Reducing HIV Transmission.
Lessons from the Past

AED
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## Introduction

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Lessons from the Recent Past

Prevention education has made significant contributions to controlling life-style health problems, such as child survival and heart disease prevention. Is there evidence that prevention education can make a similar contribution to the control of HIV infection? Specifically, does AIDS education work? The question could not be more crucial or the answer more timely. What began as a medical curiosity just six short years ago has become an ominous threat to the health and safety of millions of people and scores of nations. The human immunodeficiency virus (HIV) that causes AIDS shakes the foundations of the most developed nations, while it promises to undermine decades of development in Third World countries as well. The public no longer questions whether HIV infection is a serious worldwide problem; the disruptive potential of AIDS is now an accepted fact. As noted earlier, experts predict that 5 million to 10 million people are now infected with HIV.

Debates concerning how to stop the spread of HIV infection rage through the halls of parliament and village councils. Often, questions are asked and policies are developed without the benefit of knowing what has worked in the past and what holds promise for the future. Few programs are evaluated fully, and often their potential effectiveness is constrained by inadequate funding or government disinterest. The pressure to "do something" is so great that public officials are tempted to take almost any action that appears to address the problem of HIV transmission, regardless of its potential impact.

AIDS education -- how to prevent the spread of HIV infection through changes in human behavior and in the social and political environment -- is widely believed to be the only practical option, the only practical defense against AIDS at this time.

Policy-makers and critics have begun to question whether massive investments in education will stop HIV transmission. Other policy options have been proposed as alternative means of AIDS prevention, including massive mandatory testing and isolation of infected individuals, international travel restrictions, closed borders, and expulsion of foreigners.

This part of the proposal is designed to summarize what is known to date about how education can help slow the transmission of HIV, to identify the problems of evaluation, and to suggest areas for critical research and investment in the future. It is limited to findings from a review of programs focused on the individual and HIV transmission. It does not present data on health-care providers, policy-makers, or the media. This analysis looks primarily at campaigns for which some data exist, primarily in Europe, the United States, and Africa.

LESSONS FROM AIDS PREVENTION PROGRAMS

1. AIDS Prevention Education, The Early Years

When AIDS was first detected in the United States in 1981, no one knew that those cases reflected the epidemic spread of a virus which began several years earlier. The first persons to be affected by the new virus were urban gay men. Feeling threatened by the new disease and often alienated from governmental health programs, gay men in the cities of Western nations began to see more and more of their friends become sick and
die. They mobilized to inform, educate, and care for members of their own communities. Many of these community-based programs -- usually begun by volunteers, often those with little or no training in health education -- have since grown into multimillion-dollar health promotion and AIDS-prevention agencies. Groups, such as the Gay Men's Health Crisis in New York, the San Francisco AIDS Foundation, the Terrence Higgins Trust in London, the Victorian AIDS Council in Sydney, the Swiss AIDS Foundation, developed the early AIDS education programs, many of which are credited with the significant shift to lower-risk sexual activities by gay men.

The first indications of behavior change and AIDS awareness came from indirect measures: (1) the steady drop in the incidence of sexually transmitted diseases (STDs) in urban areas and (2) self-reported behavior changes. As public health officials and communities at risk recognized the seriousness of AIDS, studies were undertaken to determine whether gay and bisexual men had adopted the risk-reduction messages. These early studies often approached evaluation as a one-shot effort to complete a program rather than as a developmental, formative process that occurs during and after the program has ended. Few AIDS educators at the time recognized that evaluation was an educational tool in itself.

It is difficult to determine fully whether these AIDS education programs were, in themselves, responsible for the behavior changes that did indeed occur. Some of the programs had an admitted sample bias; others were limited by inadequate funding, lack of staff and governmental support, the subjectivity of planners, and subjective interview questioning. At some point, survey participants may have second-guessed the socially approved answer to a question and inaccurately reported it as their own behavior. All of these variables have an unknown impact on program effectiveness and study data. Finally, AIDS education programs -- like other health promotion campaigns -- do not exist in a vacuum. Mass media coverage of AIDS as news, rather than as specific educational programs, has multiplied. To date, there have been no control groups to help separate the impact of media information, for example, from formal AIDS prevention campaigns, if indeed this is possible at all.

What is known beyond a doubt is that significant behavior change did occur and was reported by many individuals during and after these early AIDS education programs were in operation. Researchers from major cities in Western nations have reported significant, although indirect, measures of behavior change during the early 1980s. Several of these are highlighted below to illustrate the range of reported behavior change and the significant drop in sexually transmitted diseases (STDs) that occurred once individuals responded to the threat of HIV infection.

These programs and results are quite specific for gay and bisexual men living in cities in Western nations. Neither the programs nor the results may be applicable to people at risk in non-Western cultures or in developing nations. A few innovative HIV prevention programs have been conducted in the developing countries of Latin America, Africa, and Asia. These efforts also need to be analyzed, evaluated, and reported in the literature. The opportunity for developers of newer programs is to learn how certain assumptions, theories, and principles contributed to the success or failure of programs in Western cities. Even with all of these caveats, the changes reported below suggest that targeted prevention messages can help individuals change high-risk behaviors that may spare them from HIV infection.
2. Direct Measures of Reduced Sexual Transmission

The primary goal of HIV prevention education has been to inform people about the spread of HIV and how to protect themselves and others from infection. During the first few years of the AIDS epidemic, only indirect measures reflected changes in behavior patterns. Now that several years have passed since the first AIDS education campaigns were begun, it is possible to determine, in a limited manner, whether these efforts did slow the spread of HIV infection. Researchers and educators can study the rate of increase of infection, the number of new diagnoses, and the number of people who test positive for HIV antibodies at various intervals. These data provide the first indications of whether education can alter the spread of AIDS.

London

In a report from London, researchers determined the prevalence of HIV seropositivity among gay and bisexual men attending an STD clinic since 1982. The study showed that there had been a rapid rise in seropositivity prevalence during the period from 1982 to 1984 among gay and bisexual men (7.4 percent a year). This increase, however, was not sustained between 1984 and 1986 (dropping to 1.8 percent annually).

This apparent fall in the rate of new infections likely correlated with changes in sexual behavior, as reported in the studies mentioned earlier. The researchers found evidence of behavior change occurring over the same period. The number of partners declined, and there were trends toward safer sexual practices. Condom use increased, but not significantly, by the time of the study (the data were collected before the extensive AIDS prevention campaign in the London media this year).

Then data also showed that exposure to sources of information about AIDS had coincided with a change to safer sexual practices. The main sources of AIDS information for these gay and bisexual men, according to self-reports, were STD clinic personnel, gay newspapers and magazines, and voluntary AIDS service organizations.

San Francisco

Two continuing studies in San Francisco have provided much of the basic data about the natural history of HIV infection and the effect of behavior changes on HIV transmission. One of the studies, the Clinic Study, is based on more than 6,700 gay men recruited from clients at the city's STD clinic who donated blood in the late 1970s to assist in developing a hepatitis B vaccine. Many of these blood samples have been tested for the presence of HIV antibodies. The samples have since been matched with their donors to determine their past and current health and antibody status.

In the Clinic Study, seropositivity increased continuously from 4 percent in 1978 to 73 percent in 1985. During this period of rapid increase in seropositivity, extensive AIDS education campaigns began. Thus, some observers conclude that AIDS prevention education is ineffective. Others counter that the Clinic Study simply reveals that some individuals will need more specific and more continually reinforced educational messages to curtail their possible exposure to HIV. Health educators recognize that some people respond more readily than others to cues for action.

The second San Francisco study provides an interesting contrast. The San Francisco Men's Health Study (SFMHS) recruited its cohort of gay and bisexual men by probability sampling from a six-kilometer square area where the AIDS epidemic has been most intense in the city. Thus, the men in this study were more likely to represent the at
At least 18,000 gay and bisexual men living in the study area. Among them, approximately 9,000 were estimated to have been infected as of early 1986.

Prevalence of antibody to HIV in the SFMHS was determined during consecutive six-month intervals beginning in July 1984. Data were also obtained for the two years prior to the study from information collected during initial interviews. Prevalence of HIV increased from 23 percent in October 1982 to 51 percent in July to December 1985. (This compares with the continuous increase in the Clinic Study from 4 percent in 1978 to 73 percent in 1985). In contrast, during the last 18 months of direct observation, the SFMHS noted only a slight increase in seropositivity.

Researchers for the SFMHS analyzed HIV seroconversion rates in three time intervals. Between July 1982 and December 1984, they estimated that the annual seroconversion rate was 18 percent. During the second and third six-month intervals, January through December 1985, the seroconversion rates had dropped to 5 percent and then to 3 percent. The researchers concluded that the best explanation for the declining seroconversion rates is the substantial reduction in numbers of unprotected sexual intercourse, although other factors, such as individual resistance to the virus, might have some impact.

Although the SFMHS study did not include an educational component, the data reflected behavior changes that occurred during and after extensive educational campaigns in the city. In addition, the local and national media began to provide general coverage of AIDS on a more consistent and frequent basis during this time.

The London and San Francisco studies represent the first direct measures of the effectiveness of AIDS prevention campaigns. In other words, the effectiveness of AIDS prevention campaigns was indicated not only by indirect measures -- decreasing STD rates and self-reported behavior changes -- but also by direct measures that show decreases in the rate of transmission of HIV.

3. Other Measures of Sexual Transmission Reduction

Kenya

In Nairobi, Kenya, an AIDS prevention program combining free condom distribution and education significantly increased condom use among female prostitutes. The program started in 1985 with a series of public meetings discussing the risks of sexual transmission of HIV. Beginning in June 1986, a cohort of more than 200 prostitutes attending an STD clinic received intensive counseling, antibody testing, and free condoms. The women visited the clinic every two weeks for STD evaluation and/or treatment. They were told that they were at high risk for infection (if not already infected) and that they could infect their clients. Stopping prostitution was their best protection; the next best was to insist that their clients use condoms.

Prior to the inception of the education program, only 8 percent of the prostitutes had reported some condom use. By October 1986, five months after the program started, more than 85 percent of the prostitutes reported condom use. No difference was evident between seropositive and seronegative women in frequency of condom use. In addition, 73 percent of another group of prostitutes also reported using condoms. These women had not been extensively counseled but had received minimal education at the public meetings. These results suggest that the prostitutes were highly motivated to prevent transmission of HIV. Even minimal education, along with access to condoms, led to widespread adoption of safer sexual practices.
Uganda

In Uganda, an educational campaign has used the theme "love carefully" to increase knowledge of AIDS and to encourage use of condoms. To evaluate the campaign's effectiveness and assess condom use, a survey was conducted in May 1987 in the Rakai District, where Uganda's greatest number of AIDS cases has occurred. According to A.M.T. Lwegaba project manager, the survey found that 95 percent of respondents knew about AIDS, and 86 percent knew of at least two protective measures. Use was greatest among barmaids, health workers, traders, and students and lowest among agricultural workers. Unfortunately, no precampaign survey was conducted. From 1985 to 1987, approximately 100,000 condoms were distributed in the Rakai District and the neighboring Masaka District. Although researchers say that knowledge and use of condoms is apparently increasing, many survey respondents did not like to use them because they make sex "cumbersome," interfere with pleasure, remain in the vagina, or are not always available.

New York City

According to New York City Health Department statistics, gonorrhea rates among men aged 15 to 44 in the city dropped from 129 new cases per 100,000 in 1980 to 74 cases per 100,000 in 1983. In contrast, gonorrhea rates among women increased during the same time period.

