

Setting Government Priorities in Preventing HIV/AIDS

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Public policy has proved to be an effective weapon in containing the HIV/AIDS epidemic. Governments can have the greatest impact by providing incentives for those most likely to spread HIV to adopt safer behavior.

NO CURE has yet been found for the virus that causes AIDS, and an effective vaccine is still far off. The key to arresting the AIDS epidemic in developing countries is preventing HIV infection by changing individual behavior. What actions can be taken to encourage such change, and to which of these should governments give priority?

Behavior change is key

The biological characteristics of HIV determine, to some extent, the rate at which it spreads, but human behavior plays a critical role in transmission. People who have many sexual partners and do not use condoms, and people who inject drugs and share unsterilized injecting equipment have the greatest risk of contracting HIV and unknowingly infecting others. Typically, the virus first spreads quickly in a series of small epidemics among those with the riskiest behavior; it then spreads more slowly from them to lower-risk individuals in the population at large. How quickly and

extensively an HIV/AIDS epidemic spreads in a given population depends largely on the extent to which people with many sexual partners mix with people with fewer partners.

The World Bank Research Report *Confronting AIDS: Public Priorities in a Global Epidemic* finds that people who engage in high-risk behavior *do* act to reduce their risk of contracting and spreading HIV when they have the knowledge and means to do so and a supportive community. The report highlights three strategies to reduce risky behavior: providing information, lowering the costs of safer behavior, and raising the costs of risky behavior.

Awareness. Knowledge of how extensive HIV infection is in one's community, how the virus is transmitted, and how to avoid contracting it will induce some people to behave more safely—for example, by using condoms, reducing the number of sexual partners, sterilizing injecting equipment, or avoiding needle sharing. In Thailand, the announcement in 1989 that 44 percent of sex workers in the northern city of Chiang Mai were infected with HIV is believed to have contributed to the growing use of condoms, even before the launching of large-scale government programs. Condom use by young adults in the United States doubled in the mid-to-late 1980s because of growing awareness of the risk of contracting HIV.

But knowledge alone is unlikely to change individual behavior enough to stop the HIV/AIDS epidemic. Many of the individuals who engage in high-risk behavior are likely to make decisions based on what they perceive to be their own risk of

contracting HIV, while ignoring the risks to which their actions expose others. Even when considering their own risk of infection, many people persist in risky behavior because the costs of safer behavior are clear and immediate, while the benefits are uncertain and distant.

Lowering the costs of condom use and safe injecting behavior. Condoms are highly effective in preventing HIV transmission, but they entail costs—not only the money and time spent buying condoms, but potential inconvenience and embarrassment and, for some people, reduced pleasure. Reducing these costs will encourage more people to use condoms and lead to lower rates of HIV transmission. In Kinshasa, Democratic Republic of Congo, a program that offered sex workers free condoms, treatment for other sexually transmitted diseases, counseling, and group discussions had impressive results. A mere 11 percent of the sex workers had used condoms on an “occasional” basis before the program; afterwards, more than two-thirds reported using condoms on a “consistent” basis. The incidence of HIV—the number of new cases over time—dropped by two-thirds. At the same time, mass marketing of highly subsidized condoms—known as “social marketing”—in Kinshasa increased the willingness of clients to use them. Sixty developing countries now have condom social marketing programs, both for the prevention of sexually transmitted diseases and HIV infection and for family planning.

Injecting drug users face substantial costs in adopting safer behavior. For people who are truly addicted, drug treatment programs are often difficult to get into and

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painful to go through; 70–80 percent of those treated typically resume drug use within a year or two of completing treatment. The scarcity of sterile injecting equipment is one of the most important reasons why injecting drug users share needles and syringes, spreading HIV and other blood-borne diseases. The availability of sterile injecting equipment is highly restricted in many countries; possession of it may be illegal and lead to imprisonment.

