AIDS and Drug Use

Breaking the Link

Citizens Commission on AIDS
for New York City and Northern New Jersey
51 Madison Avenue, Room 3008
New York, NY 10010
(212) 779-0311
(212) 779-9461 (FAX)

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PREAMBLE

AIDS linked to intravenous drug abuse linked to poverty linked to community opposition to treatment facilities linked to further spread of AIDS--this is a chain that is hard to break.

Yet break it we must. Over half of the estimated 200,000 IV drug users in New York City and the 40,000 drug users in New Jersey are already infected with the Human Immunodeficiency Virus (HIV). At least an equal number of their sexual partners, many of them women of childbearing age, are at risk. Yet the various drug treatment centers can only accommodate at any given time about 35,000 IV drug users in New York, and 4,000 IV drug users in New Jersey.

The National Academy of Sciences, the Presidential Commission on the HIV Epidemic, and the U.S. Public Health Service have all identified intervening in the link between IV drug abuse and AIDS as crucial.

The most formidable barrier to breaking the link lies not in the absence of interventions, but in the pervasive beliefs, held by much of the public and some medical and other professionals, that the available interventions will not work or are not worth the effort and money.

These negative attitudes must be confronted and refuted, not just for the sake of those individuals and their families who need help but for the public good. AIDS should provide the added impetus to attack the longstanding problems of drug abuse. As a society we cannot afford, either in terms of resources or social disruption, the devastation that will result if we fail to check the epidemic of AIDS and HIV infection in our poorest and most underserved communities. IV drug users who contract HIV infection are likely to be sicker, require more costly medical attention, have no health insurance, and have access to fewer community resources.

Thus, deferring public investment in drug treatment will only create a much larger burden for the health care system and taxpayers in the future. Each case of AIDS costs between $47,000 and $147,000 for hospital costs alone, while drug treatment averages $15,000 per year in residential care and $3,000 in ambulatory treatment. It is much less costly, and more humane, to direct resources toward the problem now than to wait until IV drug users and their partners become AIDS patients.

The Citizens Commission on AIDS calls on individuals, organizations, and communities to declare their support for:

(1) the immediate provision of treatment for every IV drug user who wants it and expanded efforts to draw IV drug users into treatment;

(2) targeted AIDS education and services for all those at risk;

(3) equitable distribution of drug treatment facilities throughout our communities;

(4) increased federal, state, and local funding sufficient to cover the basic costs of expanded drug treatment and education, supplemented by increased private funding in areas such as capital costs and the creation and evaluation of innovative treatment and education models.

The Citizens Commission has solicited the endorsement of organizations and individuals to declare their support for these four basic goals and their readiness to work toward achieving them. The Commission recognizes and respects differences of opinion about methods of drug treatment and education; in fact, diverse methods are needed to reach the variety of drug users and their partners. The Commission's own recommendations and rationales are included in this background report. Different views about methods, however, must not obscure the shared goal of community-wide commitment to expanded drug treatment and education.

We must marshal the broad public support, the necessary funding, and the leadership of each community and sector to share in the effort to break the link between AIDS and IV drug use. The alternative is an unchecked epidemic of HIV infection and AIDS in our poorest communities and wherever drug use is prevalent. Together we must forge the political will and shared sense of responsibility that will combat this aspect of the AIDS epidemic.

ENDORSERS OF THE FOUR POINTS IN THE PREAMBLE

(as of July 5, 1989 - 86 endorsements)

AIDS National Interfaith Network

American Jewish Congress

Donald Armstrong, M.D.
Professor of Medicine, Cornell University Medical College

Henry L. Barnett, M.D.
Medical Director, Children's Aid Society

Lilliam Barrios-Paoli
Commissioner, Department of Employment, City of New York

The Board of Chosen Freeholders of the County of Essex

The Board of Chosen Freeholders of the County of Monmouth

Jo Ivey Boufford, M.D.
President, New York City of Health and Hospitals Corporation

Dr. John E. Brandon
Chairperson/Commissioner, Commission on Human Rights, The City of New York

Ellen Burstyn

Reverend Calvin Butts
Pastor, Abyssinian Baptist Church

Michael Callen
Gay Man with AIDS

Center for Women Policy Studies

Citizens' Committee for Children of New York Inc.

Citizens Crime Commission of New York City

City of Bayonne, New Jersey

City of Hoboken, New Jersey

City of Jersey City, New Jersey

City of Newark, New Jersey

Coalition on AIDS in Passaic County, NJ, Inc.

Columbia-Presbyterian Medical Center

Community Board #2 of the Bronx

Community Board #4 of the Bronx

Community Board #5 of the Bronx

Community Board #5 of Brooklyn

Community Board #6 of Brooklyn

Community Board #7 of Brooklyn

Community Board #8 of Brooklyn

Community Board #9 of Brooklyn

Community Board #14 of Brooklyn

Community Board #1 of Manhattan

Community Board #2 of Manhattan

Community Board #4 of Manhattan

Community Board #5 of Manhattan

Community Board #6 of Manhattan

Community Board #9 of Manhattan

Community Board #12 of Manhattan

Community Board #1 of Queens

Community Board #6 of Queens

Community Board #7 of Queens

Molly Joel Coye, M.D., M.P.H.
Commissioner, New Jersey Department of Health

The Honorable David N. Dinkins
Manhattan Borough President

Vincent Dole, Ph.D.
Professor and Senior Physician, Emeritus, The Rockefeller University

R. Gordon Douglas, Jr., M.D.
Chairman, Department of Medicine, New York Hospital/Cornell Medical Center

Richard Dunne
Executive Director, Gay Men's Health Crisis

The Honorable Fernando Ferrer
Bronx Borough President

William H. Foege, M.D.
Executive Director, The Carter Center of Emory University

Richard Gere

The Honorable Howard Golden
Brooklyn Borough President

Jesse Green, Ph.D.
Director for Research, New York University Medical Center

Michael H. Grieco, M.D.
Chief, Division of Allergy, Clinical Immunology
and Infectious Diseases, St. Luke's/Roosevelt Hospital Center

H.F. Henderson Industries
West Caldwell, NJ

Karen Hein, M.D.
Director, Adolescent AIDS Program, Montefiore Medical Center

International Society for AIDS Education

Stephen Joseph, M.D., M.P.H.
Commissioner, New York City Department of Health

Junior League of Montclair-Newark

The Honorable Edward I. Koch

Jeffrey Laurence, M.D.
Associate Professor of Medicine, The New York Hospital-Cornell Medical Center

The Honorable Frank Lautenberg
Senator, New Jersey

Ruth Macklin, Ph.D.
Professor, Albert Einstein College of Medicine

March of Dimes
Greater New York Chapter

Paul Marks, M.D.
President and Chief Executive Officer
Memorial Sloan-Kettering Cancer Center

A. Damien Martin, Ed.D.
Executive Director, Hetrick-Martin Institute, Inc.

Vanessa Merton
Associate Professor of Law, CUNY Law School at Queens College

Glenna R. Michaels
Director, HSA/NYC AIDS Task Force

Eric Munoz, M.D.
Chairman, Association for Puerto Ricans in Science & Engineering

Mutual Benefit Life Insurance Company
Newark, NJ

National Westminster Bancorp NJ

Neighborhood Crime Prevention Network

The New York Academy of Medicine

Robert Newman, M.D.
President, Beth Israel Medical Center

Oscar A. Ornati
Professor of Manpower Management and Arbitrator, New York University

