

SOUNDING BOARD

TARGETED HIV-PREVENTION PROGRAMS

THERE had been 243,423 deaths from AIDS in the United States through June 30, 1994.¹ About 40,000 new infections with the human immunodeficiency virus (HIV) occur annually.² Given the human suffering, lost economic productivity, and medical costs associated with HIV infection, the present level of new infections is unacceptable.

One problem with current prevention efforts is a lack of resources. The budget of the Centers for Disease Control and Prevention (CDC), the leading federal agency for HIV prevention, allocates less than \$200 million for programs to change high-risk behavior (Jones TS, CDC: personal communication). Since costs for medical care are about \$119,000 per HIV infection,³ this budgetary figure corresponds to the costs for medical care associated with approximately 1700 HIV infections. Rather than concentrate these limited resources in settings where new HIV infections are most likely, current efforts aim to prevent all new HIV infections and stress the "universality of risk"⁴ throughout the population. Programs of HIV counseling, testing, referral, and partner notification now mostly serve people at very low risk — at an annual cost of more than \$100 million.⁵

Calls for more precise targeting of HIV-prevention activities have generated intense political controversy, both in the United States and in other countries.⁶ A recent report by the National Research Council on the social impact of AIDS,³ a response to that report,⁴ and a subsequent rebuttal⁷ have rekindled the debate.

EPIDEMIOLOGIC FACTORS

The argument for targeting HIV prevention is based on the marked differences in rates of HIV infection and AIDS among those engaging in various types of high-risk behavior, living in various areas, and belonging to various demographic groups.^{1,8} There are numerous data indicating these disparities. For example, more than 80 percent of all cases of AIDS in the United States have been among men who have sex with men and among injection-drug users.¹ About 48 percent of AIDS cases have been identified among blacks and Latinos, although these groups make up only about 19 percent of the population.¹ Over half the heterosexual and perinatal transmission of HIV occurs among injection-drug users.¹ In a nationwide study of women giving birth, 88 percent of the HIV-seropositive women came from only eight states.⁹ Finally, ZIP Code data from New Jersey⁹ and census-tract data from Philadelphia¹⁰ document that AIDS cases are clustered in areas with high levels of poverty and poor access to medical care.

The report by Edlin and colleagues in this issue of the *Journal*¹¹ indicates a dramatically high seroprevalence of HIV among users of crack cocaine who had not injected drugs — among inner-city women, the rates are 29.6 percent in New York and 23 percent in Miami.

This high seroprevalence was not due to the use of crack in itself, or to unprotected sex. Rather, it was due to a combination of factors — large numbers of sexual partners; high rates of unprotected sex, often exchanged for money; and the high background HIV seroprevalence among injection-drug users in those communities.

Because the distribution of many infectious diseases is often concentrated, strategies of targeted prevention can be effective. A strategy of targeted surveillance and local containment led to the worldwide eradication of smallpox.¹² In other countries, "core" groups and transmission settings have been targeted in order to reduce the incidence of HIV and other sexually transmitted diseases.¹³ In Kenya, the incidence of HIV infections declined when programs promoting condom use were directed at prostitutes.¹⁴ A "100 percent condom-use brothel" program in Thailand produced dramatic reductions in sexually transmitted diseases.¹⁵

A NATIONAL HIV-PREVENTION PROGRAM

In the United States, HIV infection is a national public health catastrophe in the form of multiple localized epidemics. A nationwide prevention program should contain two elements — a unified national response (the universal components) and efforts that are very specific to high-risk behavior, demographic characteristics, and geographic areas (the targeted components).

Universal Components

First, discrimination against people infected with HIV indirectly but powerfully affects their ability to change their high-risk behavior, and efforts to reduce such discrimination should be undertaken universally. This goal can best be accomplished through direct action, including public displays of compassion for people who have HIV infection or are at risk for it — with political, religious, community, and private-sector leaders taking the initiative. Programs to ensure compliance with the Americans with Disabilities Act are also important.

We do not recommend emphasizing the universality of the HIV risk as a method of reducing HIV-related discrimination. Arousing fear is, at best, an imprecise method of changing behavior and attitudes.¹⁶ Although a sense of shared risk may bring solidarity, widespread fear of HIV infection can also lead to proposals to quarantine HIV-infected persons and punish those seen as transmitters of the virus.

Second, basic information about AIDS and the various ways to reduce the risk of transmission should be provided through standard avenues, including the mass media and programs of health education addressing sexual behavior and drug use.

