rising costs. It would take roughly two years for the average Zimbabwean to pay for one month of treatment at U.S. rates.

In the United States, of course, incomes are much higher—about 74 times those in India, and 46 times those in Zimbabwe. Yet, even here, nearly half of HIV positive patients in a recent national study had annual incomes less than \$10,000, whereas the annual costs of their care and treatment came to about \$20,000. Two of every three patients in the study had either no insurance or only public health insurance—which may not adequately cover their needs.

And then there is the Central African Republic, where I worked as a Peace Corps volunteer a few years ago. The five-bedroom house where I lived was owned by my neighbor, Victor, who rented it to me while living in a more modest mud-brick house next

door. He used the income from rent, plus whatever his eldest daughter could earn selling food in the market, to support ten people. One of them was a little girl of five or six, who used to come over and sing me songs. I didn’t realize that Victor was her uncle, not her father, until someone explained that her mother and father had died following “a long illness.” There are many households like Victor’s. Worldwide, more than 41 million children will have lost one or both parents by 2010, mostly as a result of AIDS. The grandparents or other surviving family members, who often have their own difficulties making ends meet, may find themselves taking care of up to a dozen children.

Clearly, AIDS is a disease that the world cannot afford. And yet, the relentless spread of the virus forces us to confront painful life-and-death choices about allocating resources. Communities, nations, and international donors are all struggling to care for a growing number of the sick; to invest in prevention that can avert millions of future infections; to fund research that can yield life-prolonging treatments; and ultimately to develop a vaccine. To do all of these things at once seems an almost impossible task. But experience in the field demonstrates that there are reasons for hope, even in relatively poor countries where HIV is already a serious problem.

While other diseases target children or the elderly, HIV often strikes otherwise strong and healthy people—those most likely to be taking care of children and contributing to the

economy. And it does so in a way that has repeatedly caught societies unprepared. HIV does not kill within a matter of days or weeks, like other infectious diseases; rather it gives death a kind of “rain check.” The asymptomatic period may last 10 years or longer in a country like the United States, though the infection can progress to AIDS in as little as two to three years in a country like Zimbabwe or India, where the percentage of people who can get full treatment and care is much smaller. An infected person may be ill off and on for years, requiring extended care from family or community members. And HIV, while relatively slow to develop in the body, can spread rapidly within a population. About 75 percent of HIV transmission worldwide is through unprotected sex. The rest occurs mainly through sharing of unsterilized needles, through childbirth or breastfeeding from an infected mother to her child, and from the use of infected blood in transfusions.

AIDS now rivals tuberculosis as the world’s most deadly infectious disease. Every day last year, 16,000 people were infected with HIV—11 people per minute. Women now account for 43 percent of all adults with HIV/AIDS. And about half of all new infections are in 15- to 24-year-olds. Since AIDS was first recognized in 1981, more than 47 million people have become infected and nearly 14 million have died. The epidemic has taken its heaviest toll in Africa, which has just 10 percent of the world’s population but 68 percent of the HIV/AIDS cases—most of them in the sub-Saharan region. In some southern African countries, one in four adults are HIV positive. Thus, the world’s poorest countries are staggering under the burden of the world’s most unaffordable disease.

As HIV wears down the body’s defenses and the infected person becomes increasingly ill from opportunistic infections, the costs of providing care and treatment mount. Worldwide, about 63 percent of the \$18.4 billion spent on HIV/AIDS in 1993 went to care, according to a 1996 study by Harvard researchers Daniel Tarantola and the late Jonathan Mann.* Another 23 percent was spent on research and just 14 percent on prevention. Moreover, only 8 percent of global spending took place in “low economy” countries of the developing world, yet more than 95 percent of all HIV-infected people live in developing countries.

Preventing an HIV infection costs much less than caring for an infected individual. And the benefit of prevention is compounded, since preventing one per-

*Mann and his wife, Mary Lou Clements-Mann, died in the crash of Swissair flight 111 last September. Mann founded and headed the World Health Organization’s Global Program on AIDS.