People with AIDS Coalition

Beny Primm, M.D.
Executive Director, Addiction Research & Treatment Corporation of New York

Theresa F. Rogers, Ph.D.
Senior Research Scholar and Adjunct Professor of Sociology, Columbia University

Donald J. Scherl, M.D.
President, SUNY Health Sciences Center, Brooklyn

Eleanor Singer
Senior Fellow, Gannett Center for Media Studies, Columbia University

Rand L. Stoneburner, M.D., M.P.H.
Director, AIDS Research Unit, New York City Department of Health

Francisco S. Sy, M.D., Dr. P.H.
Director, Carolina AIDS Research and Education (CARE) Project, Univ. of South Carolina

Town of Morristown, New Jersey

Township of Wayne, New Jersey

United Jersey Banks

United Way of New York City

University of Medicine & Dentistry of NJ

Bruce Vladeck
President, United Hospital Fund

Wildcat Service Corporation
New York, NY

SUMMARY OF KEY POINTS

1. At this stage of the AIDS epidemic, the spread of HIV infection is inextricably linked to IV drug use.

2. Addiction is a multifaceted problem, with medical, psychological, economic, and social dimensions.

3. IV drug users come from all segments of society. Unemployed and socially isolated people are disproportionately represented, but many IV drug users are employed and maintain stable relationships.

4. Drug abuse treatment may reduce the spread of HIV infection directly, through the elimination or reduction of needle-sharing, or indirectly, through control of sexual behavior.

5. Because drug users have varying characteristics and treatment needs, expansion of all types of drug treatment is needed.

6. IV drug users and their sexual partners are difficult populations to educate but they should not be considered "unreachable."

7. Just as in any other chronic disease, relapses and failures in treatment of drug abuse should be expected. Treatment success should not be held to higher standards than in other chronic diseases.

8. The cost of treatment for IV drug use is far less than the cost of treatment for AIDS. If resources are not devoted to drug treatment now, there will be an enormous drain on health care resources in the future.

9. Where the primary goal of cessation of drug use cannot be achieved, methods to reduce its risks, including the distribution of bleach and sterile needles, are the next best option. Such programs should be part of a comprehensive approach emphasizing drug treatment, education, and counseling.

10. Voluntary counseling and access to HIV testing should be offered as part of treatment, with particular attention to the long-term needs for support and follow-up of those who decide to be tested.

11. HIV-infected drug users are protected under law from discrimination in employment, housing, and public accommodations.

RATIONALES FOR EXPANDED TREATMENT AND EDUCATION

1. At this stage of the AIDS epidemic, the spread of HIV infection is inextricably linked to IV drug use.

The potential for spread of HIV derives from two factors: the way the virus is transmitted and the large number of people at risk of contracting the virus through the direct or indirect results of IV drug use.[1]

IV drug use facilitates direct blood-to-blood transmission of HIV when IV drug users inject themselves with HIV-contaminated needles or syringes, or use "cookers" (the spoon or bottle cap in which water is heated to dissolve heroin). The practice of sharing needles, often in "shooting galleries," places where an addict can buy drugs and rent drug-using paraphernalia, increases the risk.

HIV-infected current or former IV drug users can also transmit the virus through sexual contact--either heterosexual or homosexual. The female non-drug-using partners of IV drug users are at risk in this way. Their male counterparts (i.e., non-drug-using men who have sex with female or male IV drug users) are also at risk.

Drug use, including the use of alcohol, impairs judgment and control over sexual behavior.

HIV can be transmitted to newborns perinatally through transplacental exposure, possibly through exposure to HIV-infected genital secretions or blood at the time of delivery, and, rarely, through breast milk contaminated with the virus. Eighty percent of

the pediatric AIDS cases in New York are born to mothers who are either drug users themselves or the sexual partners of drug users.

These well-documented modes of transmission, when combined with the large numbers of people at risk, are grounds for alarm. Nationwide, 25 percent of the AIDS cases that meet the Centers for Disease Control (CDC) definition are due to IV drug use. In 17 percent of these cases, IV drug use was the sole risk factor; the remaining 8 percent are gay or bisexual men who are also IV drug users. The number of AIDS cases, the last stage of the spectrum of HIV infection, is only a fraction of the number of people estimated to be infected. A much larger number are either asymptomatic or have HIV-related diseases that do not meet the CDC definition of AIDS.

In New York City and northern New Jersey, the region of the Citizens Commission's primary concern, the numbers are even more conclusive. In New York City alone there are an estimated 200,000 IV drug users, about 75,000 of them current users and approximately 125,000 with a history of IV drug use who are likely to resume using. From 50 to 60 percent of the current IV drug users are already infected and test positive for antibodies to HIV. At one time or another almost all IV drug users have sexual partners who are not themselves IV drug users. Of the documented cases of women who were infected by heterosexual transmission in New York City, 87 percent were infected by IV drug users. Moreover, in the first three months of 1988, the number of newly reported AIDS cases among IV drug users exceeded for the first time the number of cases reported among gay and bisexual men.

In New Jersey, the epidemic has since its beginning counted more cases among IV drug users and their sexual partners than among gay and bisexual men. Fifty-three percent of the 4,300 cumulative cases in New Jersey reported since 1981 have been heterosexual IV drug users; another 5% are gay and IV drug users. There are an estimated 40,000 IV drug users in New Jersey; seroprevalence rates range as high as 60 percent in Newark and Jersey City.

In both states a disproportionate number of AIDS cases among minorities are related to IV drug use. About 40 percent of the AIDS cases have occurred in black and Hispanic people, who constitute only 20 percent of the population. While this association must be

understood and addressed, it should not contribute to the stereotypical view that AIDS cases among whites are among gay men and those among minorities are among IV drug users. White IV drug users and black and Hispanic gay men are all at risk for AIDS.

While the major focus of this report is on treatment of drug use and prevention of HIV transmission, the medical and social service needs of drug users who are already ill or who are seropositive must not be ignored. Access to primary health care is an urgent need, as is the creation of new models for their support, housing, day care, and other programs. Access to medical care is often an entry into or acceptance of drug treatment. Many of these issues will be addressed in a later report from the Commission.

2. Addiction is a multifaceted problem, with medical, psychological, economic, and social dimensions.

The socioeconomic roots of addiction originate in long-standing class and racial deprivations, which must be addressed at their most basic level. However, addiction is also a physiological and psychological process, which is amenable to medical treatment and behavioral change.

Heroin and cocaine are often used intravenously, and relatively more information has been gathered about these drugs than about others similarly abused. Most drug users in fact use more than one drug, and issues related to one drug rarely arise alone.

Theories of Addiction

In recent years, theories of addiction have emphasized biological explanations rather than psychosocial hypotheses. Reflecting, in part, advances in scientific research, these theories now complement earlier hypotheses about the causes of drug abuse.

No single theory adequately explains the complex etiology of drug use; it involves, in some unknown combination, genetic determinants, individual psychological characteristics, family influences, cultural and ethnic mores and practices, and the legal and social environment. However, some current theories illuminate certain aspects of the question.

A. Heroin Addiction

The "opiate receptor theory" is the most widely accepted theory of heroin addiction.[2] This theory arose from the discovery of "receptor sites," which have a strong affinity for opiates, on certain neurons. If these sites are continually exposed to external opiates, the theory suggests, the body ceases to produce its own internal opiate-like substances, known as endorphins and enkephalins. If the external opiates are then withdrawn, the absence of the natural opiate-like substances produces withdrawal symptoms.