“Harm-reduction” programs reduce these costs and increase safe injecting behavior among people who cannot stop injecting drugs. They include such measures as legalization of over-the-counter purchase of needles and syringes, bleach distribution, needle exchange, outreach by peer educators, and referral for drug treatment. Needle exchange programs, which provide new, sterile injecting equipment in exchange for used syringes, reduce needle sharing and remove contaminated needles from circulation. Such programs are credited with keeping HIV infection levels below 5 percent among injecting drug users in cities like Glasgow, Scotland, and Tacoma, United States, even as infection rates have soared to 40 percent or more in neighboring cities. In Kathmandu, Nepal, a program offering needle exchange, bleach, education, and health care to injecting drug users lowered the frequency of injection by one-third and the number of unsafe injections by one-half; HIV prevalence has remained low—less than 2 percent of injecting drug users—while the prevalence of HIV among injecting drug users in India and Myanmar has soared to 60 percent or more. Evaluations of these programs find no evidence that they encourage people to start injecting drugs, but there is substantial evidence that they reduce the types of behavior that spread HIV.

Raising the costs of risky behavior. An alternative strategy to reduce risky behavior is to make it illegal, more difficult, or costlier, for example, by enforcing laws against commercial sex or drug use, or by reducing the drug supply. Such a strategy may appeal to many people because both prostitution and the use of addictive drugs have substantial negative externalities for the rest of society—the spread of sexually transmitted and blood-borne diseases, higher crime rates, and increased expenditures on law enforcement and incarceration. However, attempts to prohibit or regulate these behaviors are costly and difficult to enforce, and rarely succeed in either eliminating or controlling them. Prohibition may discourage some people but merely drives

others “underground,” where it is harder for public health programs to reach them, or it may simply “rearrange” the problem. When Singapore attempted to eradicate prostitution by closing “red-light” districts, brothels appeared in residential areas. Legalizing prostitution makes the legal segment of the commercial sex market easier to reach and regulate, but it tends to raise prices for the regulated sexual services, giving rise to a lower-cost parallel market of unregulated sex workers who are harder to reach. When prostitution was officially regulated in Melbourne, Australia, the number of brothels declined by two-thirds; the price of sex in brothels rose; and the number of lower-priced “streetwalkers” increased.

Similarly, attempts to restrict the supply of drugs or to put drug addicts in prison may not only fail to slow the rate of HIV transmission but may have the opposite effect. Efforts to control opium smoking in Bangkok and Calcutta induced addicts to switch from smoking to injecting heroin, increasing the risk of HIV transmission. The threat of imprisonment is notoriously ineffective in getting injecting drug users to quit; HIV spreads very rapidly among prisoners who continue to inject drugs using shared, improvised equipment, like ball-point pens and rubber tubing, which are hard to sterilize.

It is difficult to measure the impact on HIV transmission of raising the costs of risky behavior because such behavior is often clandestine. Commercial sex or injecting drugs per se do not spread HIV—the failure to use condoms and the sharing of unsterilized needles and syringes do. Given the high costs of enforcement, the possibility that unsafe behavior may actually increase as a result of prohibitions, and evidence that people adopt safer behavior

when the incentives are right, programs that reduce the costs of safer behavior are likely to be more cost effective in preventing HIV transmission.

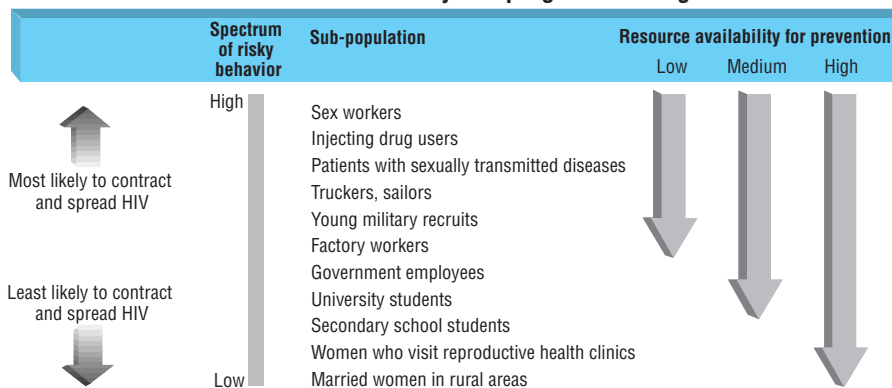
Government priorities

Given the enormous consequences of HIV/AIDS, few people would debate the need for developing country governments to take action to curb the epidemic. But these governments are faced with numerous pressing demands and a shortage of funds. Which activities should receive priority?