An extensive study among 745 gay men in New York -- volunteers, referrals, street recruits, representing a subset of gay men in the city -- found that sexual activity, as identified by self-reported data, had declined by 78 percent since the study participants had first heard about AIDS. The frequency of sexual episodes involving the exchange of bodily fluids and mucous membrane contact (high-risk activities) declined by 70 percent. Condom use during anal intercourse jumped from 1.5 percent to 20.0 percent.

San Francisco

Another San Francisco study found that gay men's sexual behavior had changed in a direction that was consistent with medical advice about AIDS prevention. In May of 1984, data revealed that significant changes had occurred during the previous 12 months in all behaviors considered to be high risk. Gay men reported that they were having less sex outside their long-term relationships, fewer numbers of sexual partners, and a lower frequency of high-risk sex with secondary or anonymous contacts. The number of specific sexual acts, as well as the overall level of sexual activity, had diminished. This study, begun in November 1983 among 655 gay men, asked research participants to compare current sexual activities with their behavior during the prior year. The researchers also conducted follow-up surveys among the same men in May 1984 and again in November 1984. The average number of sexual partners in the previous month dropped from 5.9 in November 1982 to 4.8 in November 1983, 3.9 in May 1984, and to 2.5 in November 1984.

The percentage of those surveyed who engaged in any unsafe sex with a new partner was 47 percent in November 1982 and 1983 and then dropped to 29 percent and 27 percent in May 1984 and November 1984, respectively. In addition, the average number of total unsafe sex acts in the previous month progressively dropped from 4.8 to 3.9 to 1.8 to finally 0.8 in the four time periods of the study.
In September 1984, the San Francisco AIDS Foundation commissioned a random-sample telephone survey of 500 gay and bisexual men recruited from all parts of the city. The data indicated that these men had made major changes in their sexual behavior in response to AIDS. The study revealed that more than two-thirds of the sample had effectively removed themselves from any serious risk of spreading or contracting AIDS. Other data from the study indicated that the general media, gay publications, and specific AIDS prevention materials had a decided impact on the changes in behavior.

Chicago

A study conducted in 1982-83 found that gay men significantly changed their sexual practices; for example, the amount of unprotected receptive anal sex fell by 77 percent, and unprotected oral sex with swallowing semen dropped 38 percent. These percentages compare with a general increase in sexual activity among gay men during the period 1978 to 1979, before AIDS was identified.

Houston

Houston developed and implemented one of the first and most aggressive AIDS risk-reduction campaigns. Initiated in early 1982, the program consisted of a three-year plan of awareness education and group behavior modification using educational, psychological, and public relations strategies. Each year attitudinal and behavior changes were measured. Changes were documented each year, culminating in a significant shift at the end of year three to safer forms of sex. Such changes in sexual behavior correlate directly with a dramatic three-year decrease in STDs in the city's gay population.

Denver

A questionnaire answered by 2,092 consecutive patients attending the city's major STD clinic revealed a greater change among gay men in the number of sexual partners after learning about AIDS than among heterosexual men and women after receiving the same information. This suggests the difficulty of changing behavior in those who are at risk but do not consider themselves to be at risk. Similar questionnaires conducted over three successive years beginning in 1983 found that gay and bisexual men had decreased their number of partners by 40 percent to 50 percent in each of the three years.

Los Angeles

The Los Angeles Men's Health Study, conducted for the AIDS Project/Los Angeles in January 1986, polled approximately 400 gay men about their sexual practices. In addition to reporting having had fewer sexual partners during the previous 30 days, a significant majority of participants agreed with the statement: "It is my responsibility to avoid transmitting the virus to others."

London

At an STD clinic in London, during the first six months of 1986, 24 percent of the men who visited the center with an STD were gay, compared with 31 percent for the first six months of 1983. This number represents a decrease of almost one-quarter.
Male rectal gonorrhea cases fell by 53 percent over the same period. The researchers commented, "We cannot say from these figures that fear of AIDS is a major factor in homosexuals, but we can see no other obvious reason for such a fall over such a short period."

Further evidence of such change can be found in the falling rate of gonorrhea in London (a fall from 15.3 percent to 5.1 percent among gay and bisexual men). The gonorrhea rates fell in this clinic during the second half of 1983, a time of intense media coverage regarding AIDS.

Stockholm

Educators in Stockholm noted that during the 1970s there was a gradual increase in cases of syphilis among gay and bisexual men in many major Swedish cities. The first case of AIDS in Sweden was reported at the end of 1982; it was soon followed by the establishment of educational programs aimed at limiting the spread of HIV. During 1983, a campaign was started that focused on reducing the number of sexual partners and on encouraging safer sex among gay men.

Indirect evidence of program efficacy, such as interviews, revealed that major behavior changes in sexual practices may have taken place since the educational efforts began. The average number of sexual partners appears to have fallen sharply, and major changes in sexual practices had ensued, including more use of condoms.

Changes similar to those noted in these studies have been reported in other cities in the United States and several in Europe, such as Amsterdam, Copenhagen, Zurich, Berlin, Frankfurt, and Brussels. Confounding variables continue to emerge, however. In Amsterdam, for example, during the same period female gonorrhea increased.

Limitations of Other Measures

The sharp declines in certain STDs are useful indicators of the effect of education on the sexual activities of populations at risk, yet there are limits to the usefulness of these data as markers of HIV prevention. First, AIDS has a long incubation period and, as such, it is not yet possible to obtain direct assessments of the efficacy of the preventive measures. Second, a reduction of sexual activity can affect the incidence of STDs that are bacterial in origin, as shown by these many studies, yet the impact may be different for STDs that are viral in origin, namely HIV and hepatitis B.

Syphilis and gonorrhea have a period of greatest infectiousness within several weeks after initial exposure; after the period, there is a rapid decline in infectiousness. Thus an individual with an initial infection of syphilis or gonorrhea may reduce the amount of sexual activity and significantly lessen the chances that the particular STD will spread. However, someone with HIV infection is believed to remain consistently infectious, probably for a lifetime, and may in fact become increasingly infectious. Thus, a reduction in sexual activity for an HIV-infected person may reduce the overall number of partners that may become infected, but each partner has a good chance of HIV exposure during unprotected sex.

The Minnesota Department of Health has reported that since its first reported case of AIDS in 1982 to the present, every six-month period sees the same number of new clinical cases of hepatitis B in gay and bisexual men. They note, however, that the same four-year period saw a 70 percent decline in the rate of syphilis. The San Francisco studies show an overall decline of 70 percent of rectal gonorrhea from 1980 through
1985, but a different group of men from the same STD clinic during the same period of time sustained an increase in HIV seropositivity from 12 percent to 67 percent.

A reduction in the rate of new HIV infections does not necessarily accompany behavior change. In a New York group of men, the incidence of HIV infection did not change between 1979 and 1984. Perhaps changes in behavior, offset by the increasing risk of acquiring the virus from any one partner, increases with rising prevalence in a given geographic area.

A further caveat on extending these study findings to other populations is that gay men in urban areas are often well-educated, in close contact with an active community of gay men, and easily accessible to mass media and community organizational efforts. Thus, their ability to receive, understand, and act on specific messages about AIDS prevention is likely to be far greater than the ability of uneducated, disorganized, or widely dispersed individuals, such as IV drug users, prostitutes, migrants, female partners of bisexual men of men with multiple partners, or men and women in some developing countries. One should note, for example, that immunization programs in developed countries often achieve close to 100 percent coverage, but developing countries often have difficulty reaching 50 percent levels although, immunization programs -- unlike AIDS prevention -- are not controversial and have political support of government officials.

While some observers, already skeptical of the efficacy of AIDS education, concede that risk-reduction programs may affect the incidence of STDs in some areas, they may assert that there remains no proof that such programs significantly lessen the spread of HIV in totally different environments. A careful assessment, however, leads to several tentative conclusions about the effects of education among these specific populations of gay men:

- That risk-reduction programs can have a significant impact on reducing the prevalence of STDs, an important factor in the public health of developed and underdeveloped nations
- That messages which emphasize simply reducing the number of partners and frequency of sexual activity will have considerable effect on many STDs but may have only limited impact on HIV transmission
- That HIV prevention messages which specifically advise the use of condoms during all sexual intercourse (oral and anal), plus the substitution of even safer activities, have a much greater chance of significantly slowing the spread of HIV than messages encouraging only the reduction of the number of sexual partners and the frequency of sexual activity
- That despite extensive knowledge about HIV transmission a significant subgroup of individuals will continue to practice risk behavior. These individuals require more support and directed behavior modification programs.
4. Education For Other Population Groups

The studies discussed above primarily, and sometimes exclusively, assessed behavior changes among gay and bisexual men. Obviously, HIV prevention programs must target other population groups as well, especially in countries where heterosexual contact is the major route of HIV transmission. A few research studies, based primarily on indirect measures, have looked at prevention of HIV transmission among heterosexuals, IV drug users, young adults, and hemophiliacs in Western nations.

San Francisco

Before developing a special AIDS education program for heterosexuals, the San Francisco AIDS Foundation and the city’s health department commissioned a survey of attitudes among sexually active heterosexuals. The survey was conducted in mid-1986, a time when the city had received for several months almost daily news reports and features stories about AIDS, the means of transmission, and the seriousness of the problem. In addition, general AIDS information campaigns had been conducted in the city during the previous years. The survey was not meant to measure the effect of a special educational effort but rather to assess the level of knowledge, the sense of personal risk, and the awareness of prevention among the city’s heterosexual population.

Four hundred sexually active adult San Franciscans, who described themselves as heterosexual, were recruited by a random sampling process to participate in the telephone survey. A total of 99 percent of the men and 96 percent of the women in the study disclosed that they had had more than one sex partner during the previous year. The men reported having sex with at least five women, and the women said they had sex with more than four men during the past year. Fifteen percent of the men and 10 percent of the women said they had from 10 to more than 20 partners of the opposite sex during the previous year. Three percent of both the men and the women believed that they had had sex with a partner who was an intravenous drug user. While 7 percent of the men said they had had sex with a prostitute during the previous 12 months, 8 percent of the women reported having had sex during that time with at least one man they knew to be gay or bisexual. Eight percent said they had used drugs intravenously.

The researchers for this study estimated that nearly 40 percent of the participants had been at high or medium risk for HIV infection because of their sexual activities. On the basis of these data, the San Francisco AIDS Foundation estimated that at least 100,000 heterosexuals in the city may be risking HIV infection through sexual activity.

A majority of both the men and the women in this study were generally well-informed about how HIV is transmitted. Nevertheless, two-thirds of the participants said they felt no personal risk of contracting AIDS and that they saw no reason to discontinue high-risk activities, such as vaginal intercourse or oral sex without the use of condoms.

The results of the San Francisco survey highlight the problems with targeting HIV prevention messages mostly to one group (in this case, gay and bisexual men). This bias of federal health officials and the media, who, until quite recently, characterized AIDS as a threat only to gay, white males, in effect, a “gay plague.” As a result, other individuals -- heterosexuals and people of color -- do not perceive themselves to be at risk. During this time, elected federal officials did not discuss AIDS publicly, thereby giving it little status as an important threat to the public health. Further, in San Francisco the incidence of AIDS diagnoses is concentrated heavily among the gay population. Thus, few heterosexuals had experienced AIDS personally. As a few studies among gay men have noted, until an individual knew someone with AIDS, the threat remained abstract and impersonal.
A study among 72 heterosexual couples in Miami in which one partner had AIDS and the other was healthy revealed that knowledge about infectivity and transmission of HIV does not guarantee that individuals will protect themselves. During the course of the study, 17 of the 47 spouses who were HIV antibody negative at enrollment developed antibodies during the course of the study as a result of vaginal intercourse without the consistent use of condoms. As a result, a large percentage of previously uninfected partners became infected themselves and later developed immunological signs of impaired immune systems.