There are other theories of opiate addiction as well. Psychosocial explanations of addiction include psychiatric or psychoanalytic hypotheses as well as theories emphasizing peer group learning, anomie, or the largely discredited "addictive personality."[3] Finally, some genetic research has shown that rat and mouse strains can be bred to seek morphine. Genetic links to human addiction remain unclear.[4]

B. Cocaine Addiction

Until recently, cocaine addiction was presumed to be a psychological phenomenon.[5] Clinical and laboratory research, however, suggests that repeated cocaine use, like heroin use, has neurochemical effects leading to physiological addiction.

The distinctive characteristic of cocaine use is binging--readministering the drug up to every ten minutes over a period of hours or even days. The user's moods change rapidly and frequently. In lower doses the user experiences a feeling of high energy, including sexual drive, and does not appear to suffer any ill effects. Higher doses increase the euphoria to an extremely intense level. Unless the user stops administering the drug, he or she may withdraw from other activities to pursue this pharmacologically based sensation.[6]

Psychosocial theories of cocaine abuse are less developed than those of heroin abuse. Discussions of psychosocial aspects of cocaine abuse tend to analyze the craving or dependence phenomena, rather than the origin of the behavior.

The Implications of Various Models

As Dr. Robert Maslansky, who directs the substance abuse programs

at Bellevue Hospital, has pointed out, the various models proposed to explain addictive disease have implications for treatment and prevention. He identifies three models of causation: chemical dependency, medical/psychiatric, and neurotransmitter/neuronal.[7]

The chemical dependency model, derived from the self-help model of Alcoholics Anonymous, has "recovery" and "sobriety" rather than "cure" as goals. It emphasizes spirituality and self-help and uses such characteristic terms as "one day at a time," and "12 steps." The model aims to change behavior through self-control and through the help of peers.

The medical/psychiatric model approaches substance abuse as a disease, with a diagnosis, therapies, and remission or relapses. There may be an affective disorder such as depression in addition to substance abuse. This model uses terms such as "dual diagnosis" and "mentally ill chemical abuser." Therapy involves attempts to change behavior.

The third model--neurotransmitter/neuronal--is based on the receptor theory and emphasizes the genetic and physiological aspects of substance abuse. Terms such as "synapse," "neuron," and "replacement therapy" are common. Therapy may involve pharmacologic strategies such as methadone, or behavior modification.

All three models focus on behavior change--stopping drug use--as their ultimate goal.

3. IV drug users come from all segments of society. Unemployed and socially isolated people are disproportionately represented, but many IV drug users are employed and maintain stable relationships.

Data about the epidemiology of drug abuse and the demographic characteristics of drug users are incomplete. This may be because many drug users come from segments of society that epidemiologists and social scientists find hard to reach, or because users, especially those in the middle and upper classes, are reluctant to admit to illegal activity. However, it is clear that drug use pervades all segments of society.[8]

Epidemiology of Heroin Abuse

Current patterns of heroin abuse may be attributed to a surge in availability of that drug in the late 1960's. This increase reflected the importation from the Middle East of "white heroin," of significantly greater purity than the brown heroin previously shipped from Mexico.[9]

Even since the turn of the century heroin abuse has been centered in northeastern cities. There are at least 200,000 heroin addicts in New York City alone, approximately half the number of addicts in the United States.

Some studies have extrapolated epidemiologic or demographic characteristics from "treatment-oriented data systems" such as drug-related emergency room visits or death statistics. A 1981 study compiled statistical projections from such data, concluding that nationwide drug abuse, including heroin abuse, would decline through 1995. This projected decline would reflect the anticipated shrinkage of the population group between 21 and 35, considered to be the group most at risk. Drug abuse among minorities, however, was projected to increase due to a higher birth rate.[10] This study could not foresee the increase in cocaine use that followed.

A nationwide study of high school students noted that the percentage of students who had ever used heroin had decreased from 2.2% to 1.2% between 1975 and 1983, despite the availability of white heroin. The researchers concluded that this decline paralleled a decline in overall adolescent drug abuse, and that the study population was relatively insulated from the increased availability of Middle Eastern heroin.[11]

A separate study concluded that the age of first drug use is a "powerful predictor" of later drug problems. Adolescents in that study who began using drugs before the age of 15 showed a 50% risk of developing a later drug problem, with the same risk dropping from 26% to 11% in successively older cohorts.[12] However, a more recent eight-year study of 700 teen-agers in Los Angeles County arrived at different results. The authors found that it was the heavy use of hard drugs and alcohol, confined to a minority of adolescents, that led to serious problems for young adults. The majority, who used potentially addictive substances occasionally, did not suffer any

lasting social consequences.[13] This study did not address the use of crack. Neither study took account of the link to HIV infection as a risk for adolescents.

Epidemiology of Cocaine Abuse

Cocaine use has increased dramatically in recent years. This increase has been attributed to the social changes of the 1960's, and to development of a smuggling and marketing network with Latin America.[14] "Crack," a cheaper, smokable, more readily addictive form of cocaine which entered the New York area in 1985, has become a common street drug. The power of this new route of administration has changed the impact of this drug. Another factor is the perception that cocaine is a relatively safe and nonaddicting agent. The perception of cocaine as a safe or dangerous drug has varied over time.[15] The advent of crack may lead to a new shift, toward a more accurate perception of the risks of cocaine.

In 1983, a national information and referral hotline was established for cocaine users, providing valuable information despite such limitations as sample size and self-selection. A 1986 report compared data gathered from calls to the hotline in 1983 and 1985, and found significant changes in the cocaine-abusing population.[16]

Although most calls in both studies were from urban areas in the Northeast and West, more calls in 1985 originated from small, isolated towns, leading the reporters to conclude that cocaine was far more available throughout the country. Most of the callers in 1983 were white, upper middle-class males, while the 1985 callers represented a broader cross-section of the general population; by 1985, the proportion of women callers had risen from one third to one half, the number of black and Hispanic callers had more than doubled, and the number of callers earning less than $25,000 per year had increased. Remarking on this demographic shift, the researchers concluded that "there is no longer a 'typical' user."

Frequency of use had increased by 1985, with more callers reporting intravenous use and freebasing, or smoking, the drug. Polydrug use had also increased, with alcohol and barbiturates the most frequently used additional drugs. In 1983, 42% of the callers reported using cocaine while at work, while in 1985, 74% reported doing so.

The researchers also profiled adolescent callers. The number of callers between 13 and 19 years old had increased sevenfold between 1983 and 1985. Most of these callers were white males, in the 11th or 12th grades, predominantly from urban or suburban areas. Twelve percent reported freebasing or injecting cocaine.

Two studies of cocaine use among heroin addicts in methadone treatment programs suggest that a significant portion of opiate addicts also abuse cocaine; indeed, it has been noted that "there are no pure heroin addicts."[17] A 1985 study found that approximately 50% of its addicts continued to use cocaine while in treatment, and that the route of administration was primarily intravenous. The authors noted, however, that 17% of the addicts in treatment stopped using cocaine once they were stabilized on methadone.[18]

By 1986, almost 15% of the U.S. population had tried cocaine; 40% of these users were in the age group from 25 to 30 years. A 1986 study noted concurrent cocaine abuse in 66% of addicts applying for initial treatment at a methadone program, and in 74% of addicts applying for readmission, an increase from 17% on initial application in 1969-70. Once stabilized on methadone, however, the proportion of addicts abusing cocaine dropped to 20%.[19]

Women are more likely to use crack than heroin; they are therefore at high risk for addiction. However, they are also more likely to seek treatment than men. The number of women seeking treatment at Phoenix House increased by half from 1985 to 1987. A study conducted by the New York State Division of Substance Abuse Services reported that 34% of those seeking treatment for crack addiction in publicly funded programs are women.[20]

The prevalence of "crack houses," often compared to opium dens of the nineteenth century, points out particularly ominous implications for HIV transmission. In these locations, cocaine users can administer the drug frequently over a course of many hours or days. Young women are particularly at risk for HIV transmission because once addicted, they may sell sex for drugs, or money to buy drugs, to many men, a large proportion of whom can be presumed to be HIV-infected.