Governments have two key responsibilities in preventing the spread of HIV/AIDS: reducing the negative externalities of high-risk behavior and producing public goods (see “Confronting AIDS” in this issue). Some societies will want to do more than this and may have the money to do so. But these two activities, which are essential for stopping the epidemic, are priorities for all governments because, without government action, private individuals and firms will not have the incentives to do what is necessary. Governments also have a responsibility to protect the poor, who will best be served in most countries by measures that prevent infection among high-risk individuals.

Preventing HIV among those most likely to spread it. Because of the negative externalities of high-risk behavior, governments must ensure effective prevention efforts among people most likely to contract and spread HIV. Preventive measures among people with many sexual partners, for example, will do more to protect those in the general population from infection than will preventive measures among people who have few sexual partners. A program for sex workers in Nairobi, Kenya, vividly illustrates this point. By treating the other sexually transmitted diseases of

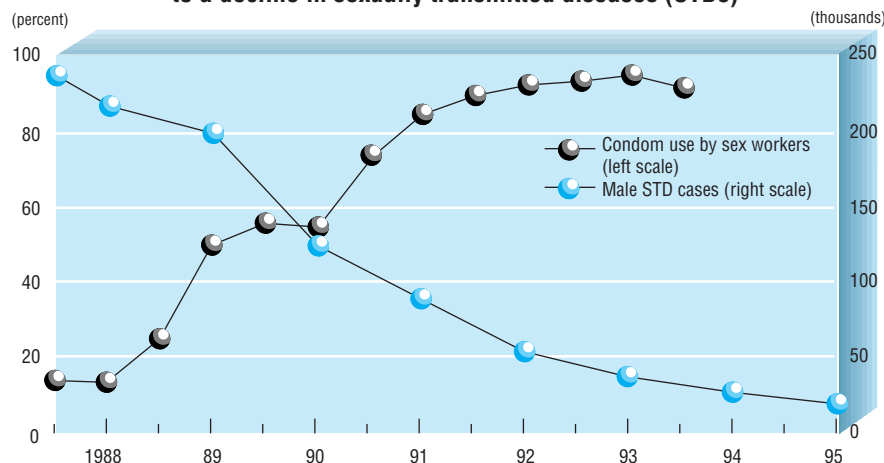
Chart 1
Resource availability and program coverage



Source: World Bank, 1997, *Confronting AIDS: Public Priorities in a Global Epidemic* (New York: Oxford University Press for the World Bank). Note: This is a hypothetical example only and is not meant to reflect the situation in any particular country.

Chart 2

Increased condom use by sex workers in Thailand leads to a decline in sexually transmitted diseases (STDs)



Source: Wiwat Rojanapithayakorn and Robert Hanenberg, 1996, "The 100% Condom Program in Thailand," *AIDS* 10(1), pp. 1-7.

500 sex workers and increasing their condom use to 80 percent, the program prevented 10,000 HIV infections a year among their clients, and the clients' spouses and other partners. In contrast, had condom use been raised to 80 percent of an equal number of men taken at random from the same community, fewer than 100 infections a year would have been prevented.

In setting priorities, therefore, prevention measures should first focus on prevention among people with the greatest risk of transmitting HIV (Chart 1). As additional resources become available, prevention efforts can be extended progressively to people who are less likely to spread the virus.

Simulations show that in countries where HIV infection levels are low, prevention of transmission among those with the very riskiest behavior may be sufficient to prevent a widespread epidemic. Even in countries where HIV is already widespread, it is likely to be the most cost-effective strategy in curbing the spread of HIV, although a much larger group must be covered to bring infection levels down quickly.

Directly or indirectly, governments of developing countries *can* successfully implement such programs on a wide scale. In Thailand, a multifaceted program increased condom use in brothels to more than 90 percent of sex workers (Chart 2). At the same time, the number of patients with other sexually transmitted diseases, like gonorrhea and syphilis, has dropped by 90 percent. HIV infection among young army conscripts peaked at 4 percent in 1993; since then it has declined by more than half. Other countries, like Brazil and India, have succeeded in reaching those

with the highest-risk behavior by enlisting nongovernmental organizations, which often have greater flexibility and more access to intended program participants, to implement programs.

Despite these successes, available evidence suggests that most countries have not reached the majority of people with the riskiest behavior.

- In surveys in seven African countries hard-hit by the epidemic, respondents were asked how they could protect themselves from getting AIDS. Of the respondents who had recently had a casual sexual partner, only 40–70 percent named condom use as a means of protection.