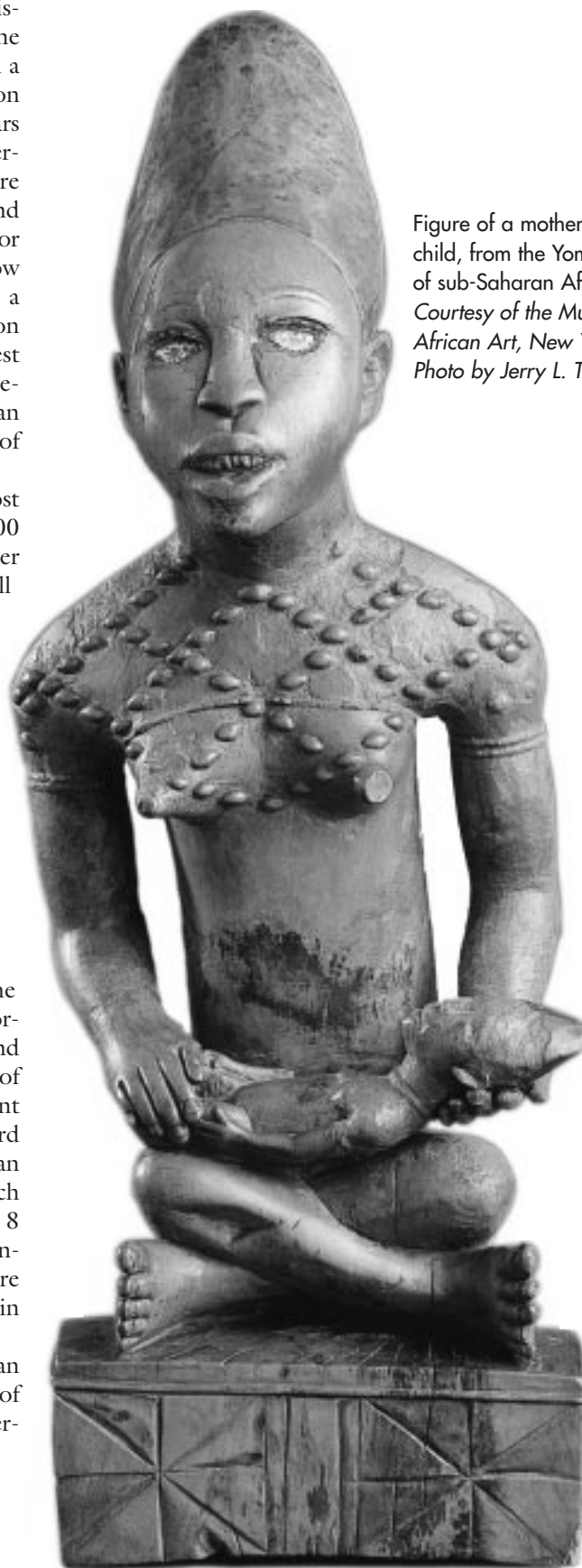


Figure of a mother and child, from the Yombe tribe of sub-Saharan Africa. Courtesy of the Museum for African Art, New York. Photo by Jerry L. Thompson.

son from getting HIV keeps that person from spreading it to others. If a man has sex with three different women in a year, shielding that man from infection also shields his three partners and any children they may have.

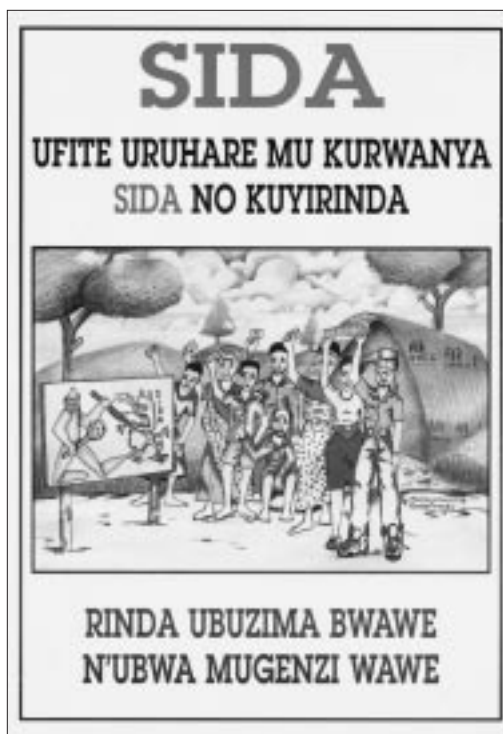
However, global resolve to protect the uninfected may be overwhelmed by the challenge of providing for the staggering number already infected. AIDS already rivals the horror of the smallpox epidemic which decimated Native American populations in the 16th century, and the Black Death which wiped out a quarter of Europe's population in the 14th century. If one of every four adults is already infected in Botswana and Zimbabwe, what hope is there for those countries and their neighbors? Many people may now be under the impression that Africa is a continent essentially lost to AIDS, and that the rest of the developing world may soon follow.