4. Drug abuse treatment may reduce the spread of HIV infection directly, through the elimination or reduction of needle-sharing, or indirectly, through control of sexual behavior.

The causal links between AIDS and drug use are clear and well understood. Dr. Donald E. Craven's list of "Risk Factors Associated with IV Drug Use" makes this connection more specific.[21] The primary risk factors include: the number of drug injections, the number of days of needle sharing, the number of needle-sharing partners, the number of HIV-antibody-positive needle-sharing partners, the use of shooting galleries, the sharing of cookers, and absence from drug treatment. Additional risk factors are: having an IV drug user as a sexual partner, prostitution, not using barrier protection (condom) in sex, geographic location (reservoir of HIV), and being a member of a minority group (Black or Hispanic).

Some risk factors on this list (minority status and geographic location) are obviously not amenable to change, but the others can be altered. Drug users in treatment, even if they relapse or are not totally free of drug use, are much more likely to inject drugs less frequently, to reduce the number of days of needle-sharing as well as the number of partners, and to use shooting galleries and shared cookers less often.

A study of nearly 1,000 methadone patients who had entered a study at the Methadone Maintenance Treatment Program at Montefiore Medical Center in the Bronx showed that entry into the program before 1983 was associated with lower incidence of AIDS and deaths specifically related to AIDS. The data suggest that methadone maintenance treatment is associated with reduced risk of HIV infection and AIDS, and may have a protective role in populations of drug users still uninfected with HIV.[22]

Drug abuse treatment that has an AIDS education component can affect some of the other risk factors: increase the use of barrier precautions in sex, and reduce prostitution, particularly among those who resort to prostitution for drugs or money to buy drugs.

Dr. Robert L. Hubbard, a Senior Research Social Psychologist at the Research Triangle Institute, and his colleagues concluded in a paper prepared for the National Academy of Sciences:[23]

Drug-abuse treatment directly reduces the risk of infection with HIV through the sharing of infected needles by decreasing intravenous drug use and by providing a site for education on the risks of intravenous drug use and unsafe sexual practices. Treatment may indirectly reduce the risk of HIV infection and the subsequent development of AIDS by decreasing the use of drugs believed to impair the immune system.

In analyzing several studies of drug abuse treatment, Hubbard et al. found that "Continuous, long-term methadone maintenance is the most effective method of reducing the risk of heroin use, although clients terminating methadone treatment after stays of less than one year also had significantly lower relapse rates. Residential and outpatient drug-free programs must last at least six months to have a significant impact on drug use."

However, they caution that more attention must be paid to the treatment of coexisting cocaine, marijuana, and alcohol use, regardless of the primary drug abused.

As additional evidence for the effectiveness of drug treatment in reducing HIV transmission, a study of 360 IV drug abusers either currently enrolled in or applying for admission to drug treatment programs in New York City showed that patients enrolled in drug treatment for more than two years were less likely to be HIV positive (50%) than those enrolled for one to two years (56%) or less than one year (61%).[24]

A further indication of the potential benefit of drug abuse treatment on the immune system comes from a study done by Don Des Jarlais in New York City. The T4-cell counts (a marker for immune status) did not decline as rapidly in a group of HIV-positive drug users who reduced their drug use as they did in a group of HIV-positive drug users who injected drugs at very frequent intervals.[25]

5. Because drug users have varying characteristics and treatment needs, expansion of all types of drug treatment is needed.

At a minimum, AIDS education and treatment must be integrated into existing forms of treatment for substance abuse and medical care. However, there is also a need for innovative treatment programs that begin with AIDS prevention.

At present there are several approaches to treatment; the primary ones are drug detoxification, methadone maintenance, residential drug-free therapeutic communities, and drug-free counseling in an outpatient setting.

Treatment of Heroin Addiction

A. Detoxification

Detoxification is a medical treatment provided to drug users to relieve the symptoms of withdrawal from heroin and to allow them to stop using drugs. It facilitates entry into long-term treatment programs. However, not all addicts enter such programs after detoxification. Detoxification is usually provided in a hospital, although it can be provided in an outpatient setting as well. In New Jersey, virtually all heroin detoxification is provided on an outpatient basis and is funded as part of the overall matrix of methadone programs. Many outpatient detoxification units in New York were shut down in the past few years, leading to increased use of hospital detoxification. Repeated episodes of short-term detoxification generally serve as entry into long-term programs.

Acute detoxification usually lasts from 7 to 21 days. Methadone in decreasing doses lessens the intensity of withdrawal symptoms. It is complemented by fluids, supervision, and support, which are usually all that can be offered to the addict during this period. Clonidine, an antihypertensive, has also been found to diminish somewhat the symptoms of withdrawal.

While initial detoxification is not generally required for all methadone maintenance programs, federal Food and Drug Administration regulations limit admission to methadone maintenance programs to those who have been addicted for more than one year; thus, detoxification may be the sole treatment available to addicts of shorter duration.[26]

B. Chemotherapy

Methadone maintenance is the most widely used chemotherapeutic treatment for heroin addicts.[27] Addicts in these programs are provided with methadone as a substitute for heroin for an indefinite period. Methadone, itself an opioid, does not cure addiction, but enables people to work and maintain stable lives, without resort to crime. Methadone has two main advantages over

heroin: first, it is taken by mouth, not injected; and second, it can be given once every 24 hours to prevent withdrawal symptoms, while heroin must be administered every three to four hours. In addition, methadone in sufficient quantities may block the euphoria from heroin.

These programs appear to be most effective for those who are chronic narcotic addicts, actively addicted, and living in an environment where narcotics are readily available. Decreased frequency of administration means, optimally, that the addict no longer need seek heroin every few hours, and can engage in other more productive activities. To this end, all methadone programs must provide ancillary services such as counseling and vocational training. However, with a patient/counselor ratio of 50 to 1, most of the staff time is devoted to distributing methadone and keeping records. At Montefiore Medical Center, there are 175,000 patient visits a year, leaving little time for counseling.[28]

A recent major study funded by the National Institute on Drug Abuse concluded that methadone maintenance reduced opiate drug use from 100% to 23% in 1 to 4 years and to 8% after 5 years.[29]

There are long waiting lists for treatment at most facilities in New York and New Jersey. The system in New Jersey is functioning at about 130% of funded capacity. There are not enough slots for patients currently desiring treatment, let alone the unknown number who would be interested if outreach and retention efforts were increased. In New York City, programs are similarly overcrowded. While vacancies do exist at some programs, they may be inconveniently located for those seeking treatment or may not be open during the hours when a working person is available for services. While more efforts to coordinate vacancies with potential clients are needed, only a massive expansion in the availability of treatment can adequately meet the current and potential demand.