- People in the military are thought to have a high risk of contracting and spreading HIV because they are often stationed away from their families. A study of HIV/AIDS prevention measures in the militaries of 50 industrial and developing countries found that one-fifth of the militaries did not distribute condoms and that most of the others offered condoms free of charge but only on request.

- A survey of UNAIDS (Joint United Nations Programme on HIV/AIDS) Country Programme Advisers for 32 developing countries found that public and private HIV prevention efforts rarely reached even half of the groups with high-risk behavior. In fact, many governments have impeded prevention efforts from reaching injecting drug users and men who have sex with men.

Providing information. Governments also need to invest in public goods essential to the control of HIV: monitoring infection and behavior, providing information on how HIV can be transmitted and prevented, and evaluating the costs and

effects of different approaches. Likewise, bilateral and multilateral donors have a responsibility to invest in information that is an "international" public good: medical research on a vaccine that can be effective in developing countries; low-cost, effective treatments for AIDS in low-income countries; and evaluation of the cost-effectiveness of behavioral and medical interventions in the field.

The available evidence suggests that, for prevention efforts to succeed, many countries need to invest in information about the types and distribution of risky behavior in the population and, among those with risky behavior, the prevalence of HIV infection. However, fewer than 20 developing countries have carried out sexual behavior surveys. As recently as 1995, one-fourth of all developing countries had not yet initiated systematic monitoring of HIV prevalence. More than one-third of the 123 countries studied for *Confronting AIDS* had no information on HIV prevalence in populations with high-risk behavior during the past five years. Equally critical, very few studies have attempted to measure both the costs and effects of programs and almost none have included the prevention of secondary infections as one of the benefits.

The need to act now

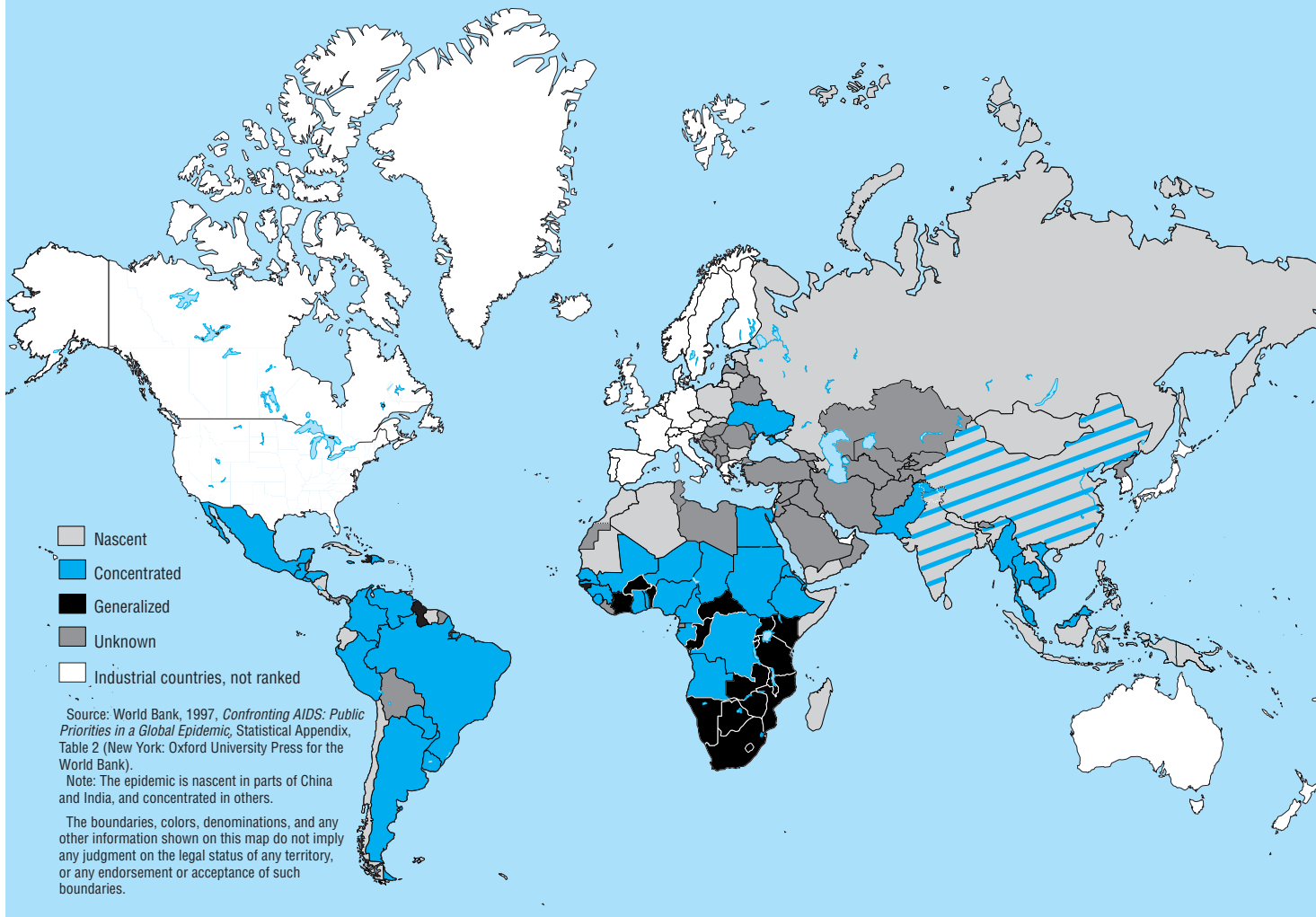
Epidemiological models predict that between 1996 and 2001, 10 million to 30 million people in developing countries will become infected with HIV. But the future of the epidemic is not carved in stone. Action now can save millions of lives. *Confronting AIDS* classifies developing countries by the extent to which HIV has spread among people with the riskiest behavior and from them to the general population (Chart 3).