Look more closely, however, and two signs make it clear that the situation is far from hopeless.

First, more than half of the populations of developing countries—about 2.7 billion people—live in areas where HIV is still low, even among high-risk groups. Another third live in areas where the epidemic is still concentrated in one or more high-risk groups, yet “HIV prevalence”—the proportion of a population infected at a given time—is still below 5 percent in the general population. Even in hard-hit Africa, there are at least a few countries—such as Benin, Senegal, Ghana, and Guinea—where adult infections are still under 3 percent. These areas of relatively low HIV prevalence present a one-time opportunity—and one that will not last long—for policy makers to implement solid strategies for keeping HIV at bay.

Second, even in places where the epidemic has taken hold, campaigns to stop further escalation have proven successful in both the early *and* the later stages of an epidemic. It's instructive to see how that was done in each case—first in Thailand, where an effective campaign was able to ward off an incipient epidemic and to keep prevalence relatively low in the general population, and then in Uganda, where a high percentage of the population was already infected.

By taking action relatively early, Thailand was able



Tanzania: Poster in a Rwandan refugee camp. *Courtesy of Population Services International.*

to keep HIV infections from spiraling out of control in the general population. In early 1988, officials were alarmed by reports from an ongoing survey at a Bangkok hospital showing that infections among drug addicts who use needles, or “injecting drug users” (IDUs), had jumped from 1 percent to 30 percent in the preceding 6 months. In response, the Thai Ministry of Public Health set up a system to collect data on HIV infection at selected sites throughout the country. These “sentinel surveys,” as they are called, revealed even more alarming news. By mid-1989, HIV was present in all 14 provinces surveyed. In the northern city of Chiang Mai, 44 percent of the prostitutes were infected. And HIV was also found in some pregnant

women, who are considered representative of the general population.

Concerned about the possibility of a general epidemic, the Thai government then conducted a national survey to identify behaviors that might be driving the spread of the virus. What it found was that more than one-fourth of the country's men were having sex with prostitutes, both before and outside marriage. In 1991, Prime Minister Anand Panyarachun assumed personal leadership of the National AIDS Committee and aggressively escalated the government's response. Official spending on HIV/AIDS was pushed from \$2.6 million in 1990 to \$80 million in 1996.

The Thai effort mobilized sectors of the population ranging from prostitutes to teachers to monks. In the commercial sex industry, which accounts for an estimated 14 percent of Thailand's GDP, brothel owners and employees now require every male customer to use a condom. Government STD clinics hand out about 60 million free condoms a year, and encourage their use. Several monasteries in northern Thailand are providing counseling services for HIV-affected people, and helping them find employment. Schools are teaching children how to reduce sexual risk-taking.

Within three years after this heightened response got underway, there were signs that it might be working. A second national behavior survey showed that between 1990 and 1993, the percentage of 15–49 year old men reporting sex outside of marriage had dropped from 28 percent to 15 percent. Among men

who continued to engage prostitutes, the percentage reporting that they always used a condom doubled. Condom sales rose and sexually transmitted disease declined throughout the country. HIV infection also declined. Annual testing of 21 year-old military conscripts, which had found 0.5 percent of them infected in 1989, showed prevalence peaking at 3.7 percent in mid-1993 (reflecting a predictable lag between risky behavior and evidence of infection), then declining to 1.9 percent in 1997. Similarly, testing of pregnant women in all 76 provinces found HIV infection at 0.5 percent in 1990, increasing to 2.4 percent in 1995, then declining to 1.7 percent in 1997.

The health and social costs of this disease still inflict a heavy burden on the Thai economy, and the costs continue to grow. The Asian financial crisis, which began in Thailand in 1997, has forced cuts in the national AIDS budget and has put greater strains on affected families. And Thailand will have to remain vigilant to keep prevalence low. While condom use has increased in the country as a whole, it remains much lower in rural areas among people with limited education, and among those who engage in casual sex. A 1995 survey also showed that many drug users were reverting to sharing needles. Nonetheless, by acting quickly and aggressively, Thailand may have averted a full-blown HIV epidemic.