The New York City Strategic Plan for AIDS notes that the City has made 10 buildings available to the State Division of Substance Abuse Services, and is proposing the opening of 1,650 methadone treatment slots, another 1,500 slots at 16 sites for after-hours clinics, and an additional 375 drug-free treatment slots at Health and Hospitals Corporation facilities. These are all dependent on State approval and funding.[30]

A pilot program at Beth Israel Medical Center in New York City is experimenting with a streamlined approach. In their "interim methadone clinic," a group of patients on waiting lists for entrance into standard methadone maintenance treatment programs were given methadone without other services. Preliminary reports indicate a highly significant and almost immediate benefit in reduction of self-reported needle use. This was true for both heroin and cocaine users, even though methadone has no direct pharmacological effects on cocaine. The most successful group of patients were those who received a higher total dose, were living with a sexual partner, had children, and thought that HIV disease was unavoidable once exposure occurred.[31]

A long-acting form of methadone known as LAAM (l-alpha-acetylmethadol), which prevents withdrawal symptoms for as long as two to three days, has attracted considerable interest. All doses of the drug can be administered at the clinic site, obviating the need for take-home medication and possible illicit diversion. LAAM still does not have a commercial sponsor, however, and remains an investigational drug under FDA consideration.[32]

A second category of chemotherapeutic treatment of opiate addiction uses narcotic antagonist drugs, chiefly naltrexone. Unlike methadone programs, the ultimate goal of these programs is complete abstinence.[33]

Narcotic antagonists block the effects of opiates by binding to opiate receptor sites without producing opiate effects; if a patient takes an opiate while on naltrexone, the desired opiate effect will be blocked, and the patient will not experience euphoria. An addict must be completely detoxified before entering a naltrexone program, however, or the drug will induce severe withdrawal symptoms.[34]

Naltrexone has few side effects, and need only be administered once every 72 hours to maintain its opiate blocking activity. Treatment duration is usually six to twelve months, although it may be continued for two to three years without ill effect. As with methadone maintenance programs, urine testing is an integral component, enabling clinicians to detect continued narcotic use. The short-acting narcotic antagonist naloxone, which has a duration of only thirty minutes, will also expose narcotic use by precipitating withdrawal.

Naltrexone programs are often recommended to physicians, nurses, and others who are forbidden to practice while taking any narcotic medication, such as methadone. The treatment seems to work best with individuals who are highly motivated, and employed and/or married at the start of treatment. One study proposed six categories of possible patients: 1) the working class of "street" addict; 2) the patient on methadone; 3) the suburban or middle- class addict; 4) the business executive; 5) the health care professional with access to illicit narcotics, and 6) the currently "clean" individual from a hospital, prison, or therapeutic community. Naltrexone, the study reported, is most successful with individuals in groups 3, 4, and 5.[35]

C. Sociotherapies

The "sociotherapies" consist of variants on the therapeutic community (TC) model pioneered in the 1950's by Synanon, including Samaritan Village, Daytop Village, and Phoenix House in New York and other groups throughout the country. Participants remain in the communities for two to five years and are expected to participate in the work of the community and in intense group and individual psychotherapy, and to remain drug-free. Drug use while in the program results in severe criticism by peers.[36]

Admission to a community occurs only after careful screening. Candidates must demonstrate initiative, insight and motivation sufficient to withstand what has been described as an often brutal "psychological reconstruction"; TCs may therefore not be suitable for many addicts.

Dropout rates in long-term residential treatment programs are high (between 50 to 60%), particularly in the first three months. However, in one long-term residential program, the dropout rate was considerably lower (14%) among HIV-positive clients.[37]

Other groups emphasizing psychosocial rehabilitation include Teen Challenge, the Black Muslims, certain Eastern philosophies, and free clinics. Data on these programs, however, are scant.

Although psychotherapy is a useful adjunct in chemotherapeutic programs, it is of little utility alone. Psychotherapeutic drugs such as Valium have not been very effective in the heroin addict population because they too can be abused.

D. Acupuncture

Acupuncture has also been demonstrated to be a useful adjunct the treatment of drug addiction.[38] It reduces craving and the prolonged withdrawal symptoms that appear to play a major role in relapse of addicts attempting to remain abstinent. It has been used successfully to treat heroin addicts, alcoholics, and cocaine-dependent persons (including crack users) in large numbers on an outpatient basis at Lincoln Hospital in the Bronx and at Kings County Hospital in Brooklyn. A bill authorizing the practice of acupuncture in alcoholism, substance abuse, and chemical dependency programs passed the New York State Assembly on July 15, 1988, and is now in the New York State Senate Alcoholism committee. Broader regulations for the practice of acupuncture already exist in New Jersey.

Treatment of Cocaine Addiction

A. Psychotherapies

For many years, cocaine addiction was believed to be primarily a psychological problem and was treated accordingly. Despite recent indications that cocaine addiction may in fact have a physiological basis, psychological treatment remains the mainstay for cocaine. Treatment is divided into two phases: supporting users in becoming free of drugs, and preventing a relapse.[39]

Less severe addiction may be treated in relatively short-term psychotherapy or over a longer period in groups patterned after Alcoholics Anonymous. More severe addiction may require hospitalization during detoxification, followed by residential or outpatient psychotherapy. One treatment modality uses "contingency contracts." In this arrangement, the patient gives the physician a sealed envelope containing some highly damaging information, which the physician is authorized to make public should the patient begin using drugs again. Another model is an "intervention," or confrontational, form of psychotherapy.[40]

As with heroin programs, urinalysis is often used to screen for continued cocaine abuse.

B. Chemotherapy

Researchers have conducted pilot studies concerning the treatment possibilities of the physiological model of cocaine addiction. In

particular, some have noted that bromocriptine produces an anti-craving action, suggesting that it may be useful at least during the acute withdrawal stage.[41]

Some have suggested the use of neuroleptics as dopamine receptor antagonists, similar to the use of naltrexone for heroin abuse. Neuroleptics, though, may produce severe, irreversible side effects, including as the motor dysfunction known as tardive dyskinesia. Some investigators have attempted to treat cocaine addiction with lithium, tricyclics, or Ritalin, with mixed results. At present, all these chemotherapeutic modalities are proposed as adjuncts to psychotherapy.

Relapses are a particular problem with cocaine addiction, and many programs try to teach addicts to stay away from or manage to control the cues that may trigger an extreme desire for the drug.

Controversies in Drug Treatment

The broad range of treatment modalities reflect in part some continuing controversies not only as to the effectiveness of the various treatments, but also as to their sociopolitical implications.

No modality has emerged as a "best" treatment for drug abuse. Charles R. Schuster, director of the National Institute on Drug Abuse (NIDA) says[42]:

> An important concept in drug-abuse treatment is matching patients to a treatment regimen. Patients with serious psychiatric symptoms (depression, anxiety, or cognitive impairments) tend to fare poorly when compared with patients with no present or past psychiatric problems. Treatment programs that include psychotherapy for those with severe psychiatric symptoms are more successful than counseling alone. Patients without psychiatric difficulties seem to do equally well with nonprofessional drug counselors, psychologists, or psychiatrists.

While ideally a wide array of counseling services should be available in all treatment settings, the wisest use of scarce resources may be to provide the level of services appropriate to the particular patient group. Some groups may do well without all the available services.