- 2.3 billion people (half of the population of the developing world) live in areas with "nascent" epidemics—that is, HIV has infected fewer than 5 percent of people presumed to have high-risk behavior. Bangladesh, Indonesia, the Philippines, and most countries of the former Soviet Union, as well as vast areas of China and India, fall into this category. Immediate action to prevent infection in the groups with the highest risk can avert a widespread epidemic.

- 1.6 billion people live in countries with "concentrated" epidemics—that is, more than 5 percent of the highest-risk individuals have been infected with HIV but the infection rate for the rest of the population is still low. Most of Indochina, Latin America, and West Africa, as well as Yunnan Province of China and about half of India have concentrated epidemics.

Chart 3

Stages of the AIDS epidemic in developing and transition countries



Thailand's experience shows that concerted action focused on people with the riskiest behavior can have immediate impacts, even in a concentrated epidemic.

- About 250 million people live in countries with "generalized" epidemics. The rate of HIV infection in these countries is high in the groups with the riskiest behavior, and 5 percent or more of the women visiting antenatal clinics are infected, indicating that HIV has spread widely in the general population. Most countries in eastern and southern Africa, a few West African countries, and Guyana and Haiti fall into this category. These countries must cope with the impact of severe AIDS epidemics while maintaining strong prevention programs, especially among those most likely to spread the virus.

Mobilizing political support

Virtually every country that is confronting a severe AIDS epidemic once

claimed: "It can't happen here." Initially, policymakers denied that the types of behaviors responsible for the transmission of the virus existed in their culture and blamed foreigners. But in each and every case they have been wrong.

It is not difficult to understand why denial is such a common response. When only a few people are sick, policymakers and the public have difficulty grasping the urgency of preventive measures; the programs needed to prevent transmission of the virus are often controversial; and other development problems seem more pressing. Unfortunately, denial robs society of precious time during which early and focused action could avert an epidemic. Because a long asymptomatic period—lasting 8–10 years—usually follows infection with HIV, by the time a significant number of AIDS cases appear and the public awakens to the threat of HIV/AIDS, many people will have been infected. At that point, preventing an

epidemic is costlier and more difficult.

Programs that aim to prevent HIV among those with the riskiest behavior are controversial but they save lives. Without them, the epidemic cannot be stopped. Emotional responses are not a good guide to dealing with this public health problem. The public needs to understand that the most effective way of preventing an epidemic that could eventually affect all of us in some way is to encourage those most likely to contract and spread HIV to adopt safer behavior. Stigmatization of these individuals and discrimination against them are counterproductive. Only by facing these difficult issues will developing countries succeed in blunting the tragic impact of AIDS.

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This article is based on a World Bank Policy Research Report, Confronting AIDS: Public Priorities in a Global Epidemic (New York: Oxford University Press for the World Bank, 1997).