Heterosexuals — United Kingdom

Earlier this year the British government began an ambitious, $39 million nationwide campaign to teach the country that AIDS is spreading in Britain and that it is a fatal disease with no known cure. The campaign employed advertising on radio and television and involved sending information leaflets to each of the country's 23 million households. Huge billboards in nearly every town warned passers-by with the message "AIDS: Don't Die of Ignorance." The campaign also sponsored a special "AIDS Week" on national television in which all stations ran AIDS information programs two hours a night every evening.

The British public media campaign was based on the belief that such efforts could influence the degree of awareness and knowledge of AIDS and change attitudes and behavior. To accomplish these goals, health officials and media experts attempted to pierce the denial that heterosexuals admitted in the San Francisco survey. The message in London was simply, "You, as a normal, everyday person, could get it."

Health officials who developed the high-profile media campaign have instituted a regular sampling of public opinion about AIDS to determine whether attitudes and behaviors have changed. In interviews of 1,000 individuals, researchers found that 98 percent knew that HIV could be spread sexually; similarly high percentages knew that HIV could be spread through sharing IV needles. A total of 89 percent, however, still believed that HIV could still be transmitted through blood transfusions, and 37 percent believed they could be exposed to HIV from giving blood.

Fears about casual contact with HIV-infected individuals dropped as a result of the extensive campaign. Of the 1,000 interviewed individuals, fears of kissing dropped from 14 percent to 7 percent, fears of sneezing dropped from 9 percent to 4 percent, and fears of sharing drinking glasses from 13 percent to 6 percent. The campaign resulted in a substantial increase in knowledge that risk can be reduced by not being promiscuous, to a total of 93 percent. Researchers also noted a 24 percent increase in awareness about the effectiveness of condoms.

While the changes in knowledge and attitude were significant, success in prompting behavior changes was more limited. The average number of partners among heterosexual adult Britons remained the same throughout the education campaign. Use of condoms among heterosexuals (who had not been a target audience) also remained the same at 18 percent. In contrast, among gay respondents, 64 percent said they had reduced the number of sexual partners, 37 percent said they used condoms more often, 42 percent reduced anal sex, and 60 percent reported less casual sex. Further, one-third of the gay men said that they knew someone who is HIV antibody positive.

Overall analysis of the campaign's effectiveness indicated that, although there was significant change in awareness of the seriousness of AIDS and in attitudes about how HIV is transmitted, the British public was more resistant to making changes in
behavior. No evidence existed of change in heterosexual behavior, although a majority of gay men reported a significant shift from high-risk sexual activities to low-risk practices. Nevertheless, among both heterosexuals and gay men, the researchers concluded that there remained a high number of unprotected sex acts, thereby making the population vulnerable to HIV infection.

Both the San Francisco survey and the British campaign reinforce the basic principle of health promotion that information alone is inadequate to change behavior. Even with its mixed success, the British campaign can be credited with a number of other important achievements. First, public awareness of the seriousness of AIDS was considerably reinforced by the government's commitment of time, money, and resources to the media campaign. Other governments that fail to address the problem of AIDS send an implicit message to their citizens that AIDS is not a serious concern. In this regard, the British government has set an example for leaders of both developed and Third World nations.

Second, the British campaign involved a multifaceted approach to getting the word out. Television and radio programs and advertising, billboards, newspaper advertising, media news stories, leaflets to every household, and the visit to a hospital AIDS ward by the Princess of Wales all helped create an environment in which AIDS awareness, knowledge, and behavior change were encouraged and reinforced throughout society. This type of comprehensive campaign comes close to achieving what health educators believe is the ideal approach to health promotion and disease prevention.

Third, the British campaign took AIDS prevention education outside the traditional realm of health departments. AIDS is not like other diseases either in developed nations or in the Third World, and traditional health strategies are insufficient to match the social, political, psychological, and economic complexity of HIV-related diseases. Even smoking, teenage pregnancy, malnutrition, heart disease, and cancer prevention face fewer challengers than does control of HIV transmission. Yet the unchecked spread of HIV will complicate and worsen each of these and other vital health promotion and disease prevention concerns.

Fourth, the media campaign conducted evaluations throughout the education effort rather than waiting to perform an evaluation at the conclusion of the program. Unfortunately, the prevention campaign did not involve significant input from established health education councils and existing AIDS service organizations. That involvement could have enhanced the prevention program and increased public support for its objectives.

### Needle-Sharing Intravenous Drug Use

The social profile for intravenous (IV) drug users includes isolation, limited education, and, frequently, criminal status — all factors that make outreach to them difficult. Yet the need for risk-reduction education to this population could not be more immediate. A recent report from San Francisco suggests that IV drug users in areas of the United States outside the Northeast (New York and New Jersey) may not have such high rates of HIV infection and thus public health interventions may still be able to prevent the rapid spread of HIV in these low prevalence areas. The situation is similar in some other countries. For example, in the United Kingdom the rates of antibody positivity among drug users is very high (51 percent) in Edinburgh and it is relatively low (5 percent) in London and Glasgow. Epidemiologist warn, however, that the potential for further spread of HIV is obvious and that education and creative public health measures must be taken today to prevent HIV infections and AIDS during the next decade.
Drug counselors estimate that more than 70 percent of the drug users are not in treatment at any one time. Proposed interventions to reach these drug users:

- Recruitment of reformed drug abusers as peer counselors to educate drug users
- Expansion of drug treatment programs, both in scope and number of openings for new clients
- Risk reduction by informing users how to clean their needles and by initiating a needle-exchange program
- Risk reduction by informing users how to avoid sexual transmission of HIV.

Few evaluations of risk-reduction campaigns among IV drug users have been undertaken. One survey of drug users in Sacramento, California, revealed that this group shared a predominant trait with other populations at risk: awareness of AIDS and its transmission did not necessarily lead to behavior changes that would block the spread of HIV. Counselors interviewed 150 IV drug users enrolled in treatment programs to determine their knowledge of HIV transmission and their own personal drug-using behaviors. The surveys revealed the following:

- Approximately 90 percent believed that HIV was present in some IV drug users in Sacramento.
- A total of 93 percent believed they would eventually contract HIV and AIDS through needle-sharing.
- A total of 95 percent wanted to avoid acquiring AIDS.
- A total of 91 percent believed HIV could be spread heterosexually.
- Approximately 64 percent believed condoms could prevent the spread of HIV.

Survey respondents said that 77 percent of the time they shared their needles with someone else before or after they shot up; 87 percent of the time they cleaned their equipment between use, but the cleaning most often entailed a rinse with only water. Of the respondents, 76 percent had shared needles one to ten times during the last month; the remaining 33 percent shared equipment even more often.

The Sacramento study documented that local IV drug users possessed reasonably accurate information about HIV infection and transmission. Knowing about AIDS, however, did not have an impact on their high-risk behavior possibly because they had no access to either clean needles or equipment needed to sterilize needles.

In San Francisco, for example, addicts are reported disinfecting their needles with household bleach, which is being distributed along with instructions for use with needles in areas where drug use is common. In Italy, concern regarding AIDS may have been the reason for a decline in cases of hepatitis B hospital admissions among drug addicts in 1986 as well as an increase in the number of addicts seeking treatment at methadone detoxification programs. While some drug users are changing their high-risk behavior regarding needle use, no indication exists that they are changing their high-risk sexual
practices. These findings underscore the importance of addressing multiple-risk factors in communication messages.

Amsterdam

Officials in Amsterdam instituted three measures to prevent the spread of HIV among IV drug users in the city: a publicity campaign, an exchange program for needles and syringes, and the distribution of condoms among addicted prostitutes. The publicity effort involved distributing leaflets and holding informational meetings for drug counselors and drug users. The more ambitious and controversial measure has been the exchange of syringes and needles, a program begun in 1984 by the Municipal Health Service, with the cooperation of the Association of Drug Addicts. In 1985, some 100,000 syringes and needles were provided. In addition, drug users were contacted through street outreach, medical assistance to arrested addicts, contact with hospitalized addicts, and community-based, low-profile methadone treatment programs.

Through these efforts, 60 percent to 80 percent of Amsterdam's drug addicts had been contacted by 1985. Even with the needle exchange program, city health officials noted that the number of addicts using IV drugs did not increase in 1985; in fact, the number of addicts stabilized over the past few years. Whether or not these interventions will block the spread of HIV among Amsterdam's IV drug users will be determined by an evaluation of the program currently under way.

Two elements of the Amsterdam program deserve special attention. First, members of the target group, drug addicts themselves, were involved in developing and executing the educational interventions. Although the value of their participation was not tested with a control group, extensive anecdotal reports from this and several other HIV prevention programs attest to the importance of working with the people at risk and involving them in the process.

Second, health authorities urged IV drug users to stabilize their life-styles and living conditions through regular methadone use, less involvement in illegal activities, regular medical check-ups, and attention to social circumstances (housing, money, and "normal" social relationships). The Dutch officials had the foresight to realize that attention to the IV drug user's life circumstances was as important as an emphasis on the specific HIV high-risk activity. This approach to the total environment of the individual at risk presents governmental officials with considerable challenges. People who are unemployed, poverty-stricken, homeless, and suffering from malnutrition are unlikely to respond to HIV risk-reduction messages or to feel they can control their futures. For them, day-to-day survival is a more immediate challenge. Health promotion experts advise that some alleviation of these conditions must occur in order to enable people at risk to heed disease prevention messages.

Baltimore

The Health Education Resource Organization (HERO) of Baltimore developed a street outreach program and a model project to demonstrate that peer education can help drug users reduce their high-risk activities. Preliminary reports from an evaluation conducted with Harvard University revealed that, several weeks after an educational intervention, drug users reported an increased level of AIDS awareness and a decreased level of high-risk drug using and sexual activity.
5. Measurement Issues

Given the sobering fact that no consistently effective treatment, cure, or vaccine for HIV-related disease exists, educational interventions offer the only means to halt the spread of HIV throughout populations at risk. Formative and summative evaluations provide opportunities to determine whether the interventions achieve their objectives, but the evaluation process itself is often beset with theoretical and practical problems.

When public officials question whether AIDS education works, they often implicitly hold up the "medical model" as a standard. Yet there are many reasons that the medical model does not apply to health education in general and HIV prevention programs in particular. The medical model relies heavily on relatively controlled circumstances; for example, testing a new drug on a cell line in the laboratory and comparing it with an old drug in the same cell line, or giving some patients a pill and some a placebo and observing the results. Yet this approach is difficult to apply to educational interventions; education does not occur in a vacuum and cannot be conducted in vitro. Modifying behavior is never an isolated endeavor; every action influences every other action.

Educational messages directed to specific populations or the general public are just a few of the many variables that influence personal behavior every day. For example, the current condom use campaign in the United States vies for attention with admonitions by some church leaders and citizen groups that condom use is an unreliable way to stop the spread of AIDS; the campaign must counter innumerable television programs that extol frequent, casual sex without the benefits of condoms, and it must seek to overcome relevance on the part of many men to use condoms.

At the same time, the condom campaign struggled against almost insurmountable barriers in the United States until the U.S. Surgeon General began to advocate their use to prevent HIV infection. In short order, Congressional committees considered whether television networks should broadcast condom commercials; some media changed long-standing policies against condom advertising; school boards inadvertently educated themselves about AIDS while formulating new sex education policies, and the news media began to ask national leaders about their positions on AIDS education. What were at first isolated public health campaigns suddenly became a national dialogue, and information about AIDS reached many more people.

To obtain a meaningful answer to the question "Does AIDS education work?" public officials and others must attempt to understand the concurrent variables that may have enhanced or undermined the influence of an HIV prevention message. Health educators must develop health promotion and disease prevention messages that will benefit from other complementary influences in society while they counteract the contradictory messages people may receive from other sources. For example, telling youth that using a condom today ensures that they can become parents in the future takes advantage of their desire to have children, while at the same time not denying the possibility of sexual gratification at present.