A group of physicians in New York City has been treating stable, employed, non-drug-abusing methadone maintenance patients according to individual needs rather than regulations requiring a

certain level of services; a preliminary report states that over 80% of the patients had remained in treatment. Other benefits of this medical model, the authors say, were the dignity of a standard professional "doctor's office" atmosphere rather than a methadone maintenance clinic and a more flexible reporting schedule. However, this system did not work for all patients, and is unlikely to be applicable to the new brand of patient with addictions to heroin and cocaine.[43]

Overall, the emphasis should be on developing specific treatment programs that are appropriate for the particular needs of individual drug users, rather than on more global attempts to find a single treatment that works for all.

The success of programs varies widely, depending not only on the type of treatment offered, but on other factors. Dr. John. C. Ball, head of the three-city project at NIDA, says that these factors are "experience of the director, the morale of the staff, and the support they are getting from the government."[44]

Perhaps the most important need is for a commitment to the treatment of addiction as an area for pharmacological and psychological research, medical education, and resource allocation. New therapeutic models as well as new attempts to understand addiction are needed.

6. IV drug users and their sexual partners are difficult populations to educate but they should not be considered "unreachable."

IV drug users are, according to the conventional wisdom, uneducable, self-destructive, and unconcerned about their own health or that of others. While the difficulties of gaining the trust and cooperation of IV drug users and their sexual partners cannot be denied, considerable evidence indicates that in this case the conventional wisdom is wrong. While some subpopulation of IV drug users will probably be unresponsive to appeals of any kind, a much larger group is aware of AIDS, has already demonstrated the ability to modify at least some forms of risky behavior, and is anxious for treatment of their drug problems.

The National Cancer Institute, the National Institute on Drug

Abuse, and the State Department of Health in New Jersey conducted knowledge assessment surveys in 1984 and 1985 of IV drug users in New Jersey. The first survey of 1,000 IV drug users found that almost all had heard of AIDS. More than 95% knew that IV drug users were at increased risk of becoming infected, and 90% were aware of the most severe symptoms. An equal percentage correctly identified means of reducing risk of infection.[45]

A similar survey conducted the following year among 577 clients entering drug treatment programs in New Jersey found similarly high levels of knowledge about transmission and symptoms, but a lack of awareness of some of the methods of preventing transmission (such as using bleach to sterilize drug paraphernalia). Almost half of those entering treatment gave as the reason a fear of AIDS and other diseases.

On the basis of the findings, the New Jersey Department of Health initiated several strategies for educating drug users. Indigenous health workers--former drug users who are enrolled in a methadone maintenance treatment program or who have graduated from drug-free modalities--are employed as street workers to give information to addicts, particularly those in the riskiest settings, that is, shooting galleries. The results of the 1985 survey indicated that nearly one in six drug users had received some information about AIDS from these health workers. In addition, the street price of sterile needles and syringes had increased, in response to the increased demand among IV drug users responding to the warnings about shared needles.

The New Jersey Department of Health also initiated a voucher campaign. Street workers periodically passed out vouchers to addicts on the street. When redeemed, they would offer the user free and immediate detoxification treatment. Over 80% of the vouchers were redeemed, indicating a high level of interest. (All programs in New Jersey have charged clients for treatment since 1981. For an initial assessment and detoxification, this fee may range from $50 to $150.) Forty-four% of patients had never been in treatment before and 28% remained in treatment after the initial detoxification. Each voucher client received a one-hour education session and a pre- and post-test. Analysis of test results indicates scores increased significantly.

In New York City, all of a sample of 59 methadone maintenance patients interviewed by researchers at the New York State Division of Substance Abuse in 1984 had considerable knowledge about AIDS; 93% knew that IV drug use is a means of transmission. Furthermore, 59% of the subjects had changed some behavior to avoid the disease; the most common changes were increased use of clean needles and/or cleaning needles (31%) and reducing needle sharing (29%). More than half also reported that friends had changed behavior as well.[46]

Other researchers, such as Peter Selwyn of Montefiore Medical Center, have shown similar levels of knowledge and the beginnings of behavior change.[47]

As support for the validity of these studies, Des Jarlais notes other studies which have shown evidence of a large-scale increase in the demand for sterile needles and syringes for injecting drugs. A market in "counterfeit" sterile needles (used needles repackaged as new) has sprung up to meet the demand.

Des Jarlais and Friedman conclude:[48]

> Studies of AIDS risk reduction show substantial proportions of IV drug users changing their behavior to avoid exposure to HIV....The primary forms of risk reduction are increasing the use of sterile equipment, reducing the number of needle-sharing partners, and reducing the frequency of injection. These behavior changes are very similar to the frequently identified behavioral risk factors associated with HIV exposure, suggesting that they should be effective in at least slowing the spread of HIV among IV drug users.

Richard Conviser and John H. Rutledge offer some helpful guidelines for risk reduction education:[49]

> Risk-reduction messages have to be delivered in oral as well as written form.
> These messages must be delivered by people with whom IVDU can identify--a particular challenge when the messages originate with government agencies.
> The messages should be nonjudgmental in tone, caring rather than punitive.
> They must be sensitive to the ethnic, cultural, and racial characteristics of their audiences.
> They must pose alternatives to current practices that are both feasible and appealing.
> They must be carried out in an ongoing way, rather than being allowed to tail off after an initial effort.

7. Just as in any other chronic disease, relapses and failures in treatment of drug abuse should be expected. Treatment success should not be held to higher standards than in other chronic diseases.

Evaluations of the "success" of treatment for drug abuse vary according to the conceptual model of addiction with which one approaches the problem. If drug abuse is seen as a chemical dependency, then only total abstinence is a successful outcome. If drug abuse is viewed as within the medical model, then relapses and failures can be anticipated and treated. In this view, best expressed by Dr. Robert Newman of Beth Israel Medical Center, evaluations of treatment for drug abuse (particularly methadone maintenance treatment programs) must consider that "the tendency toward recidivism...remains a lifelong risk for the former heroin addict."[50]

Like other chronic diseases, and like AIDS itself, drug addiction has no "cure." Even the self-help model, with abstinence as its goal, makes no claims for "cure." The addict is always at risk for recurrence. The most important outcome of treatment is the opportunity to attract and engage drug users in the continuing process of helping them to eliminate or reduce their drug use.

Newman says:

> Among both clinicians and patients, the limitations of therapeutic efforts in other forms of illness, though frustrating, are recognized and accepted. Penicillin is not deemed ineffective because, after several decades of availability and clinical use, venereal disease continues to plague mankind....methadone maintenance has come to be evaluated by virtually every criterion except a decline in heroin use.

The goal must be to retain drug users in treatment for longer periods, since all evidence indicates that length of treatment influences social and personal stability. As already noted, the longer drug users have been in treatment, the more likely they are to remain HIV-negative.

8. The cost of treatment for IV drug use is far less than the cost of treatment for AIDS. If resources are not devoted to drug treatment now, there will be an enormous drain on health care resources in the future.

It is much less costly, and more humane, to direct resources toward

treating IV drug users for their drug abuse than to wait to treat IV drug users and their partners if they become AIDS patients. On a purely economic level, data suggest that the treatment of drug users is cost-effective. Consider the following: [51]

The cost of treating an AIDS case in the United States varies among geographic regions and among hospitals. Estimates of the medical care costs per AIDS patient vary between $47,000 and $147,000. These estimates do not include indirect costs for precautions; the cost of Azidothymidine (>$10,000 per year); laboratory costs for transfusions; laboratory expenses to monitor treatment with Azidothymidine; the costs of treating the addiction; or the support services needed to care for this population. Moreover, the estimates do not include those hospitalization costs which precede the diagnosis of AIDS. Recent data suggest that patients with ARC and, possibly, intravenous drug users who are HIV- positive are also more likely to have recurrent bacterial infections that require hospitalization.