Uganda, unlike Thailand, launched its prevention campaign at a time when a high percentage of the population had already been infected. By 1999, in a population of less than 21 million, 1.8 million Ugandans have already died and 900,000 more have HIV. Moreover, Uganda has far less financial capability than does Thailand, with a per-capita GNP of just \$300 compared with Thailand's \$2,960. Yet Uganda's success in bringing down high HIV prevalence provides evidence that fighting HIV is not impossible, even when the situation at the outset looks dire. When Yoweri Museveni became president in 1986, HIV was already a serious problem. Museveni quickly implemented a national plan, enlisting both government agencies and non-governmental organizations (NGOs) to join the fight. Uganda established the first center in sub-Saharan Africa where people could go for voluntary and anonymous HIV testing and counseling.

Like the Thai campaign, the Uganda one succeeded by mobilizing a wide spectrum of groups. A student heading home after class at Makerere University in Kampala, for example, may well get an update of the latest information on avoiding HIV—courtesy of her “boda boda” bicycle taxi driver, who has been trained by the Community Action for AIDS Prevention project. Or if you live in the Mpigi district, the local Muslim spiritual leader, or Imam, may stop by for a discussion of AIDS and Islam. Trained by the Family AIDS Education and Prevention Through

Imams project of the Islamic Medical Association of Uganda, some 850 of these leaders have taken HIV prevention messages directly to the homes of more than 100,000 families throughout the country.

The Ugandan government has conducted regular surveys of sexual behavior, and these studies show signs of substantial change from 1989 to 1995. The share of 15–19 year-olds who report never having had sex has increased from 26 to 46 percent for girls, and from 31 to 56 percent for boys. The share of people reporting that they had used a condom at least once rose from 15 to 55 percent for men and from 6 to 39 percent for women.

HIV prevalence has also dropped, most notably among young people between the ages of 13 and 24. Between 1991 and 1996, the percentage of pregnant women testing positive for HIV in some urban areas dropped by one half, from about 30 percent to 15 percent.

So it is apparently possible to keep HIV in check. But it's not easy, whether the problem is caught in its early stages as it was in Thailand, or has become full-blown as it was in Uganda. It's difficult to change people's behavior, especially when it means challenging highly sensitive—and very personal—questions about sex, prostitution, infidelity, and drug dependence. “We have to stop thinking that HIV/AIDS is only a health problem. It is a development problem,” says the World Bank's HIV/AIDS coordinator Debrework Zewdie. To stop it will take “a commitment from governments in developed and developing countries. Zoom-in-and-zoom-out programs are not going to work; we have to build local capacity.”

There is no single formula for building that capacity, although the most innovative and appropriate solutions often come from within communities. Wherever initiatives are taken, however, there are some basic policy principles that seem to apply.

Early and aggressive action: Worldwide, we already spend nearly \$5 on HIV/AIDS treatment and care for every \$1 spent on prevention. Implementing prevention measures before even the first case of AIDS is reported can reduce that ratio and thereby greatly reduce the overall costs of care. On the other hand, if governments avoid thinking about prevention until AIDS cases start to burden the health system, the epidemic may already have invaded large parts of the population. Yet because symptoms of AIDS typically do not show up until several years after infection, the threat may be largely invisible until large numbers of people have been doomed.

Communities: Mobilizing business, religious, and civic leaders can galvanize broad support for raising public awareness of the risks of HIV and reducing the stigmatization of those infected. In

Zimbabwe, for example, the Commercial Farmers Union recruited and sponsored farm owners to participate in a Family Health International-supported program that trained more than 2 million farm employees and family members in a nationwide HIV/AIDS prevention effort.

Political leadership: In both Thailand and Uganda, HIV/AIDS prevention moved from simply a public health concern to a national priority. Prevention campaigns can succeed when political leaders put them at the top of the national agenda, use their public platform to encourage safer behavior, ask communities and NGOs to join the fight, and work to change laws that prohibit such effective tools of prevention as condom advertising and needle purchases.

Data collection and dissemination: HIV is a stealthy attacker that can infiltrate an unsuspecting community and spread rapidly. It is therefore important to collect infection data from health clinics and to assess behavior trends. By publicizing the results of its sentinel and behavior surveys, Thailand made its population aware of the extent of risk in the country.

Low-cost, high-quality condoms: Mr. Lover Man, a human-size condom mascot, can now be seen cruising the streets, attending soccer games—and, of course, passing out condoms—in several South African cities. In Portland, Oregon, teenagers have been given discreet access to protection via 25-cent condom vending machines in public rest rooms. Using new variants of old marketing techniques, organizations like Population Services International (PSI) have dramatically increased the worldwide distribution of HIV prevention information and reliable low-cost condoms. In Zaire, PSI “social marketing” programs helped condom sales to rise from 900,000 in 1988 to 18.3 million in 1991, averting an estimated 7,200 cases of HIV.