Finally, the legal and commercial restrictions on the availability of condoms, sterile needles, and other equipment needed for safer behavior should be lifted across the country. These restrictions do not reduce unwanted sexual behavior or illicit drug use, and they cre-

ate barriers to both safer sex and safer injection practices, as discussed by Lurie.¹⁷

Targeted Components

Changing high-risk behavior involves addressing the physiologic, emotional, interpersonal, and cultural contexts in which the behavior occurs. This requires communicating face to face in an understandable language, reaching out into the community, changing peers' attitudes toward sex and drug use, teaching new technical and social skills, and providing the means for safer behavior. Such programs must also tell participants their HIV status and address related health and social needs. Furthermore, the programs must operate continuously to avoid relapses into unsafe behavior. Prevention programs almost always require a large commitment of labor and resources. However, extensive research shows that they usually reduce high-risk behavior dramatically.¹⁸⁻²¹

Targeting prevention programs requires more than identifying social groups or geographic areas with high rates of HIV infection. It should include assessments of the rates of various types of high-risk behavior, the presence of biologic cofactors for HIV transmission, and the patterns of mixing between HIV-positive and HIV-negative partners. The aim would be to reduce both the type of rapid HIV transmission that can change a low-seroprevalence environment into a new HIV epicenter and ongoing transmission within existing epicenters.

Given the limited resources for HIV prevention, it is impossible to implement intensive programs of behavioral change aimed at all the areas and groups with low HIV seroprevalence. In such environments, the primary public health objective should be to avert the extremely rapid transmission of HIV that has occurred among men who have sex with men²² and among users of injection drugs²³ or crack.¹¹

Most transmission of HIV can best be prevented by outreach to and monitoring of men who have sex with men, injection-drug users, and heterosexuals with high rates of sexually transmitted diseases. Such efforts should use the social structures of these groups and, whenever practical, provide the means for practicing safer sex and safer methods of drug injection. Those engaged in the outreach efforts should gather behavioral data to identify areas where behavior leading to transmission is most frequent and where there are high rates of turnover among partners. Additional interventions should then be made rapidly to reduce the behavior that leads to transmission.

In areas of high seroprevalence, HIV infection can be transmitted among persons with different types of high-risk behavior and among those from different socioeconomic strata.^{23,24} In these environments, programs of behavioral change should target even people with low rates of high-risk behavior and little turnover of partners, because the rates of new infection in these groups are unacceptable when there is a high background level of HIV seroprevalence. In high-seroprev-

alence areas, prevention programs should address the behavioral choices of the people at risk, use readily understandable language, and invoke culturally specific values.

POLITICAL IMPLICATIONS

Public health officials, activists, and researchers are important sources of information about AIDS that is conveyed by the mass media and in programs of health education. Public presentations on the risk of HIV can be useful in changing behavior, but they can also have political consequences. Critics of programming directed specifically toward prevention have called attention to the potential negative consequences.⁴

Public emphasis on situations in which HIV transmission is very likely ("hot spots") may help overcome opposition to the controversial programs needed to change high-risk behavior in such situations. Public emphasis on HIV hot spots, however, can increase the stigmatization based on sexual orientation, drug use, race or ethnic status, and social class. Targeting programs to groups or areas with a high risk of transmission can also lead to a general loss of support for HIV prevention.

Publicly emphasizing the fact that large numbers of people are at low, but not at zero risk, also has potentially serious political consequences. People are not very good at processing information about low-probability events in which there could be a highly negative outcome.²⁵ They tend to greatly overestimate or underestimate the likelihood of such events, and their estimates can be unduly influenced by small amounts of new information. Public emphasis on the low but not quite zero risk of HIV infection may thus lead many people to overestimate their chances of becoming infected. If later information, including personal experience, contradicts these exaggerated fears, people are likely to revert to their previous underestimation of the risk. In addition, they may conclude that their fear of HIV infection was deliberately manipulated by health officials, AIDS activists, and researchers to advance other agendas. The resulting loss of credibility for health officials may then lead to a general loss of support for AIDS prevention, medical care, and research.

Oversimplified presentations of information on HIV that focus either only on hot spots or only on low risks can therefore have serious negative political consequences. We are well aware, however, of the difficulty of trying to persuade members of the media to include multiple "take-home messages" in any news story. We therefore expect there to be continued scientific and political debate on the best way to present information on HIV through the media. If it is conducted civilly, such debate may avoid the worst oversimplifications. Additional empirical research on current patterns of HIV infection and on perceptions of the risk of HIV would inform the debate. In addition, it will be important to develop a stronger public rationale for targeted efforts at prevention, including evidence that targeted programs of behavioral change are likely to reduce the

rate of new infections. For that matter, many government programs provide differential benefits; for example, federally subsidized flood insurance is not of equal value to all U.S. citizens.²⁵

SUMMARY

An effective program to prevent HIV infection must have both universal and targeted components. The universal component includes reducing HIV-related discrimination, removing commercial restrictions on the materials necessary for safer behavior, and providing information about the risk of HIV. The targeted component involves focusing the limited resources for intensive programs of behavioral change on situations in which the risk of HIV transmission is highest. Such a strategy would follow the dictum "Warn widely and spend wisely."

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