As with the use of the medical model, expectations that health promotion should follow the patterns of commercial product promotion also are mistaken. Within the business context, a narrow set of clearly defined goals (for example, increased sales and profits) is selected, and results are evaluated by standard performance criteria. As a result, simple comparisons among programs can be made. Health researchers have been unable to agree on a similar set of evaluation criteria for health promotion programs. As a result, such programs are open to criticism no matter what results occur.
In addition, health researchers note that health education programs are often unfairly held to the high standards of success expected and frequently achieved in diagnosis and therapy (as observed in the medical arena) or in effective commercial campaigns. Applied to HIV prevention, public officials might expect rather immediate declines in rates of seroconversion in the population, whereas a more realistic result might be indirect reports of changed behavior over a period of time, gradually yielding lowered HIV prevalence in a community.

As observed in the extensive campaigns in the United Kingdom, mass media are being employed as a means for reaching a large, sometimes national, audience with basic HIV prevention messages. Subsequent evaluation of media programs frequently revolves around the effectiveness of marketing approaches in health promotion efforts. Several factors will likely influence the success of these marketing efforts, including the following:

- The attitudes of health-care professionals toward marketing as an effective tool for disseminating HIV risk-reduction messages
- The attitudes of other individuals (that is, policy-makers, business people, and community groups) toward the use of marketing in this manner
- The attitudes of health-care professionals and others toward preventive care
- The temptation to mandate more dramatic high-profile interventions (quarantine and continuing screening of tourists and immigrants) instead of extensive continuing education efforts
- Expectations for early, quick results
- The target population's access to the media.

As noted earlier, most current HIV prevention campaigns assume that responsibility for stopping the spread of AIDS rests with the individual. Making the individual the responsible party for HIV transmission can easily feed the phenomenon of blaming the victim. Control of the HIV epidemic greatly depends on the cooperation of individuals at risk -- as subjects of research, experimental treatments, vaccine development, and prevention education. Alienating those people most needed for successful programs will undermine effectiveness.

Evaluation of HIV interventions can provide the most useful information if such studies fully appraise all circumstances that may affect program effectiveness. For example, with the increasingly widespread use of the HIV antibody test, researchers are currently studying how knowledge of antibody status affects behavior change. Many of these studies use indirect measures of change (self-reported behavior change). While some may use direct measures (seroconversion rates), few of the studies have taken a more comprehensive view and evaluate whether other events coincided with receiving the antibody test result to prompt behavior change. Further, the extent and nature of counseling provided, along with testing, needs to be assessed thoroughly.

In a similar manner, an HIV risk-reduction campaign that advocates condom use will likely achieve a different degree of success in a country that already accepts the idea of birth control than it would in a nation that has moral and social beliefs...
discouraging birth control. An evaluation of such a prevention program would be remiss if it failed to evaluate results within the greater societal context.

One of the reasons the extensive campaign in the United Kingdom received such media attention around the world is because it represented a dramatic shift in governmental policy. A period of limited governmental attention was suddenly replaced by a saturation of information. One is left to wonder what the effectiveness might be of a long-term, extensive campaign that has the support of both government and social institutions. The polio epidemic earlier in this century is an example of how societal consensus can affect widespread awareness, prevention, and treatment.

These problems inherent in the evaluation process are important considerations when educators and policy-makers ask, "Does AIDS education work?" Research data accumulated from several sources suggest that education has played an important role in the public's awareness of AIDS. Both direct and indirect measures reveal that changes in attitudes, beliefs, and behaviors have occurred over time as the general public and populations at risk have responded to the threat of HIV infection.

Those who question the effectiveness of AIDS education should carefully consider their expectations for successful programs. After recognizing the potential of prevention campaigns for halting the spread of HIV, policy-makers and health officials could more appropriately move to the more important questions: "Which AIDS education programs work best?" and "How can changes in the environment help prevent HIV transmission?"
REFERENCES


LESSONS FROM THE ANALYSIS OF EXISTING NATIONAL AIDS PLANS

For this proposal, we have reviewed a number of documents related to governmental campaigns to control AIDS. We have been especially interested, however, in the communications component of AIDS control programs in Africa, because Africa is where the prevalence of HIV is highest and where prevention programs are most urgently needed. Although AIDS control programs are just getting under way in Africa, we were fortunate in obtaining AIDS control planning documents from five African countries.

Although each program is unique, they have at least one thing in common: in each case, public health communication is the least developed program component. We hasten to add, however, that this is also true of many more developed countries around the world -- the United States for example, has yet to arrive at any consensus on a national health communication program on AIDS.

We believe this lack of a communication strategy in many programs throughout the world is the result of sexual factors. First, AIDS education is not well understood and is highly sensitive both socially and politically. AIDSCOM is designed to help overcome the two constraints by careful questions research -- addressed not only at answering specific questions but also at using those answers to strengthen a national AIDS control program.

In this portion of the proposal, we point to some gaps in planning AIDS control programs (recognizing that the plans we reviewed are only preliminary) and suggest some specific ways in which planning for AIDS education campaign can be strengthened.

I. Planning Objectives

Three of the documents reviewed were fairly lengthy plans developed by ministries of health or national AIDS committees. These plans list objectives in three areas: current epidemiology and surveillance of the AIDS epidemic, prevention of the spread of HIV infection, and improvements in laboratory and clinical management capabilities. Typical of these is the plan from one African country in which the objectives of the AIDS control program are to:

- Access the current status of the epidemic
- Monitor progress of the epidemic
- Prevent the spread of HIV by sexual transmission
- Prevent the spread of HIV infection by either blood transfusion or contact with contaminated blood products
- Prevent the spread of HIV infection by use of contaminated needles or other skin-piercing equipment
- Prevent the spread of HIV infection from infected mother to child
- Improve clinical management
- Improve diagnostic capabilities
- Develop and coordinate research activities.
We are concerned here only with how the plans currently address the prevention objectives because a public education campaign cannot be used effectively to accomplish either surveillance or clinical management objectives.

2. Planning Communication Strategies

In some of the more developed plans reviewed, each prevention objective is followed by a number of strategies. In a typical plan, for example, the strategies for preventing sexual transmission of HIV are to:

- Limit the number of sexual partners
- Promote the use of condoms in specific target groups
- Promote early diagnosis and effective treatment of other STDs.

Activities listed for carrying out the first strategy are to:

- Define the target groups
- Assess the current situation (market research)
- Define content of message
- Define appropriate channels for delivery of message
- Evaluate the health education program continuously.

How these activities lead to an actual communication campaign — and how the campaign itself is to be implemented — is not specified, however. Overall goals are well defined, but communication strategies and tactics are not. In short, no separate communication plan has been developed for the public education component of the AIDS prevention programs. In addition, many plans do reflect the need to segment audience, most often around specific "risk groups." While segmentation is one fundamental step toward success, "risk behavior" may not be the only, or even the most salient, segmentation factor.

Third, the integration of various strategies seem weak in many of these early plans. Again, this situation reflects on our lack of experience with AIDS education but suggests another area of important focus. National campaigns using mass media are simply not enough. Interpersonal networks will also have to be activated throughout society.

Finally, when condom is mentioned, there is little realization of the need to "market" them — select product characteristics, position them in the consumer's mind, open new channels of distribution, and price them at the optimal cost to maximize use. Condom give-aways or self-marketing based on fear of AIDS will not be enough to ensure proper and regular use.

We suggest, therefore, that a separate communication plan be developed as one of the first steps in designing governmental AIDS control programs, for several reasons:

- First, it would provide a framework not only for carrying out the short-term objectives of the program but also for adjusting the campaign's messages and distribution strategies over time.
Second, it would help campaign sponsors allocate resources to and focus messages on those audiences most ready to act on the message -- extremely important in an AIDS campaign where resistance and denial may make it difficult to effect the desired change in attitude or behavior among certain audiences.

Third, developing such a plan encourages campaign sponsors to investigate how all available communication resources -- media, interpersonal, and institutional -- can be used to spread and reinforce the campaign's message.

3. Recommendations

In general, any national programs for AIDS control would benefit by the addition of a well-developed and actionable communication component that does the following:

- **Describes the environment** -- medical, social, psychological, and institutional -- in which the AIDS campaign must be waged. This approach would enable planners to consider some of the issues that the AIDS communication program must address.

- **Outlines the information needs** of the campaign to help guide the conduct and use of formative market research. Research on public knowledge, attitudes, and practices will be used by campaign planners to select target audiences and formulate appropriate message strategies. Audience segmentation raises some of the most difficult issues in an AIDS prevention campaign, such as how to focus a campaign on high-risk behaviors rather than on high-risk groups and how to allocate limited resources for those audiences whose readiness to accept the AIDS-related message will result in a more effective campaign.

In some programs, it appears that a "high-risk" group has already been preselected as the target audience without the benefit of research or that numerous audiences will be the focus of the campaign. For example, radically different message strategies would be needed to carry out a campaign that targets audiences as disparate as school children, army personnel, and HIV-infected persons, as was suggested in one country's plan.

- **Describes specific research objectives**, such as:
  - Identification of sexual practices and attitudes toward them
  - Identification of either myths or misconceptions about transmission of AIDS
  - Identification of either cultural or social stigmas associated with AIDS patients
  - Primary "influentials" of primary target audience(s)
- Credibility of different sources of information concerning AIDS (government, health-care workers, peer groups, and church).

With this information, as well as epidemiological data, planners can then describe in the communication strategy realistic objectives, primary and secondary target audiences, and the barriers and opportunities facing the program.

- **Set forth communication objectives for the program.** For example, most of the plans list "decrease sexual transmission" as a primary objective of the campaign. To be able to evaluate the campaign, the plan should define more precisely "how much," or "how many." A more quantifiable objective might be to "Decrease the rate of sexual transmission of HIV in the general population by 50 percent in one month;" or "Decrease HIV transmission from prostitutes by 80 percent in six months."

- **Identifies specific communication strategies.** Most of the plans do not contain communication strategies, that is, methods of accomplishing the program objective through some type of mass media, interpersonal, product marketing, or behavior modification means.

Communication strategies are based on research on the target audience, the media available, and other barriers and opportunities. Depending on such factors, strategies to reach the objective or to reduce the sexual transmission of HIV could be as varied as:

- "Use mass media to dispel widespread myths on how AIDS is transmitted."
- "Encourage the use of condoms among sexually active women."
- "Promote the advantages of staying with one, uninfected partner among married males."
- "Provide health-care workers in urban STD clinics with information on how to counsel male STD patients regarding the risk of AIDS."

- **Analyzes communication channels.** Prior to developing messages and materials, campaign sponsors need to think through how the messages will be delivered. Such an analysis could include not only which mass media and interpersonal networks would be appropriate but also how to influence gatekeepers of each channel, how messages need to be geared for each channel, and what type of evaluation measures can be used for each channel.

Campaign sponsors may wish to investigate how governmental organizations, religious and social organizations, media organizations, private business, unions, and health-care institutions could be used as communication and materials distribution channels.
Provides for the development of a formal communication strategy. Once the activities mentioned above are completed, campaign sponsors should formalize the direction of the campaign by writing a communication strategy. None of the plans reviewed spoke of the necessity for a formal document that specifies the objectives, intended audience, opportunities and barriers, strategies, messages, and distribution channels for the communication component of the AIDS control program.

Plans for institutionalizing coordination of epidemiological and market research. Throughout the campaign, health educators should have a mechanism for obtaining, verifying, and reviewing epidemiological data. Such a mechanism serves both to ensure that health messages are focused on the areas of greatest need and to ensure support for the campaign from the medical community.