Targeting interventions to high risk groups: HIV usually gains a foothold in one or more groups whose behavior puts them at higher risk: prostitutes, IDUs, people with another sexually transmitted disease, young military recruits, migrant workers, truck drivers, or homosexual men. The virus can spread rapidly within the group and, once established, can move to those at lower risk of infection through people who act as a bridge between high and low risk groups—for example, men who have visited prostitutes and then bring the disease home to their wives.

A World Bank report, *Confronting AIDS*, suggests that countries can keep HIV at bay by targeting

these high-risk groups with HIV prevention. It is important to note, though, that such efforts, if not managed with particular care, can trigger unintended public reactions. Singling out particular groups may inadvertently raise perceptions that HIV is a problem only for “those” people. Some public health experts have also noted that programs to give prostitutes a regular monthly course of antibiotics, for example, may reduce STDs but are harmful to overall health. And when HIV is present in the general population, questions of equitable distribution of resources arise as well.

Preventing HIV infection in someone with a high rate of partner change can avert many more future infections than preventing infection in a person with low-risk behavior, says the World Bank report. For example, compare two prevention programs. The first, in Nairobi, Kenya, provided free condoms and STD treatment to 500 prostitutes, of whom 400 were infected. Each of the women had an average of four partners per day. Under the program, condom use rose from 10 to 80 percent. A calculation based on the estimated rate of transmission, number of partners, condom effectiveness, and secondary infections, shows that this program averted an estimated 10,200 new cases of HIV infections each year among the prostitutes, their customers, and their customers’ wives. If the same program had instead targeted a group of 500 men, who had an average of four partners per year, 88 new cases of HIV would have been prevented. The second program would have saved fewer than 1 percent as many people as the first.

When IDUs share needles contaminated with blood, HIV can sweep through their population even more rapidly than it does among prostitutes, because the risk of transmission per contact is higher. In January 1995, HIV prevalence among such drug users in the Ukraine was under 2 percent. Eleven months later, it had shot up to 57 percent. As of December 1997, 66 percent of HIV infections in China and 75 percent in Kaliningrad, Russia resulted from shared needles. Half of all new HIV infections in the United States occur among intravenous drug users, even though less than half of 1 percent of the U.S. population injects drugs frequently. And as with prostitution, HIV can spread from this high-risk group to the population at large.

Needle exchange programs aim to reduce the transmission of bloodborne infections, including HIV, by providing sterile syringes in exchange for used, potentially contaminated syringes. After the U.S. state of Connecticut made needles available from a pharmacy without a prescription, the percentage of IDUs who share needles dropped from 71 percent to 15 percent in three years. A review of studies conducted between 1984 and 1994 showed that HIV prevalence among IDUs increased by 5.9 percent per year in 52 cities that did not have needle

exchange programs, but declined by 5.8 percent per year in 29 cities that did.

The experience of the past two decades has given us a set of policies that are proven to work, at least at mobilizing communities to keep HIV in check. Such policies should be in place in every country in the world. Yet, proven policies aren't always enough. Even when faced with the specter of an ever more devastating human and economic toll, people in positions of political power too often ignore—or thwart—the most effective HIV-fighting strategies. If confronting AIDS means talking about such potentially explosive topics as distribution of condoms to teenagers, or of needles to addicts, or the prevalence of prostitution in their communities, many politicians would rather avoid the subject altogether.

In Kenya, where tourism brings in more money than exports of tea, coffee, or fruit, officials—perhaps leery of scaring off tourists—declared the country AIDS-free, even when studies among Kenyan prostitutes showed 60 percent of them to be HIV-infected. The government did not admit the scope of the epidemic until late in 1997. By then, more than a million Kenyans were infected. The country is belatedly taking steps to implement some HIV-fighting programs, such as an awareness campaign for students. Muslim and Catholic religious leaders, however, object to sex education in schools, saying it would corrupt students' morals. By now, the number of infected Kenyans has passed 1.6 million—about 12 percent of the adult population.