By contrast, according to figures cited in the AIDS Reference Guide, a methadone maintenance program costs $2,500 per year.[52] Furthermore, a "no-frills" methadone treatment program--dispensing methadone with crisis intervention counseling, but without elaborate psychosocial intervention--could cost as little as $1,500 per case per year. Interestingly, even if one were to compare the cost per case of the more costly residential drug-treatment programs, which cost approximately $12,000 per person per year, it would still be more cost-effective to treat the drug user before he becomes ill.

The benefits of treatment, both for the individual and for society, far outweigh any other considerations.

If resources are not devoted to drug treatment now, there will be an enormous drain on health care and resources in the future. This will limit the health care available to everyone, not just those at risk for AIDS.

9. Where the primary goal of cessation of drug use cannot be achieved, methods to reduce its risks, including the distribution of bleach and sterile needles, are the next best option. Such programs should be part of a comprehensive approach emphasizing drug treatment, education, and counseling.

While the primary method of curtailing HIV transmission among drug users must be through provision of drug treatment for all

desiring to avail themselves of such services, attempts must also be made to reduce the HIV-related risks of drug use for those who are unwilling to enter treatment and for those who wish to use drugs safely until a treatment slot becomes available. Some have opposed risk reduction efforts on the grounds that these attempts may either aid or encourage illegal drug use. However, United States Surgeon General C. Everett Koop stated at the National AIDS Conference in January of this year:[53]

> When we are dealing with something as devastating as the AIDS epidemic, it doesn't matter what we do to reach the people that have to be reached, we have to do it...If clean needles will do anything to contain a part of the epidemic, we should not have any foolish inhibitions about so doing.

Several researchers in New York and New Jersey have shown that drug users in New York and New Jersey use risk reduction techniques if they are made available. Use of several risk reduction methods have been reported in Western Europe and Australia including the legalization of hypodermic needles, needle-exchange programs, and education about sterilization of needles, including the provision of bleach.[54] In the United States, the first needle-exchange program was announced in Portland, Oregon, in June 1988, but so far has not been implemented because of difficulties in obtaining liability insurance for the agency conducting the program.

User access to sterile needles may be accomplished through legalization of needles, i.e., availability of needles without a prescription, or through needle-exchange programs. The Committee on Law Reform of New York County Lawyers Association report that in the United States, hypodermic needles are obtainable over-the-counter in thirty-nine states; New York and New Jersey are among the states that ban needle sales. Additionally, in Western Europe, only Sweden bans such sales.[55] In Malmo, where one needle-exchange program has been in effect, with tacit government approval, for three years, the rate of HIV infection remains very low. In Stockholm, however, 61% of heroin addicts are HIV-infected, compared to 22% of amphetamine injectors, and 16% of those who use both drugs.[56]

The Committee on Law Reform of the New York Court Lawyers Association and the Committee on Drug Abuse of the New York Bar Association support needle exchange programs. The Law Reform Committee discovered paradoxically that "[i]n nine states

which ban over-the-counter sales, 31 percent of intravenous drug users were estimated to be infected with the AIDS virus.... In contrast, in nine states which allow over-the-counter needle sales, only 5 percent of intravenous drug users were infected." Therefore, they suggest a possible "causal link" between drug- related AIDS and the legal status of needles.[57] Furthermore, they note that those states permitting needle sales have, in fact, lower rates of intravenous drug use than those which ban such sales. Attributing causality is controversial. Italy, for example, has freely available needles and a high seroprevalence. Incoming patients who shoot drugs were 30% seropositive in Amsterdam. Geographic proximity to the focal points of infection is the key. In New Jersey, for example, rates vary form 60% in Jersey City to less than 10% in Camden, while the needle laws remain consistent.

Needle-exchange programs involve the controlled substitution of used needles for unused, sterile ones. Typically such programs limit the number of needles that can be distributed at one time and are linked to some form of education and counseling, treatment, and/or rehabilitation programs. In Amsterdam, where 700,000 needles and syringes were exchanged during 1987, Ernest Buning et. al. report that the program reached a large proportion of the IVDUs, including those who had no previous contact with the helping system. This study suggests that needle-exchange programs do not result in increases in either the use of intravenous drugs or the number of drug users.[58] Studies of needle exchange programs in other countries (Liverpool, England; Sydney, Australia, Edinburgh, Scotland; and Lund, Sweden) support the Amsterdam findings.[59]

Although a pilot needle-exchange program for New York City has been debated for over two years and has been approved by the State Department of Health, this experiment has not yet been formally implemented. Stephen C. Joseph, M.D., New York City's Commissioner of Health, describes the proposed needle-exchange program for New York City as a "carefully controlled research study," in which 200 participants awaiting drug treatment would receive sterile needles and counseling on risk reduction while a second control group would receive only counseling; it is hoped that this study will determine "whether a needle exchange program helps addicts reduce needle-sharing behavior."[60] Such a program may prove useful as an aid to support drug users who are awaiting scarce drug treatment slots. While this limited effort deserves

support, it has taken much too long to implement and may be too limited in scope to have a real impact in reducing the rate of drug-related transmission of HIV. It may, however, have a psychological impact by impressing addicts with the seriousness of government's efforts to combat their risk of infection.

Efforts are underway in New York City, New Jersey, San Francisco, Baltimore, Chicago, and Washington, D.C. to educate intravenous drug users about not sharing needles and on how to clean needles and works in order to inactivate HIV. These largely involve the use of street workers, many of them former addicts, who go into shooting galleries and distribute bleach and information about safer ways to inject drugs. Richard E. Chaisson, Dennis Osmond and Andrew R. Moss have reported on the work of the Mid-City Consortium to Combat AIDS in San Francisco, who have distributed and studied the effects of a bleach distribution and sterilization education program. Since the inception of the program in 1986, 15,000 vials of bleach had been distributed; as a result, 47% of needle-sharers reported that they usually or always sterilized with bleach in 1987, compared to only 6% of needle sharers in 1985. The authors contend that:[61]

> [A] community-based outreach programme can be effective in changing high-risk behaviour in addicts.... [However,] sterilisation, though an important component of AIDS prevention for drug abusers, is unlikely by itself to stop the further spread of HIV. Bleach distribution should be promoted in conjunction with other risk-modification measures, including more widespread availability of sterile hypodermic needles, as is being tried in Europe.

Finally, Larry Gostin recommends use of a comprehensive public health program which includes the following:[62]

1. Easier access to cost-free, sterile needles.
2. Use of intensive individual and group counselling, treatment, and rehabilitation services as an integral part of any needle distribution program.
3. Public education on the health risks of HIV, the use of non-sterile needles and how to obtain treatment and sterile needles.

The objective of such an intensive approach "is not simply to distribute sterile needles but to ensure safer needle use, as well as education, treatment, and rehabilitation."

Although not an ultimate solution to drug-related transmission of HIV, risk-reduction methods should play a significant role in stemming the continuing rise of HIV infection among drug users,

their sexual partners, and their children. Although the overall efficacy of such programs in decreasing the rate of HIV transmission has yet to be documented, risk reduction efforts have not been found to increase the use of intravenous drugs or to attract new users.