It was unclear from the plans reviewed that such a mechanism would be part of the structure of national AIDS committees. It is vital, however, that such a mechanism be in place even for a short-term plan, so that from the beginning the campaign is coordinated with the completion of epidemiological surveys and messages can be refined according to changes in the data.

Describes how the professional and public information campaigns would be coordinated. Although the more developed plans call for both public and professional education to prevent the spread of AIDS, it was unclear in some plans how the National AIDS Committee would coordinate the messages and timing of the two campaigns. Such coordination could begin with input from health-care workers on the communication strategies, using their experience in the field as a basis for developing communication strategies and messages.

Again, such coordination would help to reinforce the public message by providing another channel through which the message is delivered. It would also ensure that health-care workers are receptive to requests for information from the public. For example, if one strategy is to encourage the use of condoms, health-care workers should be willing to dispense condoms and able to provide needed information on their use as an AIDS prophylactic.

Presents a process for establishing medium- and long-range objectives for AIDS control. The communication plan should provide a framework for integrating changes in the "environment" in which the AIDS campaign must operate. Although it need not establish procedures for, say, reviewing epidemiological data, the plan should set forth communications issues that need to be addressed as epidemiological data change.

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LESSONS FROM OTHER LIFE-STYLE DISEASES

AIDS appears at a time in human history when much has already been learned about how to influence behavior on a massive scale. A consensus is emerging regarding the operational definition of effective communication for controlling and preventing behavioral, or life-style diseases. Numerous professionals working on dozens of programs around the world are arriving at similar conclusions concerning the use of communication, marketing, and education to promote positive behavior change. Family planning, cancer prevention, heart disease risk reduction, sexually transmitted disease prevention, smallpox eradication, and diarrheal disease control have each arrived at a similar set of communication principles. Emphasis and vocabulary vary from one context to another, but all agree on the need for:

- Systematic communication planning
- Audience research and program monitoring
- Targeting of messages at specific audiences
- Comprehensive, integrated, and sustained delivery of services and supplies
- Limited objectives with measurable results.

The social science literature in each area is now substantial. Indeed, this section is a review of reviews. Major articles have been cited to demonstrate the principal lessons arising from either a particular disease or health problem. To the extent possible, lessons have been expressed in the vernacular of the original author to emphasize the degree of consensus emerging among authors and fields.

As noted earlier, disagreements regarding communication strategies exist. Some practitioners favor mass media, others stress the role of interpersonal communications; some emphasize product development and distribution; and others perceive information, educational, and communication as important to success. Some experts are wedded to public-sector approaches, while others support private-sector approaches. All of the experts, however, seem to agree that effective public health communication can help to modify health-related behaviors.

The following portion of the proposal reviews lessons learned from six health problems:

- Sexually Transmitted Disease (STD)
- Family Planning (unwanted pregnancy)
- Cancer
- Heart Disease
- Smallpox
- Diarrheal Disease.
We have selected these six areas because literature is available on how and with what effectiveness communication has been used to promote life-style changes in a mass audience, and because these six areas share behavioral characteristics with AIDS and each of the six health areas identified.

AIDS and the full spectrum of HIV infection do share common aspects with these six health problems, commonalities which permit us to learn important lessons from past successes and failures. At the same time, however, we must recognize that AIDS is a unique disease in that it alone combines all of the following characteristics in a single global health challenge. AIDS:

- Is fatal
- Is sexually transmitted
- Remains undetected for long periods of time, from one individual to another
- Lacks a cure, treatment, or vaccine
- Engenders high political salience and social taboo
- Is clearly global in scope.

The following review will focus on insights to be adapted to the challenge of HIV transmission. We will look at the aspects of each problem most relevant to AIDS prevention. For example, we will focus on the global management aspect of diarrheal disease control and smallpox eradication, the message characteristics of STD's and family planning, and the behavior change technology of cancer and heart disease prevention. Taken together, we believe these lessons represent an enormous reservoir of experience for shaping and influencing the design of effective AIDS control communication. None, however, represents a proven model for AIDS prevention. None have influenced all or even most of those at highest risk. Moreover, these programs have been considered successful if shifts in behavior occurred among 20 percent to 40 percent of the populations at risk, whereas controlling the spread of AIDS will require a much higher level of behavior change, especially in some groups. Clearly, we must push forward the boundaries of our experience if we are to address the magnitude of the AIDS threat.

1. Lessons from Education on Sexually Transmitted Disease (STD)

In many respects, sexually transmitted diseases are the most logical analog for AIDS education, because the HIV virus is sexually transmitted.

Important similarities link the two problems. They are both:

- Involved with human sexuality, which has a low changeability quotient and high social awkwardness
- Diseases transmitted through sexual contact
- Socially stigmatized
- Characterized by blaming the victim
• Associated with morality and value systems which can impede overt disease-control efforts

• Linked to socially and emotionally charged consequences (such as revealing one's sexual preference) in addition to their disease consequences.

Given these similarities, Solomon and DeJory conclude in a review article entitled "Recent Sexually Transmitted Disease Prevention Efforts and Their Implications for AIDS Health Education," that the following 12 principles are useful in designing AIDS risk-reduction messages, at least on the basis of U.S. and developed country experience:

• Strive not to be moralistic.

• Recognize the enormous anxiety that AIDS evokes, develop strategies that acknowledge this stress, and provide means for coping with it.

• Conduct adequate preliminary research to ensure that messages reflect, or take into account, the existing knowledge, values, attitudes, beliefs, and practices of the target population.

• Focus on underlying attitudes, behavior change, and skill development, particularly communication and interpersonal skills, rather than on the disease etiology or other factual information delivered for its own sake.

• Make explicit the relationship between specific behaviors and likely subsequent health or disease outcomes.

• When a given medium allows for elaboration, emphasize not only what to do but also the precise circumstances under which the behavior is to be carried out, the benefits of doing so, and the consequences of failing to do so.

• Realistically acknowledge the obstacles to change and provide support and reinforcements for adopting new behaviors.

• Without minimizing or disguising the difficulties, establish a positive tone in which fear-arousing information is balanced by constructive suggestions for purposeful action.

• Strive to characterize the desired behavior as normative by modeling appropriate role models and associating the target behavior with other behavior or qualities that are considered desirable by the intended audience.

• Develop strategies that are likely to engender identification between the target audience and the message.

• Deliver a clear, coordinated, and consistent message, or cluster of messages, through a variety of reinforcing channels of communication.
• Seek out intermediaries who can provide access to the audience and credibility to the project's message(s).

2. Lessons from Cancer Education

As has been demonstrated, cancer education also has many similarities to AIDS education. Cancer is still viewed by many as an incurable disease, which causes great fear and denial. Initially, it was thought to be "contagious" so that cancer victims were often isolated and stigmatized. Health-care providers lacked adequate information and effective treatment because clinical information was rapidly changing and frequently updated. The focus of much cancer education is also risk reduction and life-style change in fundamental biological processes, such as eating, smoking, and exercise. Several of the risk-reduction behaviors, such as breast self-examination, carry some of the sexually related taboos and fears associated with AIDS education. The parallel dilemmas of deciding to "check regularly for breast cancer" and deciding to be tested for HIV infection raise many of the same fears and obstacles to acceptance.

At the same time, AIDS is significantly different. Testing for HIV carries much greater political significance -- raising fears of unemployment, quarantine, and even imprisonment. In the United States, the early stereotyping of AIDS as a "gay disease" means that those who admit being infected risk being "branded." AIDS deals much more explicitly with sexuality than cancer. Moreover, there are treatments for cancer which offer greater hope than we can now offer the AIDS patient. Perhaps the most fundamental difference, however, is that cancer is not a communicable disease, whereas AIDS clearly is.

Several principal lessons from the experience with cancer education were summarized in an address by Donald C. Iverson, M.D., at the Fifth National Cancer Communication Conference in February 1984. Noting the reduced consumption of beef and cigarettes in the United States, he pointed out that both education and economics "certainly played a role." He emphasized that progress has been made even in areas as difficult as medication taking, smoking cessation, and weight reduction. In addition, Dr. Iverson highlighted the following findings:

• Comparisons of different behavior change techniques for smoking cessation (appeal, stimulus satiation, cold turkey, and a hierarchical technique) showed that the initial advantage of one technique over another disappeared rapidly over time.

• While it has been difficult to say clearly what intervention strategy is most effective, it is clear that most interventions are more effective than no intervention at all.

• Different strategies are needed for different populations.

• The level of effort required that initiation, as well as change, not be underestimated.

• Different strategies are needed to reduce smoking risk in practicing populations from those used to delay unsafe practices in nonpracticing populations (for example, adolescents).

• Segmentation of target populations by income levels, urban/rural, sex, and so forth is critical.
People can easily be overwhelmed and demoralized when they first learn about a disease, such as cancer. Risk-reduction programs must lead them to identify those elements of disease prevention which are within their control.

Identifying relevant "motivators for change" is a principal element in success. Health is not always the best motivator for prevention-related behaviors. Other categories include aesthetics, sexual desirability, a "high" from being healthy.

Of the three principal change strategies -- compliance, identification, and internalization -- compliance has not been shown effective over the long term.

Iverson then lists guidelines which he believes increase the likelihood of program success. They are quoted directly as follows:

- Include in your program information which will cause the target population to believe that:
  - They are likely to be affected by the problem.
  - The problem is serious (physical, personal, social, and economic).
  - They can do something about the problem.
  - No significant barriers exist to making useful changes.

- Use tally sheets to identify factors which are related to the behavior (focus on circumstances and mood). Use tally sheets to identify difficult situations occurring after the behavior change. Develop specific strategies to reduce difficulties with antecedent and reinforcing factors.

- Develop your program so that participants may establish individual goals. Ensure that the goals are realistic. Develop a reward system tied to achievement of the goal, such as behavioral contracts.

- Design the program so that, participants can make a number of small changes. This approach will allow them to experience success and gain confidence. Incremental changes are easier to make than either radical or major changes.

- Develop your program so that participants may have an opportunity to make a commitment to change. Allow each participant to select the type of commitment that is most important to him/her.
Develop your program to allow for participation by the participant's spouse, family, peers, and friends. Whenever possible, use the program participants to develop support mechanisms. Individuals attempting behavior change without active support of others are not likely to be successful.

Use persons who are considered by the target audience to be experts, trustworthy, and familiar. Remember that the person delivering the message has an important effect on adoption.

All programs should have follow-up components, ideally lasting for six months. It is easier to elicit one-time behavior change than it is to sustain that change.

Include opportunities in the program to discuss the possibility of failure. Identify reasons for failure and actions which can be taken to minimize the chance of failure. Give people permission to fail, but emphasize the need to maintain records.

Select instructors carefully. Focus on intangible factors, such as congenial personality, enthusiasm, and commitment. Provide continual training for instructors. Select the program that best meets your needs. The instructor effect always exceeds the program effect. If both are carefully selected, the chances of change are greatly enhanced.

3. Lessons from Heart-Disease Prevention

Heart disease prevention requires sustained changes in several life-style behaviors: increased regular exercise, significant dietary changes, and regular blood pressure testing. Similar to primary AIDS control behaviors, many of these changes must be life-long changes in habitual behaviors in the presence of significant external "temptation" and few natural reinforcements. Heart disease is different from AIDS in many important characteristics already noted for cancer and other nonsexually and noncommunicable diseases. But again, intriguing lessons for educators do emerge from more than two decades of experience with heart-disease prevention. In an article by Elder, Howell, Lasater, Wells, and Carleton, applications of behavior modification to community health education for heart disease prevention were reviewed. The most effective behavior change techniques identified were:

- **Positive reinforcement systems** by which selected behaviors are strengthened by positive changes in the individuals' environment. Prizes, such as T-shirts, team prizes, token point systems for adults; televised quitting models depicting a variety of personal reinforcers; mobilization of coworkers, family, and friends to deliver encouragement; and a bounty system to reinforce expanded voluntary screening were examples mentioned from programs as far apart as rural Pennsylvania; small-towns in California; North Korea; Finland; and Pawtucket, Rhode Island.