Refusal to pay serious attention has been a common failing in these battles, in which the invasion is so stealthy and the victims are often socially marginalized. Even in Thailand, where the government eventually roused itself to lead an aggressive anti-HIV campaign, there was an initial period of denial in the late 1980s, when infections were burgeoning among prostitutes in the Northern provinces, particularly in the Chiang Mai area. Given the large role of commercial sex in the Thai economy, officials may at first have been more concerned about the possible loss of tourism dollars than about the risk of an epidemic. Fortunately, they did not continue to ignore the problem.

In the United States, where about half of all new HIV infections are spread through shared needles or to sexual partners of IDUs, the government bans the use of federal funds for needle exchange programs. Last April, after carefully reviewing research on needle exchange programs, U.S. president Bill Clinton declared that these programs curb AIDS without promoting increased illegal drug use. Yet, in the same announcement, he declined to lift an existing ban on federal funding for needle exchange, which applies to all domestic and overseas programs.

Senator Paul Coverdell of Georgia introduced a bill that would prevent the ban from ever being lifted, and Representative Todd Tiahrt of Kansas authored a provision in the federal budget that bans the use of federal and city funding for needle exchange in the nation's capital. Politicians do not want to appear “soft on drugs” by helping drug users, who are often perceived as a criminal element—and who some cynically believe would die of drug overdoses anyway, even if they didn't die of AIDS. Even the more self-interested argument that preventing HIV among drug users could prevent it from spreading to the general population is largely ignored.

Similarly, U.S. officials were slow to act when HIV was first recognized in the early 1980s among homosexual men. Condemnation of the gay community was widespread, and some people went so far as to suggest AIDS was a heavenly retribution for worldly sins (i.e., homosexual sex). Fortunately for the U.S. population as a whole, as well as for those segments most at risk, members of the gay community launched their own aggressive and highly organized campaign to prevent HIV. Between the 1980s and the 1990s, AIDS was turned from a marginalized problem of “those people” to a high-profile national health threat. And while about half of those infected are still not in ongoing care, prevalence has been kept low.

In less politically or economically stable countries than the United States, however, leaders are sometimes overwhelmed by social and economic upheaval that may fatally distract them from the threat of HIV. As apartheid was ending in South Africa, for example, an influx of commercial trade and migrant workers from neighboring countries opened up a kind of viral superhighway for the epidemic. Legislators,



Honduras: “No to AIDS! Yes to Life,” says the sign. Courtesy of Population Services International.



South Africa: a stylish “hat.” *Courtesy of Population Services International.*

grappling with the momentous political and social changes at hand, failed to foresee that these changes might also bring deadly consequences, and no proper prevention strategy was put in place. Forced displacement of black people under apartheid, and the deploying of workers far from their families, had also led to higher rates of extramarital sex and prostitution. Today, more than 3 million South Africans—one of every eight adults—have HIV. In a country of just 43 million, 1,500 people are infected every day.

The political and social climate in South Africa has been slow to change. The government has been accused of stifling non-governmental action with bureaucratic restrictions. Social stigmatization runs very high. A woman who had just publicly declared her HIV-positive status as a means of helping others to fight discrimination was beaten to death just after Christmas last year by a mob of neighbors who stoned her, kicked her, and beat her with sticks.

After a long period of rarely addressing the issue, departing president Nelson Mandela declared in March that “the time for such silence is now long past. The time has come to teach our children to have safe sex, to have one partner, to use a condom.”

The painful lessons learned in South Africa and other AIDS-ravaged countries can now be brought to bear on the world’s two largest countries, where the future health of a large portion of humanity lies

at stake. The choices that Chinese and Indian leaders make about fighting HIV in the next few years will affect the course of the epidemic for one-third of the world’s people. India and China both have relatively low HIV prevalence, but alarming signs of increasing infections among some groups, coupled with known risk factors, make both countries precariously susceptible. If HIV prevalence in China and India were to reach the levels now seen in some southern African countries, up to 300 million people would be infected. The magnitude of the impact—on economic productivity, social and political stability, psychological health, and the human spirit worldwide—is almost unimaginable.

In India, at present, less than 1 percent of adults are infected. Still, with an adult population of almost 500 million, that comes to 4 million HIV positive people—in absolute numbers, more than any other nation. Prevalence is highest among prostitutes, truckers, and IDUs, and there are signs that HIV is also gaining a foothold in the general population. A study conducted between 1993 and 1996 in the city of Pune, south of Bombay, showed that close to 14 percent of the city’s monogamous married women had been infected.