Some of these programs are controversial. However, public support is necessary for risk reduction to be effective. In analyzing the public health and political factors influencing the effectiveness of Britain's risk reduction campaigns, A.R. Moss of the University of California, San Francisco, concluded that "[t]he single key variable affecting the success or failure of a needle exchange program is the existence of people who want to make it work."[63] Therefore, public health factors supporting these programs should assume priority over political considerations. These endeavors should be attempted--in conjunction with an increased availability of drug treatment and rehabilitation, education, and counseling programs--on a much wider scale. These methods are not substitutes for treatment but interim steps until treatment is more widely available.

10. Voluntary counseling and access to HIV testing should be offered as part of treatment, with particular attention to the long-term needs for support and follow-up of those who decide to be tested.

Under the proper conditions, the HIV antibody test can be a useful adjunct to the drug treatment and AIDS counseling that together hold promise for controlling the spread of HIV infection. All those at risk for HIV infection should have access to appropriate counseling and testing, whether it is conducted anonymously or with confidentiality protections.

The potential for serious psychological distress and the need for supportive long-term counseling have been well established in studies, primarily with gay men. This need is particularly acute in the IV drug user population; notification of a positive test result can lead to acute reactions of anxiety or depression. These adverse reactions can result in the user going back to drugs, because he or she feels that a positive HIV antibody test result is a death sentence.

Ernest Drucker of Montefiore Medical Center says:[64]

> Initial experiences in notifying intravenous drug users of their [HIV] antibody test results suggest that this information will immediately cause great stress. Extreme reactions, including threats of suicide, are emerging in response to this information, even among those who volunteered to be tested. We must assume that as word of the extent of infection permeates the addict culture, and as even larger numbers of individuals have knowledge of their status, behavior will be affected in as yet unpredictable ways.

A two-month study of 36 active and former drug users conducted between 1986 and 1987 at St. Luke's-Roosevelt Medical Center in New York found that five of the nine former drug users who were told that they were HIV positive returned to drug use. None of the other 27 patients, some of whom received negative results and some of whom were never tested--went back to drug use.[65] However, given the small size of the sample, and the variability in counseling, it is likely that other studies of this population will have varying results.

For example, in one study of a small sample of clients in a long-term residential treatment program, the information that a client had a positive HIV antibody test "enhanced, rather than undercut" the effectiveness of the treatment. The dropout rate was lower in this group, and there were obvious behavior changes, such as growing concern for health and involvement and commitment to day-to-day working of the therapeutic milieu.[66]

Mandatory HIV screening of drug users, either as a precondition for entry into drug treatment or for other health care benefits, will be counterproductive. The growing evidence that early intervention with antiviral drugs may have a therapeutic effect by slowing the replication of the virus may well be a sufficient incentive for HIV antibody testing.

The desire to protect others may be another incentive. Drucker points out:[67]

> ...altruism is not characteristic of the addict population, but there are several points where self-interest and concern for protecting others may overlap. Primary among these is concern for loved ones: sexual partners, close friends, and offspring. Addicts are not in fact 'loners'--if anything, they are heavily involved in a social network around their drug use and, [even] if their family lives are frequently a shambles, they do nonetheless exist and emerge as a significant factor when addicts find themselves in extreme situations--e.g., acute illness.

11. HIV-infected drug users are protected under law from discrimination in employment, housing, and public accommodations.

Because of public anxiety, distrust, and prejudice against people who use drugs, fears about AIDS are often compounded when the person with HIV infection is a current or past drug user. Such concerns have frequently resulted in discrimination in the workplace, in housing, and in places of public accommodation.

Drug users with HIV-related conditions are generally entitled to the same protections as others with such conditions. It is virtually settled that AIDS is a handicapping condition under the federal Vocational Rehabilitation Act of 1973,[68] which protects individuals with or regarded as having handicaps from discrimination in all federal agencies and federally-funded programs. This position has been reinforced by the Supreme Court of the United States, which recently held that contagious diseases fall within the purview of the Rehabilitation Act's nondiscrimination provisions.[69] Subsequently, the United States Congress reaffirmed this interpretation in the Civil Rights Restoration Act of 1987,[70] which extended the Rehabilitation Act's employment protections to individuals with contagious conditions who pose no threat to the health of coworkers and who are able to perform their job duties.

Similarly, the disability discrimination laws of New Jersey, New York State, and New York City have been construed to include HIV-related conditions as a handicaps.[71]

However, legal challenges involving drug users are more complex than those concerning others with HIV-related conditions; this is because individuals using drugs are also governed by the statutory construction of disability laws as applied to substance abusers. While New Jersey, New York, and federal laws include substance abuse as a handicapping condition, these laws will not protect a drug user "whose current use of ... drugs prevents such individual from performing the duties of the job ... or whose employment, by reason of such current ... drug abuse, would constitute a direct threat to property or the safety of others."[72] Furthermore, New York City law further narrows the protection of substance abusers to cover only those who are "recovering and currently free of abuse."[73]

Drug users with HIV-infection are entitled under law to protection against irrational discrimination. However, due to valid concerns about the impact of current drug use on job performance and workplace safety, all discrimination claims involving this population will be more closely scrutinized than those involving other HIV-infected individuals. The determination of how the disability laws should be interpreted will ultimately depend upon the factual considerations of each case.

NOTES

[1] The data in this section are drawn from reports of the Centers for Disease Control (CDC) and other epidemiological surveys. See J. W. Curran, et al., "Epidemiology of HIV Infection and AIDS in the United States," *Science* 239 (1988): 610-616; Don C. Des Jarlais et al., "HIV Infection and Intravenous Drug Use: Critical Issues in Transmission Dynamics, Infection Outcomes, and Prevention," *Review of Infectious Diseases* 10 (1988): 151-158.

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John E. Jacob is the President and Chief Executive Officer of the National Urban League with which he has been associated since 1965. He is the recipient of many awards, including the Outstanding Community Service Award from Howard University's School of Social Work.

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David E. Rogers, M.D. is the Walsh McDermott University Professor of Medicine at New York Hospital-Cornell Medical Center. He chairs Governor Mario Cuomo's Advisory Council on AIDS. Dr. Rogers was formerly President of the Robert Wood Johnson Foundation.

Bayard Rustin, an advocate for civil rights, the labor movement, and humanitarian causes, was the Chairperson of the A. Phillip Randolph Education Fund at the time of his death in September 1987.

Frederick A.O. Schwarz, Jr. is a partner in the law firm of Cravath, Swaine and Moore, and Chairman of the Boards of the Fund for the City of New York and the Vera Institute of Justice. He was Corporation Counsel for the City of New York from 1982-1986.

T. Joseph Semrod is the Chairman and Chief Executive Officer of United Jersey Banks, Princeton, New Jersey. He is a member of the Board of Trustees and the Executive Committee of the National Urban League. He also serves on the advisory board of Outward Bound U.S.A.

Gloria Steinem is a writer and editor. She was founder of *Ms. Magazine* in 1972. Ms. Steinem has helped to found and continues to serve as board-member or advisor to the Ms. Foundation for Women, the National Women's Political Caucus, and the Coalition of Labor Union Women.

Thomas B. Stoddard is the Executive Director of Lambda Legal Defense and Education Fund, Inc. Mr. Stoddard was the Legislative Director for the New York Civil Liberties Union and a lawyer in private practice.

Victor R. Yanitelli, S.J. is the Episcopal Vicar for East Manhattan. He served as the Pastor at St. Ignatius Loyola Church and was President and then Chancellor of St. Peter's College in Jersey City, New Jersey.

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