- **Barrier Reduction** or facilitation strategy by which impediments to adoption of new behaviors are reduced. Among the examples mentioned to make compliance easier are bicycle paths, development of low-sodium foods, and work site blood pressure services.
- Negative consequences and restrictions to help people avoid certain behaviors. Public commitments from adolescents "to not take up smoking" acted as a restriction on youth who did not wish to go back on a public promise. Betting and publicly agreeing to meet some weight loss goal acted as negative consequences to noncompliance. Obvious examples of smoking area prohibition were also cited.

- Feedback strategies, such as "progress reports," individual score keeping, and shaping, whereby individuals are rewarded for taking steps in the right direction. Particularly for complex behaviors, providing interim rewards for "successive approximations" has proven effective: In the control of hypertension, for example, first praising people who monitor their blood pressure, then asking them to make hygienic changes and/or medical interventions. "Nicotine fading," "psychological innovation," "party for a long life," and "heart check screening" are other examples of the gradual "shaping" of habitual behaviors.

- Finally, combination approaches, such as contingency management or contracting in which an individual negotiates a specific behavior change goal and establishes the types of rewards or penalties to be received. Both individual and communitywide application were cited. Industrywide weight-loss programs have been employed using peer pressure and "team work" to heighten individual compliance.

The article ended by concluding that successful programs to prevent heart disease should:

- Be couched in local terms and languages.
- Emphasize positive reinforcement, wherever possible.
- Feed back early success to the community.
- Focus on gradual changes over time to minimize the most burdensome aspects of difficult behavior change.
- Use less expensive reinforcers on a periodic basis rather than reinforcing every person with more expensive reinforcers.
- Emphasize simultaneous interventions addressed at individuals, groups, organization, and communities rather than single-level interventions aimed at only one group.
- Focus on specific target behaviors which the individuals can control.
Follow a predictable change hierarchy which moves through the following sequence:

- Furnish evidence that the behavior causes the problems.
- Provide evidence that changing behavior will solve the problem.
- Provide evidence that the change is relevant to the individual.

4. Lessons from Family Planning and Contraceptive Social Marketing

Family planning communication is also relevant to AIDS prevention, even though family planning is not a disease. As noted earlier, family planning, like AIDS prevention, is related to sexual behavior; faces social taboos which lead to political and personal ambivalence; requires cooperation of sexual partners and relatives; calls for sustained change with delayed results; and often deals specifically with condom distribution and STD prevention.

Several major reviews of literature by Everett Rogers and Rogers and Kincaid highlight principal lessons regarding family planning communication on a worldwide basis—learned as programs developed, often in the face of hostility, rumor, and political opposition.

Everett Rodgers, "Communication Strategies for Family Planning" (1973), traces three important eras in the historical development of family planning. The Clinic Era assumed that clinic facilities were the key factor. The strategy was to open and equip clinics so that the public would seek them out. Disappointments led to a Field Era, in which aggressive outreach using home visits, mass communication, and mobilization campaigns sought to create awareness and popular demand for services. By 1973, Rodgers was describing a "Contemporary Era" in which strategic communication thinking was replacing highly visible but limited campaigns. Strategic communication means that audiences replace general audiences; multichannels replace single channels; specific messages replace general ones; and social marketing emerges as a new paradigm. Social marketing in family planning, sometimes called contraceptive retail sales, offers an opportunity to use professional and commercial skills to segment and reach 26 specific target groups that lag in family planning acceptance.

Rodgers has identified several mistakes in early family planning programs. First, he refers to "large-volume error," the assumption that a large quantity of messages would get the job done. Saturation alone has not proved effective, however, because poor quality messages go unheeded. Second, he refers to dependency on modern mass media (radio and TV) to the exclusion of traditional mass media (theater, puppets, and so forth) and interpersonal channels at a time when media outreach was much less than it is today. Third, he notes the incorrect assumption that changes in knowledge and even attitudes would lead to related changes in contraceptive behavior. Finally, Rodgers describes the fallacy of the clinical message; namely, the expectation that medical professionals will develop the basic message and communicators will simply repackage them to make them more presentable and acceptable. Public health communicators know that the messages themselves (products, practices, and services), not just language, must emerge from the consumer based on research techniques which include both quantitative and qualitative research. Evidence exists that this can be done effectively in developing countries.
The diffusion of family planning practices was also found to differ from other innovations (for example, in agriculture) by not benefiting from a "diffusion effect," in which the rate of adoption increases dramatically once a certain percentage of individuals has already adopted. This "plateau," or stalled rate of diffusion, was attributed primarily to the taboo nature of family planning, which inhibited the expected increases in interpersonal communication between adopters and nonadopters. Later work by Rogers and Kincaid on Communication Networks (1983) demonstrated the importance of the interpersonal communication networks in local communities and their leaders and the role of "horizontal diffusion" in general in the adoption of contraceptives.

In several recent reviews of family planning communication drawn from current issues of Population Reports published by the Johns Hopkins University Population Information Program, a series of additional lessons for the AIDS prevention emerges, as outlined below:

- Rumor and counter-campaigns can be successfully resisted by
  Improving family planning services
  - Help clients choose the most appropriate family planning methods.
  - Counsel new and continuing users.
  - Follow up family planning adopters.
  - Educate men and women about reproduction and the causes of infertility.
  - Train health workers and pharmacists.

- Developing programs to neutralize rumors
  - Use interpersonal communication channels to change attitudes.
  - Use satisfied clients as communicators.
  - Involve local opinion leaders.
  - Develop good working relationships with local media.
  - Design multimedia campaigns to provide consistent, correct information.

Launching a new product, whether a new brand of condoms or a new contraceptive implant, calls for a comprehensive approach:

- The product must meet consumer needs.
- The product must be conveniently available.

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Consumers must know and be persuaded to believe in that product.

The price, whether financial or social (time, status, and energy), must minimize the cost and maximize the value of the product.

Social marketing of contraceptive products through commercial outlets may be especially relevant to programs to control HIV infection through condom sales and distribution. Some relevant reasons are as follows:

- **Public Information/Product Promotion.** Product advertising should include brand-specific advertising from the beginning, although generic advertising may also be appropriate within the same campaign. Project designers and managers should be particularly sensitive to the need to monitor and evaluate advertising and promotional budgets to maximize program cost-effectiveness.

- **Use of Retailers.** A wide range of retailers should be encouraged to handle the products.

- **Use of the Wholesale Network.** Condom projects should use the existing private-sector wholesale distribution network because it is more efficient than public-sector systems.

- **Subsidies.** Prices should be based on findings of price elasticity in demand studies. A heavy subsidy to introduce or expand sales may be an essential marketing strategy. Experience in Bangladesh, Jamaica, and Thailand has shown that demand for contraceptives, once established, is less price-elastic than expected.

- **Removal of Tariffs and Controls.** Projects should insist on removal of constraints that limit imports and charge customs duties on imported commodities necessary to the program.

- **Product Mix.** A range of nonmedical methods and brands should be offered. Different products and brands set at different prices appeal to different segments of the population.

- **Modern Management.** A high degree of management capability is needed to plan and organize multiple, continuing, and complex activities. Overall program management requires strong leadership, close coordination among the activities, and accountability.

- **Monitoring.** Successful projects are critically dependent on continual assessment and feedback. Effective measures to assess management are an integral part of a successful effort.

- **Governance.** Social marketing programs that operate within the private, commercial sector are likely to have greater flexibility for management and marketing decisions.
5. **Lessons from Child Survival**

Diarrheal diseases (DD), immunizable diseases, and infant maternal nutrition are among the world's leading killers of children. Child survival programs popularized during the last five years require significant behavioral change at the home level and in some cases reeducation of the medical profession. Dozens of programs over the past ten years, throughout the developing world, have struggled with creating and sustaining effective child survival programs. This review draws heavily on a review completed in 1985 by the Academy for Educational Development of seven country programs in Honduras, The Gambia, Peru, Ecuador, Swaziland, Egypt, and Bangladesh.

The following five lessons focus specifically on how to use communication to support a behavior change program in child survival programs:

- **Coverage, Timeliness, Credibility - are Necessary.**

  If the goal is to produce widespread use of a new behavior, such as oral rehydration therapy in unsupervised settings, then three factors are critical: coverage, timeliness, and credibility.

  - Coverage is the ability to reach many people quickly, and it is best achieved through mass media. In most developing countries, this means radio, with TV having an increasingly important role in many others.

  - Timeliness, or the availability of specific reminders at the moment they are needed, is best accomplished by print and graphic material -- specifically a product label and a one-page graphic flyer or insert.

  - Credibility, or the acceptance of product by audience, is best achieved through the full support and use of the product by recognized health professionals in the country -- physicians, nurses, and health workers.

- **A Plan Must Be Comprehensive. Piecemeal Programs Are Ineffective.**

  To bring these three elements together, a comprehensive plan is needed. It must include:

  - An adequate supply and distribution system

  - An explicit link between what health providers, radio, and print media tell the public -- a single set of simple, noncontradictory messages

  - A training program for health-care providers which emphasizes how to teach mothers as well as how to work in the clinic

  - Saturation broadcasts scheduled to reach specific audiences
A series of simple print reminders of primary skills.

- The Plan Must Be Based on Field Research.

   An effective plan must be based on field research of existing audience practices and beliefs. The research should be basic information regarding what the consumer is now doing, how they perceive the problem, what solution they prefer, what language they use to describe it, and what communication channels are likely to be most effective.

   The research should answer four critical questions:
   - Who is my specific target audience?
   - What can I hope to achieve?
   - What benefit does this audience want from our program?
   - What evidence or support can I give them that will be credible?

- The Plan Must be Corrected as Required — It Must be Flexible.

   Monitoring the campaign is essential. Regular visits to villages, watching how the product is being used or misused, and systematic interviews with health workers and mothers will expose weaknesses impossible to predict otherwise. Once discovered, these mistakes must be corrected and not "argued away." Mistakes are normal, almost inevitable, and they can be corrected if they are admitted.

- Emphasize Simplicity.

   The temptation to complicate matters must be avoided. Advice to mothers must be simple -- using only a few print materials. Health workers must not be asked to do much more than they are already doing. A few good radio programs should be repeated over and over rather than making dozens of new ones.

- Prevention is More Difficult Than Treatment.

   And finally, one of the key lessons to emerge from the child survival experience has been the relative lack of success with prevention behavior when compared with treatment behaviors, such as ORS. This relative failure can be explained in several ways:

   - Prevention behaviors are more complicated. Changes in routine practices (handwashing, latrine use, and environmental sanitation) while treatment behaviors are cued by a highly salient event (episode of diarrhea) limited in time and when effective they produce a positive result the mother desires.

   - Many decision-makers prefer to invest resources in a tangible product, such as ORS packets, than to allocate scarce resources to operationally difficult efforts and to diffuse prevention messages, such as encouraging handwashing.
6. Lessons from Smallpox Eradication

Clearly, one of this century’s most successful global public health programs was the eradication of smallpox, a tragic disease which disfigured and killed millions throughout the developing world. Although smallpox is not a life-style disease, it parallels AIDS in several interesting ways:

- No country was spared.
- Control in one country was not ensured unless control everywhere was achieved.
- It had high political salience because of the dramatic disfiguring aspects.