In Bombay, by now, more than 50 percent of the city’s 50,000 “sex workers” are HIV-positive, as compared with just 1.6 percent in 1988. Prevalence has also jumped into the double digits among prostitutes in the cities of Pune, Vellore, and Chennai (Madras). By 1993, about 70 percent of the 15,000 IDUs in India’s Manipur state, located near the “Golden Triangle” of Myanmar and China, were HIV-positive. And more recently, a random survey in Tamil Nadu indicated that some 500,000 of that state’s 25 million people are now infected. The epidemic has also spread among people who live and work along the major north-south truck corridor. In short, the evidence suggests that India’s AIDS situation is on the verge of exploding, if the country’s leaders don’t mobilize quickly enough to stop it. Moreover, in a country with 16 major languages, more than 1,600 dialects, and six major religions, such mobilization will require exceptionally skillful coordination and organization.

The Indian government has made a commitment to fighting HIV and is working with donors to coordinate prevention and care efforts. The question now is whether it can mobilize quickly enough. Last December, Prime Minister Atal Behari Vajpayee declared HIV and AIDS to be the country’s most serious public health challenge. With financial assistance from the World Bank, the government is implementing a National AIDS Control Program. It aims to give autonomy and financial support to the country’s 25 states in order to upgrade their health service delivery infrastructures and carry out HIV preven-

tion and care targeted to high risk groups. The state of Tamil Nadu already has a system in place to give financial and technical support to NGOs and has set a precedent for an effective decentralized anti-HIV campaign.

Greater reason for hope, though, lies in India's active local communities and a thriving network of NGOs. Following on the Gandhian legacy of grass-roots resistance to British colonialism, local groups are emerging throughout India to tackle HIV. In 1992, for example, representatives from SANGRAM, a rural women's group in Maharashtra, went into a local red light district and began passing out condoms, telling prostitutes, "This will save your life and mine." Some prostitutes, resentful of mainstream disdain for them, did not appreciate outsiders coming in to tell them what to do. "In the beginning, it was difficult; they even threw stones at us," said SANGRAM General Secretary Meena Seshu. Eventually, though, a small group of prostitutes took over the condom distribution and began educating their peers on how to avoid STDs and HIV. Since then, some 4,000 prostitutes in seven districts have formed their own collective, called the Veshya AIDS Muquabla Parishad (VAMP). The women attend training sessions on personal health, sexuality, STDs and superstition, negotiating condom use with clients, and how to be counselors for the infected and their families. Seshu notes that, in addition to lowering STDs and pregnancies, the collective has given the women strength to tackle difficult issues that might previously have been neglected. Whereas their health needs were often overlooked in the past, for example, the prostitutes are now demanding that doctors examine them and treat STDs properly. Organizations like SANGRAM and VAMP are gaining strength in several regions of India, and as they grow they are using their programs as a basis for advocating improved AIDS-prevention policies throughout the country.

In China, as far as we know, there is not yet a large-scale HIV epidemic. However, the potential for an enormous epidemic is becoming evident. China—shades of South Africa—is relaxing once-stringent economic constraints and opening previously closed doors to the outside world. These economic policy shifts are driving rapid social change, and may also be paving the way for HIV.

Once confined to foreign visitors and small groups of injecting drug users in Yunnan province, HIV has entered a phase of "fast growth" throughout the country according to a recent report by the Chinese Ministry of Health. Left unchecked, HIV infections could exceed 1 million by the year 2000 and 10 million by 2010. The World Health Organization's most recent estimate puts the number infected in China at 600,000.

China eradicated open prostitution in 1949. Since

the 1980s, however, commercial sex has resurfaced and seems to be growing. Girls, lured by money in China's burgeoning cities, are moving from rural areas and are often drawn into prostitution. Economic expansion is also increasing the number of migrant workers, who may now represent up to 15 percent of the total labor force. Often young, unmarried or living away from their spouses, migrants may be more likely to have casual sex or sex with prostitutes, greatly increasing their risk of infection. And here, as elsewhere, the sharing of needles by drug addicts spreads HIV even faster than prostitution. Among injecting drug users in Yunnan province, almost 86 percent are now infected.

The Chinese government apparently recognizes the magnitude of threat to its more than 1.2 billion people. A national program for HIV/AIDS control has been approved by the State Council, China's highest governing body. Hypodermic syringes and needles are available for sale at all pharmacies throughout the country. More than a billion condoms were produced by Chinese manufacturers in 1998 and distributed by the State Family Planning Commission. At a time when other ministries were facing stiff cutbacks in staff and resources, the National Center for HIV Prevention and Control was set up last July to study the epidemiology of HIV, to develop health education, and to conduct clinical work for pharmaceuticals. The Chinese Railways Administration distributed AIDS prevention information to its staff of 6 million workers and among railway passengers, many of them migrants.