The eradication of smallpox is an important case study because it occurred throughout the world; programs were tailored to very different social systems and economic levels, and even in nations classified as the "poorest of the poor" eradication was successful. Smallpox eradication clearly demonstrated that given a certain set of conditions, dramatic changes could take place in a short period of time.

D. A. Henderson, now Dean of the Johns Hopkins School of Public Health, outlines several lessons from the smallpox experience in a chapter entitled "Lessons and Benefits" from his book Eradication of Smallpox, to be published in late 1987. These findings are summarized in an article by Dr. Henderson in Population Reports, March/April 1986, "Immunizing the World's Children."

Conditions that suggest eradication rather than control be considered include:

- Man is the only host for the pathogen.
- Pathogens themselves do not survive for long periods in nature or man.
- The diseases of sociopolitical salience must be high to muster needed support.
- Time needed to achieve eradication must be modest -- five to ten years.
- Measures needed to achieve eradication must be inexpensive.
- Measures should be comparatively simple and should not require frequent repeated contacts with individuals in the population.

Even though it will not be possible to eradicate AIDS during the next five to ten years, transmission of AIDS can be greatly reduced in this effort.
Many lessons can be learned from the smallpox experience:

- A global program -- an international commitment and a mechanism for coordination and monitoring worldwide

- A special program with special budgets, full-time staff, and specific responsibilities linked to existing systems, not independent of them

- Active outreach through public education and persuasion to ensure acceptance

- Provision of services at a site and time convenient to the clients

- Accurate methods of surveillance to measure success

- Specialized field workers, because traditionally trained health providers do not change their behavior quickly and revert easily to more traditional behavior patterns without consistent supervision and support

- Specific, measurable, realistic, and dynamic behavioral goals shared by all and used as the fundamental guide for strategy-making (A few clear goals are better than an array of vague ones.)

- Quality control over selected key aspects of the program most related to achieving the targeted objectives

- Management leadership by example and exhortation, rather than by directive

- Coordination of all programmatic aspects -- biological, research, surveillance, education, and fund-raising

- Trained people who shared a core of common principles which are clearly spelled out in a training program and a manual or handbook

- Quality control of donated materials to ensure their effectiveness

- Standardization of supplies to ensure more rapid training and to avoid confusion

- Discretionary funds to address unexpected urgent costs

- Logistics management to ensure adequate availability of supplies and materials

- A specific operational strategy for each sociopolitical context

- Staff who take an active role in field operations
Problem-oriented, applied and basic research, including social science research

Certification, the ability to stipulate publicly that progress has been made and goals achieved.

Conclusion

The AIDS epidemic represents a unique challenge. No existing model can be simulated to make AIDS prevention easy. At the same time, however, helpful lessons do emerge from the accumulated experience of disease control and behavior change efforts directed at other international health problems. The foregoing review has demonstrated that different authors working on varying health problems have arrived at a remarkable consensus about what makes programs to change behavior effective on a large scale.

We have examined six health problems that share important similarities with HIV infection, recognizing that no precise analog exists. The lessons which emerge can be expressed in terms of what not to do. Just as the positive lessons from these programs are similar, so too are the lessons concerning obstacles which inhibit success. These obstacles include:

- **Inadequate Planning**
  - Program proceeds without overall policy.
  - Program responsibility is regularly shifted from one office to another.
  - Program proceeds without the full cooperation of the medical community.
  - User education/promotion begins before supplies and training are completed.
  - Training is begun before materials are ready.
  - Resources, particularly for monitoring (travel and per diem costs), are unavailable.

- **Inadequate Education of Users**
  - Told too little
  - Given wrong advice
  - User constraints often ignored
  - Existing beliefs ignored
  - Reaches too few people directly -- too great a dependence on health workers alone
- Messages often contradictory
- Messages often unclear to user

**Inadequate Training/Orientation of Health-Care Personnel**
- In "AIDS 101," too little and too theoretical
- In how to teach AIDS 101
- In what specific advice to give for presentation and treatment
- In what vocabulary to use to be publicly acceptable but capable of having an impact.

**Inadequate Supply/Distribution Systems for AIDS control products and support materials**
- Promotion and supply are out of phase, with one preceding the other.
- Supplies are inadequate for the demand.
- Distribution system does not work.
- Private and public sectors are unable to work together.

**Inadequate Information on Program Performance, particularly on**
- User attitudes toward benefits difficulties and confusions or mistakes
- Health-care providers' attitudes and practices
- The distribution system.
SUMMARY OF LESSONS AND PRINCIPLES

This part of the proposal outlines some of the primary findings, principles, and lessons which emerge from this review, from a special workshop sponsored by the Academy on AIDS Education and from the bidder's accumulated experience in health communication during the past ten years.

1. Summary Findings

- We lack reliable longitudinal studies which demonstrate conclusively that specific education interventions have reduced HIV seroconversion rates on a large scale.

- A number of studies demonstrate, through a variety of measures, the highly probable link between information (both systematic and casual) and reduction of risky behavior.

- Personal loss of a friend or family member seems to correlate positively with willingness to reduce risk-related behavior.

- Changes in knowledge are easiest to produce. Changes in attitudes and behavior are much more difficult, even in well-organized and massive educational campaigns.

- Information source credibility may play a significant role in producing more effective behavior change. If the source of information is credible to the individual and the message has visual appeal, a greater reduction in risk behavior may result.

- Changing drug use behavior has proved more difficult, particularly in populations of social isolation, outcasts, criminal status and low education levels, than changes in sexual practices among more representative groups.

- Effective education is more than just information. Programs including service delivery, counseling, needle exchange, and condom distribution have proved essential.

- External competition from anticondom campaigns, prohibitions on advertising, false news stories, and rumors have played an important role in reducing the effectiveness of positive education campaigns.

- People selectively believe AIDS information for reasons of unexplained and idiosyncratic origin. For example, messages about casual transmission have often been less believed than those about preventive measures.

- Continuing programs are needed to motivate and sustain continued behavior changes.
2. Principles of Effective HIV Prevention Education

On February 26-27, 1987, a panel of experts in HIV prevention programs was convened by the Academy for Educational Development to discuss:

- How and by what means general awareness of HIV infection and its prevention has evolved in the United States and what changes in attitudes, knowledge, and behavior have resulted
- How and in what ways changes in awareness, knowledge, and behaviors are related to each other
- Which education techniques have worked or not worked, and why
- What skills and talents are most needed
- How programs are best evaluated
- What, if any, applications these American factors have in programs to be carried out in the rest of the world.

The seminar was unique regarding both its format and the individuals who participated. No formal research presentations, readings of papers, panel discussions or debates transpired. Instead, some of the original creators and developers of the best HIV prevention programs in the United States -- members of a unique reservoir of expertise gathered to share insights. It was the first time that many of these individuals had had the opportunity to reflect on their often quite different experiences and the common themes that characterize them.

During the seminar, five basic principles emerged which integrate, and at the same time cut across, the insights, lessons, failures and successes of the American experience thus far with HIV. Few of the principles are altogether new when considered individually; many of them have, in fact, characterized efforts to prevent other life-style diseases, such as cancer and heart disease. Taken together, however, the following principles of HIV prevention education are more than the sum of their parts. They constitute a unique body of experience that is urgently important as a group if we are to reduce HIV transmission effectively.

**PRINCIPLE 1: GET THE FACTS RIGHT. DON'T PROMOTE MYTHS INADVERTENTLY.**

Programs must be based on factual, scientific information, not on stereotypes, personal opinions, or other factors that have nothing to do with HIV infection.

What people do not know about HIV infection may indeed hurt them, so may what they misunderstand. This epidemic thrives on ignorance and half-truths.

It is, therefore, crucial that prevention educators pay specific and careful attention to what is being said about HIV transmission, prevention, and symptoms. Everything should be checked and updated for accuracy. It is equally important to understand, and thus avoid, the stereotypes surrounding HIV infection that lead to misunderstandings, false impressions, lack of interest, or other impediments to behavior change. A rule of thumb is to review, and review again, before any program is implemented. Programs also need to pretest education materials and also must be
monitored and evaluated as frequently as possible while in operation. If something is wrong, change it. Mistakes are costly and they can actually compromise one's future ability to convey new or more complex messages effectively.

HIV infection is accomplished primarily, but not exclusively, through specific sexual behaviors; so is its prevention. Neither transmission nor prevention can be discussed effectively without discussing sex, often explicitly. Herein lies the public's first and often most formidable source of resistance to HIV prevention programs.

HIV infection and the spectrum of illnesses it causes are most often associated in people's minds with sex. Sex and sexual behavior of any type makes people uncomfortable, certain types of sexual behavior even more so. Prevention programs must, therefore, acknowledge not only people's reticence to talk about sex but also their ignorance about sex and sexual behaviors in the first place.

Even for those few who are able to handle a discussion of sexuality, however, homosexuality is another matter entirely. Men who have sex with men remain well outside the social mainstream of most societies and are frequently subjected to discrimination and violence. As the first, but by no means only, persons to be infected with HIV in the United States, Europe, and other locations, they have been doubly unlucky. Not only have they had to bear the brunt of infection and disease so far; they have also had to bear largely alone the political, psychological, and social burdens of an epidemic that was early (and falsely) dubbed a "gay plague." As a result, discussions about HIV infection, even in countries that do not share this history, are often not about the infection at all but rather about people's fears and prejudices regarding sex in general and homosexuality in particular.

The early and continuing equation of HIV infection and AIDS with homosexuality has attached a stigma to both that is particularly tenacious despite clear evidence that the virus does not discriminate on the basis of sexual orientation. For example, one of the most stubborn U.S. stereotypes in HIV prevention is the notion that who you are (risk groups) is more important than what you do (risk behaviors) in determining your chances of being infected with HIV. By this logic, only gay and bisexual men are at risk of infection because most AIDS cases so far have been diagnosed in gay and bisexual men. This stereotype is wrong on several counts, however.

First, not all gay and bisexual men are sexually active; nor are they necessarily sexually active with each other; some are celibate, and many more are involved in relationships, such as marriages, in which their only sexual expression is sex with women. Second, all men who have sex with men (the behavior) do not necessarily identify themselves as being gay or bisexual (the group). Those who practice the behavior but do not perceive themselves to be part of the group will not be reached by prevention messages that address only the group. This has been proven in New York, San Francisco, and elsewhere when changes in public advertising copy -- from "gay and bisexual men are at risk" to "men who have sex with men are at risk" -- have provoked significant increases in calls to HIV hot lines from people who have never previously acknowledged their own risk. Finally, and most obviously, men who have sex with men safely are no more at risk of infection than men who have sex with women safely.
PRINCIPLE II: MAKE PREVENTION MESSAGES CONSISTENT, CLEAR, AND EFFECTIVE

It would seem self-evident that HIV prevention messages need to be factually consistent and clear, yet they have been almost anything but that over the past few years. The public has been treated to a series of mixed, misguided, or plainly inaccurate messages that appear to have caused permanent confusion for many people. Most of this damage could have been avoided -- and we would be much further along in our efforts to stop the spread of HIV -- if practitioners had recognized that HOW the message is crafted and conveyed is just as important as WHAT is being said.

A good example of an inaccurate message badly communicated is the still widely used prevention directive to "reduce the number of your sexual partners." The implication here is that the fewer sexual partners one has, the less risk of infection one encounters. That is true as far as it goes, but it is actually beside the point: how many sexual partners are too many, after all, and how few enough? The message completely ignores the fact that a single "unsafe" sex act with an infected individual is sufficient to transmit the virus. A more accurate and clearer message would state that it is what you do sexually, not how many times you do it, that determines your risk of infection with HIV.

While reducing the number of partners reduces the risk statistically, it does not eliminate it. Naturally, with a fatal disease, the individual wants to eliminate the risk, or reduce it as much as possible. The problem is that to "reduce number of partners" is an epidemiologist's message, relevant to rates of infection in the overall population, but irrelevant to the individual, who wants to eliminate risk. A clearer message would combine fewer partners with explicit safe sex advice.

A message can also be the wrong one at the wrong time, even though it is clear and accurate. Example: in a focus group testing a new public advertisement campaign designed to allay fear of casual HIV transmission, participants rejected a print ad showing a water fountain as one way HIV was not transmitted in favor of another ad showing a water glass with the same message. Reason: people are more afraid of saliva left on a shared glass than they are of a public water fountain.

Because HIV prevention messages are uncomplicated, marketing them is, the best marketing approach seems to be multisectoral; putting as many different messages in as many different places -- as possible. Different messages work for different people at different times. The more numbers and types of messages there are, the greater the chances of reaching everyone with at least some of the messages sometimes.

Other factors to keep in mind:

Say what they understand. This is really all there is to explicitness in HIV prevention programs. For example, educators are still euphemistically cautioning people "not to exchange body fluids." By "exchange" they really mean ejaculate, swallow, insert, and so forth. By "body fluids" they really mean semen, vaginal secretions, feces, breast milk, urine and blood, not sweat or tears. There is, of course, a world of difference in the clarity of the words used as well as the messages they convey.

To reach certain audiences, certain messages will need to be phrased in the vernacular or even crudely. For example, IV drug users may understand the word "works" better than "syringe." Or gay men may understand you more clearly if you say "cum" rather than "ejaculate." Take care to determine the right message and the right words for each different audience.
PRINCIPLE III: REFLECT THE AWARENESS SPECTRUM

Individuals, as well as entire communities, go through a series of stages in their willingness and ability to address HIV prevention.

The first stage is denial. People deny their risk of infection by creating an "us-versus-them" mentality. It can't happen here or to us. They'll get it; we won't. Who "they" are varies depending on the eye of the beholder. It is at this stage that individuals are most likely to pooh-pooh their need to learn anything at all about HIV infection.

The second stage is anger. Perhaps the first case of AIDS is diagnosed in a community, or someone's close friend or relative dies. The conviction of invulnerability cracks, and anger sweeps in. Initially, the anger is almost always irrational, directed not toward the virus but rather those infected by it. That leads to calls for ineffective measures to contain people rather than the infection. Prevention programs at this stage spend more time separating fact from fiction and reassuring a frequently hysterical public than they do communicating information that helps people to prevent transmission.

The third stage is panic. When they can no longer deny their risk, and their anger fails to stop the spread of disease, people panic. Suddenly the tables are reversed and, everyone, no matter how unlikely a candidate, is convinced that he or she has been infected. Hot lines and physicians are deluged with a demand for basic information. This stage, though difficult, offers an opportunity to convey reliable prevention messages.

The fourth stage is active acceptance. The public acknowledges, however grudgingly, the long-term presence of a deadly new infection in its midst. Anger and panic abate somewhat, to be replaced by the strong desire to do something. Recommendations for action are not always sensible; many are in fact counterproductive. The need to act, however, is evidence of a healthy response to crisis, and it can be channeled toward effective measures. At this stage, prevention programs come into their own.

The four stages are not always linear. Experience has shown that individuals, within a society, will reflect different stages at the same moment and that not all individuals reach active acceptance of HIV infection. Therefore, nothing can be assumed about relative levels of knowledge, understanding or, most importantly, commitment to change at any point on the continuum. Certainly, we cannot afford to wait to mount effective prevention programs until people are fully ready for them. Indeed, the four stages are important because they suggest a psychosocial framework within which to develop effective prevention program. For individuals at the stage of denial, one type of message is needed, while for panic or acceptance quite different approaches are necessary. If reliable measures of people's response pattern can be developed, this framework can serve not only as a guide to message and program positioning but also as a measure of program success.

PRINCIPLE IV: ENABLE PEOPLE TO CHANGE BEHAVIORS AND MAINTAIN THOSE CHANGES OVER TIME

HIV prevention is about giving up certain sexual behaviors that may be an integral part of a person's life. But if something important is to be taken away, then it must be replaced by something else of equal value. Most people need to be convinced, for example, that safer sex practices are as erotic and pleasurable as the unsafe behaviors
they replace. Information alone is not enough. People must also be helped to put that information into action and to like the changes. If they do not, they will not sustain preventive behaviors over time.

Researchers have developed these concepts on the basis of studies conducted in San Francisco, among the basis of studies conducted in other places, where a majority of gay men surveyed said they continued to practice unsafe sex even though they understand the risks of HIV infection. Why? Their answers read like a catechism of the challenges facing HIV prevention educators:

- **Sex is a difficult behavior to negotiate.** People are uncomfortable discussing sex and specific sexual acts.
- **It is often easier to make an unsafe mistake** rather than talk about it first or, worse, refuse to do it. Refusal, in particular, opens people up to either insults or ridicule.
- **Stress, confusion, drugs, alcohol, and other factors weaken one's sense of resolve.**

All of these factors argue for a more comprehensive approach to prevention education than the simple and relatively straightforward transfer of knowledge. People must be assisted in working their way through the following prevention stages:

**RISK OWNERSHIP:** "It can happen to me."

**INFECTION IS PREVENTABLE:** "There is something I can do to prevent it."

**PEER SUPPORT:** "Someone will help me to change."

**REWARD:** "Prevention (safer sex) can be fun."

Early in this process, motivation to change becomes a key issue. Among the reasons people have cited to change longstanding but unsafe sexual behaviors:

"It's the right thing to do."

"I don't want to die like that."

"I lost a friend."

"I want to be around to lick this thing."

"Safe sex is hot, and I want to be the hottest guy around."

"I want to protect my wife and unborn children."

"Someone I trust and admire does it."

"It's the only way to find the partner I want."

These and other convictions about the importance of HIV prevention need to be made easily accessible to someone attempting to change.
Peer support and acceptance are extremely important; behaviors that are generally encouraged are more likely to be adopted permanently than those which are not. A case in point is the use of condoms. Studies have shown that while people understand that condoms prevent transmission of disease, few people like them. The task of HIV educators thus becomes one of creating a social and sexual environment in which condoms are not only practical but also embody a positive value and may even be fun.

**PRINCIPLE V: BUILD A COMMUNITY CONSENSUS ON HIV PREVENTION**

Preventing the spread of HIV infection is more than a strategic positioning problem, it is also a politically volatile enterprise. In recent years, communities throughout the United States have been polarized -- over issues of HIV contagion, quarantine, social and sexual mores, and so forth. The politics surrounding AIDS and HIV infection can, therefore, be expected to play a major role, for better or worse, in any community's response to this epidemic.

Whether at the national, state, or local level, a policy consensus on HIV prevention is essential in order to gain widespread cooperation in carrying out programs. If people are unprepared for the impact of prevention programs, or if specific people find messages prepared specifically for them to be unconvincing and inept, then attempts to prevent HIV transmission, however well-intended, will fail.

In the United States, the need to involve and draw upon the expertise of influential local decision-makers has resulted in a fairly uniform approach to the development of HIV prevention policy. Individually and often simultaneously, sometimes through volunteer action, and sometimes by official appointment, cities, counties, and states have convened what are usually called "AIDS Task Forces" or "AIDS Advisory Committees." These are usually working bodies with considerable clout to which government, the private sector, media and the public look for guidance. Their influence is often (though not always) advisory, but their recommendations are rarely, if ever, ignored. For communities getting CDC education grants, all education materials must be approved by community review board.

These task forces or committees are usually composed of at least one representative from each of the following categories:

1. Public health authorities
2. Political authorities (city council, mayor, governor, and state legislators)
3. Physicians, nurses, paramedical personnel
4. Hospital, nursing home, hospice, and other health-care industries
5. HIV service-providing organizations
6. Red Cross or other blood industries
7. At-risk individuals (gay men, IV drug users, and hemophiliacs)
8. Ethnic minorities (particularly blacks and Hispanics)
9. The media (television, radio, and newspapers)
10. Educators and schools (PTA, school board, universities and colleges, and students and teachers.

11. Religious leaders

12. Legal and judicial authorities (attorneys, judges, and police officers).

The purpose of these groups is to develop and coordinate local prevention policy, to function as a central source of reliable expertise and moral authority on the subject, and to adjudicate the inevitable conflicts that HIV-related programs provoke.

Group decisions take longer and are often less precise than individual ones. The best and most effective individual decisions, however, are almost certain to run into trouble if they lead to programs that are unacceptable to the larger community in which they are being implemented. In addition, the political liabilities inherent in events, such as the unjustified expulsion of an infected child from a local school, can be more equitably shared (and are more likely to be resolved) by a respected group of peers than by a single individual or organization.

Among the task force or committee's first priorities might be to:

- Survey local HIV-related needs, resources, and expertise for referral and budgetary purposes.
- Mobilize local resources on a volunteer basis, wherever possible, and seek funding for those activities that lack it.
- Review, validate, and support prevention messages that are sensitive to local needs and effectively reach their intended local audiences.

Prevention programs work better and are more effective if they are planned and carried out locally. Imposing program structure, content or mechanics from the outside is rarely successful. At the same time, ways must be found to allow everyone -- including higher authorities, however removed they may be from the actual process -- to share credit for, and take pride in, program successes as they occur.

3. Lessons

While recognizing that in many respects AIDS is a unique challenge, we know that, as in like most behavior change processes, people must:

- Learn about AIDS.
- Understand the basic facts about AIDS.
- Believe that those facts are relevant to their lives.
- Try new protective behaviors.
- Sustain those new behaviors over time.
We have identified 22 techniques, adapted from experience in marketing, behavior modification, and practical AIDS education programs, which provide ways to achieve each of the five changes noted above. We believe they constitute an initial Checklist for Effectiveness, as shown in the exhibit on the following page.
Exhibit IV-1

A CHECKLIST FOR PREVENTION EFFECTIVENESS

If Health Promotion is going to successfully reduce the rate of HIV transmission, then people at risk of infection must experience each of the 5 stages noted below. We have listed 22 techniques for helping achieve these changes through health promotion. These techniques also serve as a Checklist for Effectiveness for your health promotion programme.

<table>
<thead>
<tr>
<th>In order for the Audience to:</th>
<th>The Program must:</th>
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<tbody>
<tr>
<td><strong>Be Aware of</strong></td>
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<td>Use multi-channels in a coordinated integrated way.</td>
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<td>Repeat messages frequently.</td>
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<td>Be bold, break the pattern you usually use.</td>
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<td><strong>Understand Correctly</strong></td>
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<td>Promote only a few messages at one time.</td>
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<td>Be direct and specific—focus on behavior (what, when and what consequences).</td>
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<td>Use the local context - stories, language, personalities.</td>
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<td>Be consistent across all messages.</td>
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<td><strong>Believe in &amp; accept</strong></td>
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<td>Generate trust, use a credible source of information.</td>
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<td>Feature the most compelling benefit to the audience.</td>
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<td>Personalize the behavior - make it directly relevant.</td>
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<td>Show the value of the new behavior over competition.</td>
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<td>Appeal to heart and mind.</td>
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<td>Acknowledge obstacles.</td>
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<td>Address fear and anxiety.</td>
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<td><strong>Try Once</strong></td>
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<td>Select actionable, practical behaviors.</td>
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<td>Increase access.</td>
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<td>Identify &amp; minimize external obstacles.</td>
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<td>Provide external incentives if necessary.</td>
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<td><strong>Continue Using</strong></td>
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<td>Ensure that positive consequences are perceived.</td>
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<td>Minimize negative consequences.</td>
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<td>Replace external rewards with internal ones.</td>
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<td>Build community support and create new norms.</td>
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