China's past performance with public health management offers additional reason to hope the country can keep HIV in check. China has a unique history of bringing about swift social changes to improve health. As part of the "barefoot doctors" program in the 1970s, village representatives throughout the country were given basic public health training. Their efforts to provide basic health care and convey preventive health messages to their communities brought significant declines in infectious disease and child mortality in China. Today, China's health indicators are much closer to those of industrialized nations than to those of the developing world.

An emphasis on preventing HIV infection is essential to stemming this global health catastrophe. But even though behavior changes can dramatically reduce the spread of infection, they will never eradicate HIV. And while scientific advances have greatly improved treatment, no drug therapy has yet been able to fully rid the human body of the virus. Furthermore, anti-viral treatment is out of reach for all but a small fraction of the more than 33 million infected.

Ultimately, successful containment and eventual

eradication of HIV will require a safe, effective, and affordable vaccine. Many scientists think we can eventually develop such a vaccine—despite some significant hurdles. HIV is very efficient at making copies of itself, a replication that leads to disease despite a vigorous immune response. It also mutates rapidly, and has produced many different strains of itself, which means an effective vaccine would have to be able to recognize and fight off each nuance of the virus. Nevertheless, candidate vaccines have already been able to stimulate some immune response in human volunteers, and seem to be safe.

Even under the most optimistic scenarios, however, the development of an effective vaccine will take years—and the risks to humanity will continue to escalate if not powerfully addressed. In the last decade or so, 25 experimental vaccines have been tested in studies involving small numbers of volunteers but only one has advanced to larger scale “efficacy trials.” “Unless there’s a major breakthrough,” says Dr. Seth Berkley of the International AIDS Vaccine Initiative, “it’s unlikely we’ll have a vaccine within the next decade.”

Meanwhile, even the testing poses formidable challenges. For example, some standard preparation strategies used for other vaccines cannot be used for fear that a weakened form of the live virus or a whole killed virus might cause HIV infection in the person vaccinated. Even after the basic research on safety and effectiveness has been conducted, private pharmaceutical companies will still need to develop a commercial product—a process that takes an average of 10 years and costs at least \$150–250 million. Because HIV has hit developing countries hardest, a vaccine that offers any real hope of eradication will need to be inexpensive, easy to transport and administer, require few if any follow-up inoculations, and protect against any strain or route of transmission of the virus.

Getting adequate funding, too, has been an uphill battle. Five years ago, the National Institutes of Health (NIH) decided not to fund large-scale effica-



Namibia: Two options. *Courtesy of Population Services International.*

cy trials of any leading AIDS vaccines—at the time causing a serious setback to the research. This year, NIH increased vaccine research funding by 79 percent. But if it takes over 10 years to develop a vaccine as Dr. Berkley expects, it could be several decades before the vaccine allows us to put HIV on the road to eradication.

Sitting on the edge of a big wooden chair in my living room, Amélia—the young niece of Victor, next door—used to sing hymns, waiting for lunchtime, while I did Saturday cleaning. She was a skinny kid so I liked giving her a good meal. But she got thinner and thinner. And then, her grandmother had to tie an old towel around her head to hide the open sores. But she couldn-

n't cover up Amé's nose, which had somehow melted away. My neighbor came one day to tell me that Amé was no longer allowed to eat at my house, for fear she would infect me.

Amé died about a year later. I could tell, by the look in her eyes, that she knew what was happening to her. I didn't do anything to take her pain away. I didn't go over to my neighbors and insist that they let her come back. I didn't explain to them that Amé couldn't possibly infect me by eating from my dishes. I was immobilized—perhaps because I didn't know how to answer the unspoken questions of a little girl who didn't understand why this was happening to her.

This article has been based on numbers, but for every number that adds up incrementally to give us the startling statistics we now have, there is a human tragedy. Facing up to the scale of the suffering that lies behind those rising numbers can become an overwhelming challenge—one that we'd rather not think about. Yet, if we don't think about it clearly enough to find a way of stopping HIV in its tracks, a great many more communities, on every continent, will lose those men and women who are in the prime of life, as Amélia's parents were. And then they will lose their Amélias.

Mary Caron is press director for the Worldwatch Institute.